MSI CAMBODIA mHEALTH STRATEGY TO STRENGTHEN FAMILY PLANNING SERVICES FOR GARMENT WORKERS

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MSI CAMBODIA mHealth STRATEGY TO STRENGTHEN FAMILY PLANNING SERVICES FOR GARMENT FACTORY WORKERS

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ACRONYMS

CSR	Corporate Social Responsibility
DHS	Demographic and Health Survey
FP	Family Planning
GF	Garment Factory
GFW	Garment Factory Worker
GPS	Global Positioning System
HNI	Human Network International
ICT	Information and Communications Technology
ILO	International Labor Organization
IM	Instant Messaging
InSTEDD	Innovative Support to Emergencies, Disease, and Disasters
IUD	Intrauterine Device
IVR	Interactive Voice Response
M&E	Monitoring and Evaluation
mHealth	Mobile Health
MSIC	Marie Stopes International Cambodia
NGO	Nongovernmental Organization
PSL	Partnering to Save Lives
QA	Quality Assurance
SHOPS	Strengthening Health Outcomes through the Private Sector
SIM	Subscriber Identify Module
SMS	Short Message Service
SWOT	Strengths, Weaknesses, Opportunities, Threats
USAID	United States Agency for International Development

ACKNOWLEDGMENTS

EXECUTIVE SUMMARY

BACKGROUND

Marie Stopes International Cambodia (MSIC) is developing a mobile health (mHealth) strategy for a project to improve access to high quality health care services among garment factory workers (GFWs). The project will collaborate with management from 60 garment factories (GF) to improve health outcomes and increase awareness among 100,000 GFWs. The project's focus is on increased access to reproductive health services through improved infirmary services, linkages to a private provider network, and access to health financing services. The project will also create a quality assured health provider network with approximately 160 members around GFs.

The Strengthening Health Outcomes through the Private Sector (SHOPS) project developed recommendations for investing in priority mobile applications including a costed menu of options to further MSIC's objectives. Phone ownership among GFWs in Cambodia is estimated at 80 percent, ranging from basic phones used only for calling to a growing use of smartphones among the more literate. Text messaging is limited due to lack of Khmer language-enabled phones.

METHODOLOGY

SHOPS collected data from desk research and key informant interviews, both in person and by phone, between May and July 2015. To develop the menu of options, SHOPS analyzed MSIC project needs, technology capacity, stakeholder motivations and operational constraints, and synthesized best practices and lessons learned for leveraging mHealth interventions to achieve family planning objectives. The text box below outlines the six-step process used to finalize the menu of options for consideration.

Criteria Used to Develop Recommendations

1. Consider project needs and goals. First, SHOPS considered the project's objectives and related activities required to meet those objectives. In each case, SHOPS asked: Could technology be used to improve any part of this process by automating, increasing transparency, quantifying, or visualizing some element?

2. Consolidate list of initial ideas. Next, SHOPS compiled a list of potential ideas in collaboration with MSIC staff.

3. Evaluate against stakeholder capacities. SHOPS then evaluated the capacities of each relevant stakeholder to determine if the approach was within their capabilities.

4. Evaluate against stakeholder motivations. The next step required understanding the motivations of each stakeholder to assess whether the design sufficiently motivated each stakeholder to complete their tasks.

5. Evaluate against technological constraints. SHOPS then considered the technology required for the activity, including whether the technology was realistic, cost-effective, and likely to work well in Cambodia.

6. Evaluate against other criteria. Finally, SHOPS evaluated activities against other criteria, including impact and overall viability.

FINDINGS

The table below provides a summary of fourteen proposed activities categorized across four thematic areas. The proposed activities provide a menu of options for consideration and are not

listed in a prioritized order. Each includes a brief summary, rationale for section, and preliminary budget estimate.

PROPOSED mHealth ACTIVITIES

Activity Name	Brief Description	Estimated Budget (USD)
Project Management and Coordination		
Onboard private providers and garment factories	Captures and manages data about prospective GFs and private providers to guide selection process. **Why recommended**: A digital system for mapping provider location, capacity, and services can streamline the selection process. The data can help to optimize geographic dispersion of facilities, and serve as a foundation for other mHealth applications.	$1,400-$10,400
Private provider registry to manage and track provider performance	Database of all relevant private providers with contact information, location, and services offered to allow MSIC to track performance. **Why recommended**: This activity combines a public facing directory to aid clients in selecting and contacting providers, and an internal supervisory database to record performance against key indicators. The application provides data trends visually in a dashboard to facilitate corrective action.	$91,400
Track and manage infirmary performance	Database of all participating infirmary staff and services to allow MSIC to track performance. **Why recommended**: The goal of this activity is to make visible the contribution of GF infirmaries to expand GFW access to family planning counseling and services, build capacity of infirmary staff to provide family planning counseling, and identify areas for improvement.	Cost tied to private provider registry above.
Enhance the referral process	Pilot activity that incorporates data collection and short message service (SMS) technology in referral monitoring. **Why recommended**: Tracking referrals is a critical measure of the project's impact on increased access by GFWs and increased clients for private providers. Two options should be explored, with introduction of a digital process only if all the infirmaries and private providers have internet-enabled smartphones or computers.	$12,350-$65,705. Cost depends upon whether a mobile/paper hybrid or fully digitial service is used.
Beneficiairy Services		
Expand hotline	Expands and further promotes MSIC's existing call-in service to support greater understanding and use of family planning. **Why recommended**: Building on MSIC's successful counseling service provides the most receptive populations (those who initiate calls) with the most extensive support. The hotline can also reinforce linkages to other interventions including interactive voice response (IVR) service and referrals. Low cost promotion of the hotline in	$0

	GFs could increase demand to peak levels of current staff capacity.	
Client follow-up through call back service	Voice based system that calls back with a reminder after a predefined period of time, such as to encourage follow-up services. **Why recommended**: Providers can strengthen client relations with automated follow-up calls timed for appearance of side effects and reduce loss to follow-up.	$49,660
Client follow-up through instant message service	Provides on demand info graphics and family planning information via Instant Messaging (IM) accounts available on smartphones. **Why recommended**: Smartphone usage is growing, IM is cheaper than SMS or voice, and offers broader format options for engaging consumers with family planning information via graphics, video, voice and text.	Not estimated.
Expand access to information through IVR service	Leverages International Labor Organization's (ILO) existing IVR service by expanding the health-related content. **Why recommended**: A menu-driven recorded voice information service would offer GFWs a source of neutral trusted information that may lower barriers to FP use. Benefits include the ability of consumers to access information relevant to their specific interests. The interactive format also enables polling and quizzes for deeper engagement.	$14,000-$134,900 depending on potential agreement with Human Network International (HNI)
Expand social media platform	Encourages GFWs to access health content and post questions to MSIC's Facebook page. **Why recommended**: Additional youth-friendly web content on sexual and reproductive health topics is a relatively low cost way to supplement other channels of information. Increased promotion of the MSIC's Facebook page could be done through GFs where workers could be encouraged through peer educators to post questions and access content.	$0
Provider Services		
Supportive supervision for private providers	Mobile phone application that provides MSIC staff with auto-generated recommendations to promote collaborative problem solving and quality improvement with private providers. **Why recommended**: This mobile application facilitates dialogue between providers in the network and project staff, with easy-to-access historic information to identify weak areas and underlying causes. The tool also provides comparisons of provider assessments across the network to motivate providers to improve relative to their peers.	$4,600-$18,000
Supportive supervision for infirmaries	Mobile phone application that provides MSIC staff with auto-generated recommendations to promote collaborative problem solving and quality improvement with infirmaries. **Why recommended**: This activity is the same as the preceding one, but targeted for infirmary staff. Supportive	Cost tied to implementation with private providers above.

	supervision for infirmary staff can strengthen the relationship with the project, reinforce objectives related to services and referrals to providers, and identify areas for improvement in addressing health needs for GFWs.	
Training game for infirmary and private provider staff	Repackages the smartphone game currently under development by Partnering to Save Lives (PSL), but for infirmary and private provider staff. **Why recommended**: By adapting the existing consumer game on health topics for providers, MSIC would keep development costs low. Infirmary staff and private providers are more likely to own and use smartphones than the average garment factory worker because of their higher income and education levels.	$45,000
Offline content for professional development	Video content shared offline between mobile phones to promote ongoing education. **Why recommended**: Mobile technology provides an ideal platform for distributing multimedia content, but high data costs inhibit online access. By sharing content through pico projectors or microSD cards preloaded with content, the project can supplement face-to-face training with more cost effective channels.	$1,900
Access to Finance		
Mobile travel vouchers	Vouchers through RHVoucher project for transport to family planning service transmitted through mobile channels. **Why recommended**: Digital vouchers to cover transport costs can lower barriers to accessing services as well as opening additional opportunities for access to financial services. Mobile transport payments offer greater efficiency and accountability compared to cash disbursements.	Not estimated

For each activity, SHOPS identified potential consultants or partners, cost share opportunities, and technology platforms. SHOPS also conducted an analysis of strengths, weaknesses, opportunities, and threats (SWOT). Observations and recommendations include:

- Innovative Support to Emergencies, Disease, and Disasters (InSTEDD) and Open Institute are two of the leading mHealth innovators with experience in Cambodia and could serve as competent consultants for most of the proposed activities. InSTEDD is a nongovernmental organization (NGO) offering open source technology tools, advocacy, and scalable solutions. Open Institute implements programs across development sectors to enhance Information and Communications Technology (ICT) skills in Cambodia.

- Where possible, MSIC should leverage existing mHealth investments in Cambodia. Existing investments include:

  o Partnering with ILO to add family planning content to their existing IVR platform that targets GFWs.

  o Collaborating with RHVoucher's existing transport voucher service to identify eligible women for possible enrollment in a mobile pilot.

  o Adapting the consumer health education smartphone game currently in development by the PSL project to serve the education needs of providers.

- Cost share and sustainable financial models are limited because many of the activities serve

MSIC project management with limited potential for broader impact. Some possible areas of exploration include:

- o Reaching out to HNI, which has recently negotiated an agreement with CellCard to develop a mass market IVR service on social development topics with free airtime for callers.

- o Expanding the IVR platform to include paid content services to subsidize health content when the information service gains traction.

- Several recommended activities require no additional investment by MSIC beyond expanding existing mHealth activities. These include:

- o Promoting MSIC's existing Facebook page at GFs to encourage posts and queries and expanding family planning content from existing repositories.

- o Expanding promotion of MSIC's existing hotline with GFs and having hotline staff utilize the provider registry to make referrals and follow-up with clients.

- To best ensure integration of mHealth within existing project goals, SHOPS recommends hiring a mHealth Coordinator to oversee the mHealth strategy and provide support across project areas.

CONCLUSIONS

There are many ways in which MSIC can leverage mobile technology to increase access to high quality health services for GFWs. Based on available budget, the activities proposed in this report can be introduced independently or as a set of interventions. The recommendations were designed in collaboration with MSIC staff. Each was designed with USAID-endorsed Principles for Digital Development in mind, including the importance of building on existing investments, understanding the existing ecosystem, and collaborating with other mHealth stakeholders. Appropriate investments in mHealth hold significant potential to strengthen MSIC's programs by better targeting and promoting services for beneficiaries, educating and supporting providers, and improving access to timely and accurate data.

1 INTRODUCTION

1.1 PURPOSE

Marie Stopes International Cambodia (MSIC) is implementing a five-year USAID-funded project to ensure that garment factory workers (GFWs) in Cambodia are able to access high quality health care services in garment factories (GF) and their communities. The project will address barriers that inhibit this access at all levels. Specific examples of project interventions include GFW behavior change, improved health-related policy implementation, and the establishment or expansion of sustainable health financing models. MSIC is developing a mHealth strategy to guide investments in mobile interventions to support project objectives.

The project has five main results that could potentially be supported with technology initiatives:

- Assist factory workers and management in approximately 60 GFs to engage and collaborate on improving health outcomes and worker productivity.

- Increase awareness among 100,000 GFWs of reproductive health and voluntary family planning counseling and services.

- Create a quality assured health provider network with approximately 160 to 180 members around GFs and GFW residential areas that are responsive to needs of GFWs. This includes tracking service delivery numbers and quality assurance (QA) assessments.

- Improve infirmary service provision in 60 GFs and strengthen a referral system to all members of the quality assured provider network. This includes delivering and tracking referrals.

- Improve access to health financing systems, including the transport voucher interim solution, to approximately 100,000 GFWs.

USAID Cambodia commissioned the SHOPS project to develop a costed menu of mHealth options to support MSIC's objectives. This report summarizes SHOPS's approach and recommendations for investing in priority mobile applications to support improved access to quality reproductive health and family planning counseling and services among GFWs.

1.2 CONTEXT

Cambodia has experienced significant rural-to-urban migration in recent years. Many Cambodians between 18 and 30 years of age have migrated to work in the garment manufacturing industry. As many as half a million people are estimated to be working in the garment industry, the majority of whom (90 percent) are women (ILO, 2012). These women have particular needs and vulnerabilities and could benefit from appropriate sexual and reproductive health interventions.

In 2013/14, Partnering to Save Lives (PSL) conducted a survey of women of reproductive age working in garment factories. The survey found that the average garment factory worker is: young (almost 80 percent under the age of 30); single and childless; has limited education; lives with relatives; earns $142/month; has worked in the garment industry for three years; and owns a mobile phone (over 80 percent).

The survey also noted that 70 percent of respondents had used garment factory infirmaries in

the past 12 months, but rarely for reproductive health services. An estimated 44 percent of respondents reported ever being sexually active. Of these, 41 percent had used some form of contraception in the past 12 months, including daily oral contraceptives (44 percent), withdrawal (22 percent), and injectables (20 percent). Some modern contraceptive methods were well-known but perceptions of side-effects and inconvenience deterred their use. Outside the factories, workers were more likely to access reproductive health services from private clinics (60 percent) than public facilities (29 percent). Modern contraceptives were most commonly obtained from pharmacies (30 percent), followed by public health facilities (24 percent) and private clinics (16 percent) (Sopheab, 2014).

Cambodia's mobile industry is mature. At 126 percent, Cambodia has one of the highest penetrations of active mobile subscriptions in the world (ITU, 2014).This number reflects the fact that many individuals own subscriptions to more than one service provider. There are six licensed mobile operators serving Cambodia: Metfone (Viettel), Smart (Axiata), Cellcard (Mobitel/CamGSM), qb (Cadcomms), Excell (GT-Tell), and Cootel. The three largest providers – Metfone, Smart, and Cellcard – constitute more than 95 percent of the market share.

Mobile phone users in Cambodia can be broadly split into two groups. Older, more rural users with limited literacy tend to use simple phones and only use them to make telephone calls. A younger, urban, more literate group uses internet-enabled smartphones via a combination of Khmer script, English, and Khmer using roman characters. Garment factory workers fall into both of these groups.

Cambodian youth are increasingly using social media via their phones. Facebook is the leading social media site and has experienced exponential growth. In 2014, the estimated number of active users was over 1,400,000. Popular health-related Facebook pages in Cambodia include HealthCambodia.com (226,000 'likes') and Health.com.kh (136,000 'likes'). Instant messaging applications such as Facebook Messenger, Viber, Line, and WhatsApp are also increasing in popularity and allow communication by text (including Khmer script), voice messages, and infographics/stickers.

Cambodia's active mHealth ecosystem includes several potential resource partners, including:

- **Innovative Support to Emergencies, Disease, and Disasters (InSTEDD)** – a not-for-profit organization founded in 2006 that offers design, open source technology tools, and capacity building in communications systems. Expertise includes national surveillance systems, brokering partnerships, and information and communication technologies (ICT) policy assistance.

- **Open Institute** – a not-for-profit organization whose mission is to ensure that the benefits of technology for social and economic advance are usable in Cambodian society. Open Institute implements programs across development sectors to enhance ICT skills in Cambodia.

- **ICT4Development Cambodia Network** – formed in 2012 with support from the Swedish Program for ICT in Developing Regions. The network promotes ICT to increase access to information, strengthen social accountability and transparency, and raise awareness about the accessibility of ICT for development. With administrative support from Open Institute, network members include Association of Progressive Communications (APC), East West Management Institute (EWMI), InSTEDD, Open Development Cambodia (ODC), Open Institute (OI), and Women's Media Centre of Cambodia (WMC).

mHealth intervention in Cambodia faces challenges. A general lack of Khmer language-enabled phones limits the use of text messaging. High swapping and turnover of subscriber identify module (SIM) cards making it challenging to keep up-to-date databases (Bisits, 2013). Mobile coverage is inconsistent in portions of the country (Malaria Consortium, 2013) and internet penetration is low at 6 percent (ITU, 2014). In 2014, an estimated 71.6 percent of the population was using a basic phone (Phong and Solá, 14). Despite these challenges, mHealth approaches hold significant potential to strengthen family planning programs. Examples include reaching underserved populations and addressing critical health systems issues in areas such as human resources, health management information systems, and financing (USAID High Impact Practices in Family Planning Health, 2013).

In spite of increasing global investment, the evidence on mHealth efficacy, cost effectiveness and impact is limited (Smith et al, 2015; Free, 2013; Higgs et al, 2013; Tomlinson, 2014). mHealth is still in its infancy and the link between mHealth applications and family planning outcomes is largely unproven. A small number of studies have provided rigorous data demonstrating mHealth effectiveness in some areas important to achieving family planning goals. These include SMS behavior change interventions to increase psychosocial well-being (Constant et al, 2014); mobile messages to increase uptake of services (de Tolly et al, 2011) and adherence to medication protocols (Lester et a,. 2010; Pop-Eleches et al, 2011); appointment reminder to improve scheduling efficiencies (da Costa et al, 2010; Odeny et al, 2012); provider adherence to treatment protocols (Zurovac et al, 2011); and SMS reporting to reduce stock-outs (Lemay, 2012). The Mobile Technology for Improved Family Planning (MOTIF) study conducted by MSIC examined the impact of an intervention comprising automated interactive voice messages and phone counsellor support and reported increased use of effective contraception at four months post-abortion (Smith et al, 2013). SHOPS incorporated this evidence base and literature on best practices in developing recommendations for this report.

2 METHODOLOGY

2.1 DATA COLLECTION AND ANALYSIS

SHOPS collected data, including desk research and key informant interviews in-person and by phone, between May and July 2015.The desk review consisted of scanning existing mHealth databases, websites, compendia, newsletters, and listservs for the latest literature on success stories, best practices, and lessons learned for leveraging mobile interventions to achieve family planning objectives. SHOPS conducted in-country interviews with a range of organizations including technology developers, private health care providers, representatives from garment factories, implementing partners, a content developer, and a research organization. SHOPS also worked closely with MSIC staff to assess project needs, ICT capacity, the operating environment, and potential constraints. Based on these inputs, SHOPS compiled an inventory of mHealth interventions for each project objective. Guided by the Principles for Digital Development, SHOPS synthesized the information and shared preliminary recommendations in a trip report distributed to USAID and MSIC in June 2015.This report expands on those recommendations with assumptions, pros and cons, and estimated costs.

2.2 SELECTION PROCESS FOR MENU OF ACTIVITIES

SHOPS used a standardized, iterative six-step design process to design a list of mHealth activities. With each step, SHOPS drew on global mHealth literature, past implementation experience, and perspectives from informative interviews. A more detailed look at each step is included in the text box below.

Criteria Used to Develop Recommendations

1. Consider project needs and goals. First, SHOPS considered the project's objectives and related activities required to meet those objectives. In each case, SHOPS asked: Could technology be used to improve any part of this process by automating, increasing transparency, quantifying, or visualizing some element?

2. Consolidate list of initial ideas. Next, SHOPS compiled a list of potential ideas in collaboration with MSIC staff.

3. Evaluate against stakeholder capacities. SHOPS then evaluated the capacities of each relevant stakeholder to determine if the approach was within their capabilities.

4. Evaluate against stakeholder motivations. The next step required understanding the motivations of each stakeholder to assess whether the design sufficiently motivated each stakeholder to complete their tasks.

5. Evaluate against technological constraints. SHOPS then considered the technology required for the activity, including whether the technology was realistic, cost-effective, and likely to work well in Cambodia.

6. Evaluate against other criteria. Finally, SHOPS evaluated activities against other criteria, including impact and overall viability.

2.2.1 CONSIDER PROJECT NEEDS AND GOALS

The table below maps the project's five goals with critical project activities. SHOPS considered the project needs and goals, looked for opportunities where technology could streamline a

manual process, increase transparency, strengthen decision making, or help communicate to a large audience.

TABLE 1 LINKING PROGRAM OBJECTIVES WITH KEY ACTIVITIES

Objective	Success Factors
Assist factory workers and management in approximately 60 GFs to engage and collaborate on improving health outcomes and worker productivity.	• Identify and partner with 60 GFs • Identify what the GF could be doing differently • Support/motivate the GF to do things differently
Increase awareness among 100,000 GFWs of reproductive health and voluntary family planning counseling and services.	• Advertise counseling and services • Evaluate the number of GFWs reached • Measure the number of GFW referrals
Create a quality assured health provider network with approximately 160 members around GFs and GFW residential areas, which are responsive to needs of GFWs (including tracking service delivery numbers and QA assessments).	• Identify and register 160 health providers • Communicate benefits of being a member • Continuously evaluate performance of members • Provide support to encourage improved performance • Count amount of services provided by each
Improve infirmary service provision in 60 GFs and strengthen referral system to 160 members of the quality assured provider network (including delivering and tracking referrals).	• Identify what the GF infirmaries could be doing differently to improve service provision • Support/motivate the GF infirmaries to do things differently • Provide infirmaries a list of places to refer clients to • Regularly update the referral list of providers • Measure referrals made by each infirmary • Measure clients that act on the referral

2.2.2 CONSOLIDATE LIST OF INITIAL IDEAS

After the initial brainstorming process, SHOPS developed a preliminary list of ideas and developed a basic framework for each by answering the following questions:

● What is the problem to be solved?

● Who is involved?

● What will each stakeholder do?

Building on themes that emerged during this process, SHOPS divided activities into four categories: project management and coordination; beneficiary services; provider support; and expanding access to finance.

2.2.3 EVALUATE AGAINST STAKHOLDER CAPACITIES

Upon consolidating a list of initial ideas, SHOPS considered the realities of each stakeholder group, including their literacy and access to technology (e.g., phone, computer, internet access, etc.). For example, SHOPS accounted for the fact that not all GFWs are literate or own a personal cell phone. SHOPS also recognized that not all private providers have access to a computer and even fewer have access to the internet.

2.2.4 EVALUATE AGAINST STAKEHOLDER MOTIVATIONS TO USE ICT

The viability of interventions depends upon the motivation of relevant stakeholders to actively participate. Unrealistic expectations of stakeholder engagement frequently lead to failed or weakened activities. Any activity that requires a stakeholder to change their behavior must also present a value proposition that draws on the stakeholder's motivations. As such, a critical step in the process was working with MSIC staff to identify the underlying motivations for stakeholder behaviors.

TABLE 2 STAKEHOLDER MOTIVATIONS

Stakeholder	Description	Motivations
GFWs	Individuals that work within a garment factory in a non-management role	Financial cost, improved personal health, staying employed, privacy
GF managers	Individuals that manage GF operations	Productivity of GFWs, loyalty of GFWs, avoiding strikes, reducing turnover, reducing absenteeism
GF union leaders	GFWs responsible for leading a union meant to protect the best interests of a group of GFWs	Power, recognition, well-being of members (especially when on factory floor)
GF infirmary staff	Nurses, and occasionally doctors, that run medical infirmaries within GFs	Well-being of clientele, efficient use of resources, professional mastery
ILO staff	Staff of the International Labor Organization	Labor policies, well-being of members (especially when on factory floor), desire to leverage existing ICT investments
Private providers – clinics	Staff or private health providers that support and run health clinics	Cost in short term & long term, increased client numbers and loyalty, health and well-being of clients, efficient operations, good reputation
Private providers – pharmacies	Staff or private health providers that support and run pharmacies	Cost in short term & long term, client loyalty, health and well-being of client, efficient operations, good reputation
MSIC senior staff	MSIC staff that oversee project operations and are responsible for the success of the project	Overall health and well-being of GFWs with priority for reproductive health, program efficiency and impact
MSIC hotline staff	MSIC staff that answer calls made to the hotline	Overall health and well-being of GFWs with priority for reproductive health, reputation of hotline, program efficiency, reliability, and impact
GF corporate clients ("brands")	Private companies that hire GFs to produce garments (e.g., Nike, H&M)	Recognition for working with well-performing GFs
Mobile Network Operator	Private companies that provide telecommunications(e.g., mobile phone) services	Increased subscribers, user loyalty, user consumption of voice, text, and data, access to services they can use elsewhere, increased staff capacity, additional revenue streams, good reputation for CSR
Ministry of Health	Department of the Cambodian government focused on improving health conditions throughout the country	Overall health and well-being of GFWs with priority for reproductive health, coordinated efficient programs, cost
Ministry of Labor	Influential department of the Cambodian government focused on improving conditions in GFs, enacts and enforces health-related laws in GFs	Reputation for protection and impact, improved well-being and productivity of GFWs

2.2.5 EVALUATION AGAINST TECHNOLOGY LIMITATIONS

SHOPS identified the following limitations that shaped mHealth activity design:

- 51.3 percent of all phones in Cambodia do not support the Khmer script (Phong and Solá, 2014).

- Only 35 percent[1] of phones owned by garment factory workers are estimated to be smartphones (Phong and Solá, 2014).[2]

- Short codes are issued by the government and MSIC should expect to wait 6 to18 months should they request one.

- All stakeholders are likely to use multiple phone numbers across several carriers.

- Phone numbers cannot be treated as a consistent and infallible user identification number.

- It is not guaranteed that information sent to a phone will only be consumed by the intended recipient.

2.2.6 EVALUATE AGAINST OTHER FACTORS

After evaluating against the criteria noted above, SHOPS sought to answer additional questions as noted below. Many of these questions were derived from or influenced by the Principles for Digital Development, which are outlined in Annex C.

- What aspects of this activity could be altered to increase transparency?

- Are there other overlapping project objectives that this activity could benefit?

- Are there other stakeholders not currently engaged that should be?

- Could this activity be made simpler and still achieve the same outcomes or nearly the same outcomes?

- Is anyone's privacy at risk due to this activity? What measures could be taken to reduce that risk?

- Is there a way to cover mHealth costs or adjust the activity to make it more financially sustainable?

- Is it likely that MSIC would find the expertise necessary to make this a success?

- Does this activity disproportionately support men or give men power over women in any way?

- Does the idea adequately account for difference in access to technology for women and men?

- Is there any evidence that this activity improves outcomes?

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[1] The Phong and Sola study of 2014 indicates that 38.6 percent of urban residents owned a smartphone. SHOPS assumed based on other disaggregated gender data that the percentage of urban women with a smartphone is slightly less at 35 percent.

[2] The same study notes that total smartphone ownership increased 31.5 percent in 2014 from 2013, so this limitation will be expected to diminish over the life of the project.

3 MENU OF PROPOSED ACTIVITIES

The table below presents fourteen promising mHealth activities that support each of the project's five goals, categorized by thematic area. The activities are not prioritized. Following the table there is a detailed description of each proposed activity, including its contribution to project objectives, critical tasks to ensure activity success, potential consultants or partners, estimated budget, and analysis of strengths, weaknesses, opportunities, and threats (SWOT).

TABLE 3 SUMMARY OF PROPOSED MHEALTH ACTIVITIES

Activity Name	Brief Description	Estimated Budget (USD)	Related Project Objective
Project Management and Coordination			
Onboard private providers and garment factories	Captures and manages data about prospective GFs and private providers to guide selection process.	$1,400-$10,400	4,1
Private provider registry to manage and track provider performance	Database of all relevant private providers with contact information, location, and services offered to allow MSIC to track performance.	$91,400	3
Track and manage infirmary performance	Database of all participating infirmary staff and services to allow MSIC to track performance.	Cost tied to private provider registry above	1
Enhance the referral process	Pilot activity that incorporates data collection and short message service (SMS) technology in referral monitoring.	$12,350-$65,705. Cost depends upon whether a mobile/paper hybrid or fully digitial service is used	4
Beneficiairy Services			
Expand hotline	Expands and further promotes MSIC's existing call-in service to support greater understanding and use of family planning.	$0	2,1
Client follow-up through call back service	Voicebased system that calls back with a reminder after a predefined period of time, such as to encourage follow-up services.	$49,660	2

Client follow-up through instant message service	Provides on demand info graphics and family planning information via Instant Messaging (IM) accounts available on smartphones.	Not estimated	2
Expand access to information through IVR service	Leverages International Labor Organization's (ILO) existing IVR service by expanding the health-related content.	$14,000-$134,900 depending on potential agreement with Human Network International (HNI)	2
Expand social media platform	Encourages GFWs to access health content and post questions to MSIC's Facebook page.	$0	2
Provider Services			
Supportive supervision for private providers	Mobile phone application that provides MSIC staff with auto-generated recommendations to promote collaborative problem solving and quality improvement with private providers.	$4,600-$18,000	3
Supportive supervision for infirmaries	Mobile phone application that provides MSIC staff with auto-generated recommendations to promote collaborative problem solving and quality improvement with infirmaries.	Cost tied to implementation with private providers above	1,4
Training game for infirmary and private provider staff	Repackages the smartphone game currently under development by Partnering to Save Lives (PSL), but for infirmary and private provider staff.	$45,000	1,3,4
Offline content for professional development	Video content shared offline between mobile phones to promote ongoing education.	$1,900	1,3,4
Access to Finance			
Mobile travel vouchers	Vouchers through RHVoucher project for transport to family planning service transmitted through mobile channels.	Not estimated	5

3.1 ONBOARDING PROCESS FOR PRIVATE PROVIDERS AND GARMENT FACTORIES

A deliberate and systematic approach is required to optimally review and select private providers and GFs. SHOPS considered the linkages between the project's goals of reaching 100,000 workers at 60 GFs through 160 private providers when identifying potential mobile interventions. For example, if too many garment factories are selected too near one another, there may not be 160 private providers in that area with sufficient interest to partner. Technology can play a significant role in streamlining the process and ensuring it is data-driven.

3.1.1 ACTIVITY DESCRIPTION

The project should gather relevant information and global positioning system (GPS) coordinates on each prospective facility as they being to review and select providers and GFs. This promotes efficient data collection as staff will already be visiting each location to discuss the partnership and can easily collect the necessary information on a low-cost smartphone by completing a short survey (approximately ten questions).

The team can then use technology for decision making by:

- Viewing maps of facilities online and color-coding locations based on responses to different multiple choice questions.
- Downloading excel files of the data and facility locations to be read and manipulated using a third party geographic information system software.
- Filtering the facilities by capacity, location, and interest to identify areas with support needs.

3.1.2 POTENTIAL PARTNERS AND CONSULTANTS

This activity was intentionally designed without the need for additional partners. This assumes, however, that the mHealth lead has experience with mobile data collection. If not, a motivated individual can learn all necessary steps to acquire the skills in one to two weeks. Alternatively, Open Institute has experience setting up a system called ODK Aggregate that can be used for this activity.

3.1.3 ESTIMATED BUDGET

SHOPS assumed that staff is already planning to visit each facility as part of the selection process. As such, this budget does not account for their time or transport costs. The following costs are based on the assumption that the mHealth lead will spearhead data collection efforts.

TABLE 4 ESTIMATED ACTIVITY BUDGET WITH MHEALTH LEAD SUPPORT (ONBOARDING)

Item	Cost
Ona/ODK Collect software ($100/month for first 6 months of project)	$600
Smartphones ($200/device x 4 staff members)	$800
Total	$1,400

The following costs are based on the assumption that the mHealth lead does not roll out the mobile data collection.

TABLE 5 ESTIMATED ACTIVITY BUDGET WITHOUT MHEALTH LEAD SUPPORT(ONBOARDING)

Item	Cost
Ona/ODK Collect software	$600
Smartphones ($200/device x 4 staff members)	$800
Digitize survey instrument	$1,000
Train staff on using the phones	$6,000
Prepare phones for use	$2,000
Total[3]	**$10,400**

SHOPS also identified additional internal labor estimates for critical tasks.

TABLE 6 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (ONBOARDING)

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[3] If the mHealth lead does not have the capacity to lead this, Open Institute may charge $3,000-10,000. Note this data will be necessary for future activities, so it needs to be collected regardless of the price.

Task	Estimated Labor (days)
Identify important selection criteria and the relevant data to select facilities	3
Visit at least 210 private providers and at least 78 garment factories before selecting final project facilities	60
Train staff on using mobile phones to record GPS data and capture other information about the facilities	6

3.1.4 SWOT ANALYSIS

TABLE 7 SWOT ANALYSIS (ONBOARDING)

Strengths	Weaknesses
Potential to select the optimal geographic dispersion of facilities based on data collected on capacity and interest in participating	Requires technological capacity and commitment at the very early stages of the project when attention is very divided and partners might not yet be on board
Opportunities	**Threats**
Data collected in the selection process will serve as a strong foundation for more advanced systems (Activities 2 and 3)	Use of rigid criteria entered digitally may prevent the project from identifying additional factors that should be considered in the selection process

3.1.5 RECOMMENDED TECHNOLOGIES

For a quick and easy set-up, SHOPS recommends that the project use Ona (www.ona.io). In most cases, the system is free. It allows users to view data maps online without having to download and then upload into another system. A set of tips for using Ona are available in Annex B. Alternatively, InSTEDD's ResourceMap software and the locally developed, Mango Map software, could serve as mapping tools. In both cases, the project would manually upload collected data into the software rather than through automatic transfer. For more advanced analysis, the project could use ArcGIS or the free and open-source alternative, QGIS. This software requires experienced users but could support more detailed data analysis.

3.1.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

No revenue opportunities or business models are likely with this activity. This is not an ongoing activity and is meant to serve as an operational effort to kick off the project. Use of free software keeps activity costs low.

3.1.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 8 POTENTIAL CONTRIBUTIONS TO M&E (ONBOARDING)

Data Collected	Use
Facility information (location, capacity, contact information, services provided)	Help determine whether to include facility in the project; monitor improvements and progress over the life of the project

3.1.8 OTHER CONSIDERATIONS

The Ministry of Health or private health associations may have existing registries of facilities with names, locations, or other information. In SHOPS experience in conducting private provider censuses, lists provide a useful starting point but are usually outdated, and missing a significant

number of practitioners. If such a registry does not exist, the project can share the data with relevant government officials and coordinating bodies as appropriate.

3.2 PRIVATE PROVIDER REGISTRY FOR TRACKING PERFORMANCE

To properly manage the quality-assured provider network the project must track private providers, their performance, and the project's efforts to provide support. The project must also maintain a publically accessible registry (e.g., a directory) of providers, locations, and services to provide recommendations for women. Both of these needs can and should be addressed through a single system. The system should have a public-facing, mobile friendly web interface[4] for the general public, garment factory infirmary staff, and other providers. The public-facing side, promoted via the MSIC Facebook page, would allow users to select and contact providers. Hotline workers can also use this interface to find providers to meet the callers' geographic and medical needs.

Beyond the public view, project staff will have an additional layer of information to shape the type and focus of support they offer different providers. On the individual facility level, the system could store notes from past visits to the facility, performance scores across key indicators, trends over time (improving/worsening), and any potential issues that might justify removing the provider from the network. At a macro level, the system would also present aggregated trends and lists of the top and worst performing facilities to help the team prioritize the support they offer each quarter. When tightly integrated into the project team's regular meetings, such dashboards will be invaluable in planning and understanding progress to date.

3.2.1 ACTIVITY DESCRIPTION

While office-based staff interacts with the system through the internet, field staff will need a way to enter and retrieve information while visiting each provider. To do so, SHOPS recommends that each field staff member be equipped with a large Android smartphone or small tablet. During routine monitoring visits with the providers staff can record data in real-time, check past action items, and visually share progress with the provider on the device screen. Additional factors to consider include:

- The externally-facing website should be pitched to providers as a benefit for being part of the Quality Assured Network. Many providers will have no web presence. The project can provide them with that presence.

- Based on how the provider is performing, MSIC can provide them a certificate or score to post as a symbol of good quality.

- Simplicity is essential so that the provider platform is easy to develop and use. Some guiding questions include:

  - What is the minimal amount of information needed about each provider?

  - What are the 3-5 (maximum) quantifiable measurements to reflect the performance of the providers?

  - What are the 2-4 (maximum) performance indicators project leadership will use to to evaluate how the project is doing?

- The mobile software application should include visually informative charts and graphs with

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[4]The SHOPS project recently developed a similar site for the Tanzanian medical laboratories. It is available online at www.labs.melsat.or.tz.

an easy Excel export function for staff to access data.

3.2.2 POTENTIAL PARTNERS AND CONSULTANTS

In Cambodia, both InSTEDD and Open Institute are capable of developing a system like the one described here. Based on informational interviews with each group, it appears that Open Institute has more experience with mobile data collection and custom dashboards such as the one described for this activity. To maximize value for money, the project should seek quotes and proposals locally and internationally for this work. Most have preferred software that they own/use, so the selection of the developer and software is linked.

Other organizations SHOPS recommends include Ona (www.ona.io), Dimagi www.dimagi.com), and TaroWorks (www.TaroWorks.org).

- Ona is a Nairobi-based mobile data collection and data visualization firm with strong mapping capabilities.

- Dimagi specializes in mHealth applications such as CommCare, which is designed for community health workers to manage interactions with clients, with similar functionality to the provider tracking tool.

- TaroWorks is a Grameen Foundation-affiliated team that helps NGOs use SalesForce's platform and provides a mobile-based application that can collect data, pull up historical data, and track completed and uncompleted tasks as assigned to each field worker.

3.2.3 ESTIMATED BUDGET

The following estimate includes costs for external consultants, staff, hardware, and communications fees.

TABLE 9 ESTIMATED ACTIVITY BUDGET (REGISTRY)

Item	Cost
Software development	$50,000
4 years of software maintenance	$20,000
Additional development to add features in year 2	$10,000
Training field staff and home office staff	$5,000
Retraining	$5,000
Data (telecom costs) (1 Gb/device/month x 4 devices x $5/Gb x 60 months)	$1,200
Smartphones (already included in previous activity)	$0
Total[5]	**$91,200**

SHOPS also identified additional internal labor estimates for critical tasks.

TABLE 10 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (REGISTRY)

Task	Estimated Labor (days)
Work with the field staff to determine what historic information is needed most during visits.	5
Engage a developer in an iterative process by prototyping and evolving the system design over a period of at least 3 months. During that time, field staff should be actively using the system.	20
Ensure the system is integrated into the review and planning processes. Ensure that everyone is aware that it is going to be integrated.	Ongoing

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[5] If the mHealth lead does not have the capacity to lead this, Open Institute may charge $3,000-10,000.

Seek feedback from different end users on how they use the website and what can be changed to improve the experience.	10
Ensure the public facing site is optimized for use on a smartphone as many users only access internet from their phones.	Part of procurement process with developer
Focus on an approach and fun design rather than a formal one.	Part of procurement process with developer

3.2.4 SWOT ANALYSIS

TABLE 11 SWOT ANALYSIS (REGISTRY)

Strengths	Weaknesses
Systematic support model tracks progress of each provider, optimizes the support strategy, and measure the project's overall progress in supporting providers.	Systems can take a long time (1+ years) to develop and perfect.
Opportunities	**Threats**
If well developed, this system should allow the project to support more providers with fewer staff.	Highly quantified capacity building model can become overly focused on scores rather than understanding what support each provider needs from a holistic perspective.

3.2.5 RECOMMENDED TECHNOLOGIES

Each of the partners recommended above have preferred software. Beyond those, the code behind the Abt Associate's developed medical laboratory registry (www.labs.melsat.co.tz) is also open source and available for use.

3.2.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

Two options may be piloted to sustain the intervention. If the public page helps providers increase their client base, the project could charge providers to promote their pages on the website. In addition, the public registry could include advertisements. However, the revenue would likely be inconsequential given the limited audience of the site. Ad revenue for 1,000 visits to a website ranges from $0.10 to $10 depending on the size and type of advertisements.

3.2.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 12 POTENTIAL CONTRIBUTIONS TO M&E (REGISTRY)

Data Collected	Use
Number of visits to each provider	Determine if support approach is effective/Report amount of support provided
Type and frequency support given to each provider	Determine if support approach is effective/Report amount of support provided
Progress of provider toward improving quality	Evaluate if project will meet its goal
Changes in location or contact information	Update the referral registry

3.2.8 OTHER CONSIDERATIONS

When selecting a vendor to develop the system, MSIC should ensure the organization has experience developing mobile-friendly websites, also known as responsive sites, which adjust and perform well at various screen sizes.

3.3 TRACK AND MANAGE INFIRMARY PERFORMANCE

3.3.1 ACTIVITY DESCRIPTION

This activity is similar to Activity 3.2 but is smaller in scope and focuses on GF infirmaries rather than private providers. The underlying technology and some workflows will be the same. However, the project should collect different data and measure/visualize progress differently. Major differences include the fact that infirmaries do not need externally facing website or referrals from hotline staff. The primary purpose of an infirmary tracking tool is to allow MSIC to track key indicators at the 60 GF infirmaries. Example indicators include family planning counseling services provided and referrals made.

3.3.2 POTENTIAL PARTNERS AND CONSULTANTS

Same as Activity 3.2.

3.3.3 ESTIMATED BUDGET

The technology underpinning this solution will be the same as Activity 3.2. As such, a developer would likely treat them as one activity with a single development and maintenance cost. No additional budget for hardware, software, or training would be needed. SHOPS identified internal labor estimates for critical tasks as noted below.

TABLE 13 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (REGISTRY)

Task	Estimated Labor (days)
Work with the field staff to determine what historic information is needed most during visits	5
Engage a developer in an iterative process by prototyping and evolving the system design over a period of at least 3 months. During that time, field staff should be actively using the system	20
Ensure the system is integrated into the review and planning processes. Ensure that everyone is aware that it is going to be integrated	Ongoing

3.3.4 SWOT ANALYSIS

Same as Activity 3.2.

3.3.5 RECOMMENDED TECHNOLOGIES

Same as Activity 3.2.

3.3.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

No revenue opportunities or business models identified for this activity.

3.3.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 14 POTENTIAL CONTRIBUTIONS TO M&E (REGISTRY)

Data Collected	Use
Number of visits to each infirmary	Determine if support approach is effective/Report amount of support provided
Type and frequency support given to each provider	Determine if support approach is effective/Report amount of support provided
Progress of provider toward adherence to recommended protoco	Evaluate if project will meet its goal
Changes in contact information.	Update the referral registry

3.3.8 OTHER CONSIDERATIONS

The goal of this activity is to make visible the contribution of GF infirmaries in providing access to family planning counseling and services among GFWs. GF management is key stakeholders. It is critical to activity communicate the status and trends drawn from this system during routine project meetings.

3.4 ENHANCE REFERRAL PROCESS

Technology can facilitate referral tracking from GFs and the MSIC hotline to private providers by increasing and automating communication between GF infirmaries and private providers and between providers and MSIC staff. Health organizations in developing countries face common challenges with tracking referrals in a consistent and comprehensive manner. While a referral system can be entirely digitized past experience suggests that a hybrid approach that employs both paper-based and digital elements is optimal. SHOPS recommends that MSIC pilot the referral process with one GF to understand the dynamics of the referral process and how many women are accessing services where they are referred.

3.4.1 ACTIVITY DESCRIPTION

Two options are described below. In the first (Option A), basic client information is transferred from the referrer to the provider on a paper form rather than through the phone. SHOPS recommends this option for GF infirmaries that do not have internet-enabled smartphones or computers. The effort needed by the infirmary staff to enter referral information via SMS is more burdensome than completing a paper form because the information must be manually typed into the phone in a very specific way. The extra effort required to record the referral via SMS on basic phones has not shown improved results over physical paper mechanisms (Dimagi, 2015). In the second option, SHOPS assumes that the infirmaries, providers, and hotline staff all have internet-enabled smartphones or computers. This process involves collecting and transmitting the referral information to create an automated record. As of May 2015, the PSL project in Cambodia was piloting a paper-based referral initiative. SHOPS recommends that MSIC use a similar approach with GFs complemented with a digital database for managing the referral information.

Steps in Option A: Hybrid paper and digital process

Step 1: GF infirmaries are stocked with preprinted carbon-copy paper slips with the infirmary name prefilled/typed. The referral slip should also include the hotline number to promote the service and to increase the likelihood that clients will retain.

Step 2: When a GFW is referred for service, the infirmary attendant (doctor or nurse) provides the name and location[6] of the suggested provider, national ID number and gender of the client (not the client's name), and referred service. The infirmary hands one copy to the client and keeps the other as a record of referral.

Step 3: The client brings the referral slip to the suggested provider or possibly a different provider. If the client visits the provider, the provider marks whether and when the service was provided and drops the slip into a well-marked and brightly colored box provided by the project.

Step 4: Project staff pick up the slips as a regular part of their visit to the provider.

Step 5: Project staff enters the slips into a database that generates a report summarizing referrals issued and providers visited, disaggregated by geography, gender, age, service provided, date, and source of the referral.

In Option B, SHOPS assumes that the infirmaries, providers, and hotline staff all have internet-enabled smartphones or computers.

Steps in Option B: Digital process

Step 1: The project works with a software provider to implement an SMS-enabled referral that is linked to an application on infirmary and hotline staff smartphones. The technology partner establishes a local phone number and system to generate the SMS to clients.

Step 2: When the referral originates from the infirmary, infirmary staff enters referral information into a computer-based/smartphone form which includes National ID number and gender, referred service, name and location of suggested provider, and a referral reference number. The software generates an automated SMS to clients with name and location of recommended provider, referred service, and referral reference number.

When the referral originates from hotline staff, the hotline staff member discusses the referral process and conveys the name and location of the recommended provider and the referred service. The staff member lets the caller know they will be receiving an SMS with a unique referral number that also contains the provider information. The hotline staff enters the client's information (ID number, referral number, provider, and service) into a form on a computer and then generates a text message to the client with the information built into software downloaded onto the computer.

Step 3: When the client appears for service, she will show/forward the SMS referral reference number to the provider's smartphone. After a service is provided, the provider documents it by entering the referral reference number into a web-based form on a computer or smartphone. The software will also prompt the provider to enter the referrer, national ID and gender of the client, referred service, and the referral reference number.

Step 4: The form uploads to the project staff database, which counts the referrals and generates a relevant report of referrals issued and received that are disaggregated by geography, gender, age, service provided, date, and source of the referral. Staff can then review online the current number of unresolved referrals and track the unresolved referrals to track total referral ratio.

3.4.2 POTENTIAL PARTNERS AND CONSULTANTS

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[6] To include relevant location information about the referred providers in the SMS, the system must integrate with the provider registry in Activity 3.2.

The project should consider several leading international mHealth organizations that have implemented referral tracking programs. MSIC can request bids in a competitive process. The following organizations have experience and existing software that is tailored to this use case:

- Dimagi
- Medic Mobile
- Cell-Life
- D-tree
- Human Network International

3.4.3 ESTIMATED BUDGET

Estimated budgets for Options A and B are provided in a side-by-side comparison below. This budget assumes one year of operation with a pilot of 10 GFs.

TABLE 15 ESTIMATED ACTIVITY BUDGET (REFERRAL)

Item	Cost (Option A)	Cost (Option B)
Print referral slips ($0.05 per slip printed, 500 referrals per 10 GF)	$250	$250
Software partner in design web (data visualization and reports) or web/SMS application	$5,000	$35,000
SMS Costs ($0.025 per SMS, 5000 referrals, 3 message per referral)	$0	$375
Data Charges ($5 per provider per month, 10 infirmaries, 20 providers)	$0	$1,800
Web-based database software (ex. Zoho Reports)	$0	$0
Boxes (20 providers at $3 each)	$60	$0
Total	$5,310	$37,425

SHOPS also identified additional internal labor estimates for critical tasks.

TABLE 16 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (REFERRAL)

Task	Estimated Labor (days) (Option A)	Estimated Labor (days) (Option B)
Review, hire, and coordinate with mHealth organization	0	15
Train and reinforce training with infirmaries and private providers about their role in the process	8	8
Pick up paper slips	ongoing	
Design, procure, and distribute referral slip boxes to all private providers as part of onboarding process	5	0

3.4.4 SWOT ANALYSIS

TABLE 17 SWOT ANALYSIS (OPTION A) (REFERRAL)

Strengths	Weaknesses
Approach recognizes the realities of organizing disparate stakeholders; paper referral serves as a physical reminder	Both paper and mobile reporting have poor track records for consistent compliance due to limited provider incentives and motivation to report. The solution does not update in real time; it is only updated as frequently as staff visit each facility to collect slips
Opportunities	**Threats**

Starting with paper-based referrals allows the project to evolve toward a more technological solution over time as access to smartphones grows	None identified

TABLE 18 SWOT ANALYSIS (OPTION B) (REFERRAL)

Strengths	Weaknesses
Approach prioritizes regular communication with stakeholders; SMS to the client reduces the chance that the referral number gets lost; solution updates in near real time	Even when the process is automated, a number of referrals will not be captured by the system. Clients might go to a provider outside of the network, or providers may fail to report all referrals they see because they do not have sufficient incentive

Opportunities	Threats
High percentage of providers that own smartphones means that the system will not need to rely on SMS	None identified

3.4.5 RECOMMENDED TECHNOLOGIES

For the web-based software, SHOPS recommends Zoho Reports which has a web-based "business intelligence/reporting" tool. A web interface is superior to MS Excel because it:

- Reduces the chance of data loss

- Improves data quality

- Allows different users to upload data

- Allows project management to access the dashboard online from different locations

- Allows the project to share live reports with USAID

For the digital option, each of the organizations recommended have preferred software for creating forms and automating SMS messages

3.4.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

SHOPS identified no viable cost recovery methods as the task is primarily a reporting function.

3.4.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts. The project should share statistics on referrals with infirmaries and hotline staff to deepen engagement with the referral process and provide insight about whether certain individuals or messages are particularly successful. Referral information summaries for providers can help to highlight the value of being part of the Quality Assured Network.

TABLE 19 POTENTIAL CONTRIBUTIONS TO M&E (REFERRAL)

Data Collected	Use
Number of referrals made, disaggregated by geography, gender, age, service provided, date, and source of the referral	Evaluate how frequently each infirmary makes referrals as a percentage of the workforce or number of infirmary clients

Number of referrals completed and recorded complete	Approximate the number of clients that receive referrals and act on them[7]
Most popular location for referrals for a specific facilit	Understand preferences of infirmary staff and/or GFWs geographic preferences
Providers that clients are not visiting despite referrals	Identify providers that are not preferred by clients (either due to service quality, bad reputation, geography, or another reason)

3.4.8 OTHER CONSIDERATIONS

To protect the privacy of clients, names should not be included on the referral slips; only age and medical service should appear. Referral slips should be designed to be inconspicuous.

3.5 EXPAND CALL CENTER

Though higher in cost, hotlines provide superior engagement with beneficiaries compared to automated IVR or SMS options. There is no evidence on which to compare the cost effectiveness of these options. Based upon high user demand, SHOPS recommends ongoing support and expansion for the MSIC service. The one-to-one conversations give callers the opportunity to ask questions and engage on issues about their health with neutral and trusted experts. Additionally, the hotline engages people who are interested and willing enough to proactively call the service, providing MSIC with an avenue to support the most receptive audience with the most extensive support.

MSIC currently manages a successful telephone counseling service with four dedicated hotline staff and one manager that also handles calls. They have a basic well-structured system to handle calls, count calls, and capture themes/trends. Over the past few months they have received an average of 900 calls/month. Immediately following promotional campaigns the count has been as high has 1500 calls/month.

3.5.1 ACTIVITY DESCRIPTION

To leverage and expand the hotline's impact, the project should:

- Increase hotline marketing, taking particular advantage of promotion through the GF who can place posters and fliers throughout the workspace

- Track referrals to/from the hotline from different channels and tailor marketing based on results

- Cross-promote the IVR system (Activity 3.9) for callers that might have questions that can be addressed through the automated system

- Train and integrate hotline staff on the web-based referral directory (Activity 3.4) once developed so they can use it to make referrals

- Collect data on whether a caller is a garment factory worker

- Ask and record whether each caller is willing to get a call back for "quality improvement purposes"

3.5.2 POTENTIAL PARTNERS AND CONSULTANTS

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[7]To get a complete picture of better understand the picture, the project could do more in depth follow-ups with a sample population and use those findings to predict the total number of referrals completed.

MSIC currently manages the hotline using 3CX software. There are no recommendations to change this system.

3.5.3 ESTIMATED BUDGET

TABLE 20 ESTIMATED ACTIVITY BUDGET (CALL CENTER)

Item	Cost
Increase hotline staff (not increasing)	$0
Increase system capacity (not increasing)	$0
Marketing (Posters, TV, radio advertisements)	To be locally determined
Increase phone calls ($0.05/min at 5 min/call at 600 additional calls/month for 60 months)	$0 (Costs will be incurred by GFWs initiating the calls)
Total	**$0**

SHOPS also identified additional internal labor estimates for critical tasks.

TABLE 21 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (CALL CENTER)

Task	Estimated Labor (days)
Evaluate impact and client satisfaction with existing hotline calls	30
Conduct analysis and distill findings from current data being collected	1.5
Conduct feedback sessions with hotline staff on what topics they feel they are poorly equipped to support	2

3.5.4 SWOT ANALYSIS

TABLE 22 SWOT ANALYSIS (CALL CENTER)

Strengths	Weaknesses
Already established and enables substantial engagement with those most receptive	High relative cost per woman; scaling requires lead time to hire more staff and get more lines established

Opportunities	Threats
Increased cross-promotion with other health initiatives, especially the IVR service; integration of referral directory	Increases in promotion may not lead to increased usage; if usage increased too significantly, and the project is ill-equipped to manage the volume of calls, it may discouraging use

3.5.5 RECOMMENDED TECHNOLOGIES

No new technology is needed unless the hotline extends beyond 2,000 callers a month. SHOPS does not recommended that the project promote the hotline to a point beyond that threshold as there will be diminishing returns if staff needs to focus on upgrading or replacing the existing system.

3.5.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

There is potential to sell advertising rights to an audio advertisement played at the beginning or end of each call. With enhancements to the hotline system, the project could also charge a modest user fee for repeat callers or after a certain number of minutes and for a connection to/call with a licensed doctor.

3.5.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 23 POTENTIAL CONTRIBUTIONS TO M&E (CALL CENTER)

Data Collected	Use
Number of calls	Understand impact of marketing and measure number of women impacted
Content of calls	Reinforce/supplement content in certain areas if training for hotline staff is limited in a certain area; interest/demand for information on topic
Callers' information (Age, gender, employer)	Disaggregate content interest and effectiveness of marketing by demographic segment to adjust content or marketing focus; count number of garment factory workers reached
Time of day and day of week	Allocate staffing based on high volumes times/days
Referral information (where heard about the hotline)	Reallocate marketing dollars to areas where it's been most effective in promoting calls
Call satisfaction[8]	Identify stronger and weaker staff and strong and weaker topic areas

3.6 CLIENT FOLLOW-UP VIA CALL BACK

Follow-up messages to clients can increase adherence to medication, improve attendance at appointments, and strengthen provider-client trust (Azir, 2012; Jailoh-Vos, H. et al 2014. Follow-up messages are particularly appropriate to promote continuation of methods such as injectables which have rates of discontinuation globally. SHOPS India recently instituted a successful Careline service that automatically called new users of injectables two weeks after receiving the first injection to offer advice and reassurance, reducing discontinuation from 68 percent to 29 percent (Ganesan, 2014).

3.6.1 ACTIVITY DESCRIPTION

SHOPS proposes a pilot activity to establish an IVR system targeting clients receiving injectables to remind clients of their follow-up appointment three months after their initial visit. This should also be integrated with the MSIC hotline to encourage clients experiencing side effects to talk to a counselor. Activity steps are as follows:

1. A private provider encourages the client to register for the follow-up service, with emphasis on the privacy risks if anyone has access to the client's phone

2. If the client chooses to subscribe, the provider facilitates the client's call to an automated number to consent and register

3. The client receives follow-up calls timed for appearance of common side effects and next appointment

4. After scheduled follow-up injections, the client receives a call to confirm attendance

3.6.2 POTENTIAL PARTNERS AND CONSULTANTS

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[8]The hotline manager could conduct random, independent, standardized follow-up survey with percentage of callers to get feedback on quality of call and whether advice was taken.

InSTEDD would be a natural vendor for this activity given its current role designing and supporting MSIC's current IVR system.

3.6.3 ESTIMATED BUDGET

The following estimate includes costs for external consultants, staff, hardware, and communications fees.

TABLE 24 ESTIMATED ACTIVITY BUDGET (CALL BACK)

Item	Cost
IVR set-up and configuration	$3,000
Re-recording and revisioning based on testing and feedback	$6,000
Minimal, but on-going technology support for 5 years ($200/month x 60 months)	$12,000
Provider training (built into provider visits)[9]	$0
Per message costs for registrations (3 min x $0.06/min x 10,000 users/ year x 5 years)	$9,000[10]
Per message costs for reminders (2 min x $0.06/min x 10,000 users/ year x 5 years)	$6,000
Per message costs for follow-up calls (3 minutes x 1.5 calls[11] x $0.06/min x 10,000 users/year x 5 years	$13,500
Poster printing (160 providers x $0.20 x 1 poster/year x 5 years)	$160
Total	**$49,660**

SHOPS also identified additional internal labor estimates for critical tasks.

TABLE 25 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (CALL BACK)

Task	Estimated Labor (days)
Develop initial script for registration, reminders, and follow-up questions	10
Prototype and user test the interaction	5
Adjust to the recordings and/or steps	5
Review clients that didn't request reminders and their compliance rate and/or comparison of user rate to national average	10
Develop and execute education/promotion strategy for providers	10
Follow-up calls by Hotline staff after 14 and 28 days (included in existing work)	0

3.6.4 SWOT ANALYSIS

TABLE 26 SWOT ANALYSIS (CALL BACK)

Strengths	Weaknesses
System is highly scaleable with a very low per-user cost	Messaging is just a light touch. The content is limited in depth and may not persuade someone to seek follow-up care if they believe it will be harmful or painful
Opportunities	**Threats**
Integrating this activity more tightly with the hotline would help address the subset of people who need additional information beyond what the automated message includes	There is a privacy risk if a client is exposed by someone else answering and listening to the automated message; Cambodians replace their SIM cards very frequently, users may not have the same

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[9] Training costs are not included here because the roll-out of this service should be part of the ongoing capacity building work with the private providers rather than standalone trainings. If the final service takes more than 10 minutes to explain alongside of a poster, then it is too complex.

[10] This assumes the project establishes a toll-free way for clients to register without it using their credit. If the project was comfortable with the client paying for their minutes to register, this $9,000 could be dropped.

[11] Calculated as 1.5 calls, assuming that half of users will comply after the first call-back, and half will require the second.

	SIM card 90 days after their first injection (Bullen, 2013)

3.6.5 RECOMMENDED TECHNOLOGIES

The recommended technology for this activity is Verboice, managed by InSTEDD. Verboice is the most well-known, well-established IVR software in Cambodia and meets all of the project's needs for this activity. Alternative IVR platforms include VotoMobile and FreedomFone, but costs and lead time would be higher for these software.

3.6.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

No cost share opportunities were identified. Providers could cover cost themselves but the level of effort to establish and maintain such a system may be prohibitive for a single provider.

3.6.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 27 POTENTIAL CONTRIBUTIONS TO M&E (CALL BACK)

Data Collected	Use
Count of clients requesting reminder	Count toward project goal #2
Self-reports on follow-up care	Impact evaluation study

3.6.8 OTHER CONSIDERATIONS

Given the privacy risk associated with this activity, the roll out of the reminder service will require significant attention. The reminder service design should require a degree of confirmation from the client in which she is asked explicitly to press 1 for "yes," she agrees or 9 for "no," she does not. Providers should be required to explain the risks and explore client concerns about family or friends having knowledge that they are receiving family planning services.

3.7 CLIENT FOLLOW-UP VIA INSTANT MESSAGING

Recognizing that smartphone and IM usage will only increase over the life of the project, MSIC should also communicate with clients via these additional means. This type of messaging could be used to communicate with existing clients or the general population, especially during the later years of the project. Potential advantages of IM over SMS or live voice messaging include:

- Ability to capitalize on this global trend
- Opportunity to send text in Khmer script, English, voice messages and cartoons/infographics, or mixture of all
- Content remains on beneficiaries phone to be viewed/listened to subsequently or shared, unlike a voice message which can only be listened to once
- Less susceptible to technical problems such as modem problems or unstable network connections
- No airtime cost to send messages as they can be sent over lower cost data plan
- Can leverage content that has been developed for the Facebook page

- Depending upon type of IM software used, it may be possible to maintain communication with client even if they change SIM cards

3.7.1 ACTIVITY DESCRIPTION

This activity could be piloted at a later stage of the project after communication via Facebook Messenger has been implemented and considered a success. To pilot this activity, the project could establish an account with IM software (chat applications) like LINE, Viber, and WhatsApp. The accounts could be given the same name as the Facebook page (Knhom Samrab Nak). Beneficiaries could use IM communication to ask questions about family planning and reproductive health and MSIC counsellors could respond and refer for appropriate services. MSIC could send appointment reminders to individual clients (as per Activity 3.6) and send general health information similar to Activity 3.7 but using infographics and Khmer script. This activity would require coordination between the hotline staff and marketing department and could be facilitated by the mHealth lead.

3.7.2 POTENTIAL PARTNERS AND CONSULTANTS

No external partners required.

3.7.3 ESTIMATED BUDGET

The following estimate includes costs for external consultants, partners, hardware, and communications fees.

TABLE 28 ESTIMATED ACTIVITY BUDGET (IM)

Item	Cost
Need to explore the cost of a business account that facilitates bulk messaging; not done for this assessment	Unknown
Total	**Unknown**

SHOPS also identified additional internal labor estimates for critical tasks.

TABLE 29 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (IM)

Task	Estimated Labor (days)
Review and select chat services to adopt	3
Sett up accounts and familiarization with the service	2
Engage with clients over Viber, Line, etc. (allocated as part of hotline staff time)	0

3.7.4 SWOT ANALYSIS

TABLE 30 SWOT ANALYSIS (IM)

Strengths	Weaknesses
System is highly scalable with a very low per-user cost; opportunity to send voice, text, or graphics over one platform	Risk of too many communication channels for Hotline staff to manage; will not reach clients with simple phones or without internet access
Opportunities	**Threats**
Possible to maintain contact with client even if they switch SIM card	Privacy risk. The fact that a client is using family planning could be exposed if someone else reads/listens to the message

3.7.5 RECOMMENDED TECHNOLOGIES

Viber and LINE are currently popular in Cambodia but this activity would continue to evolve as new platforms emerge.

3.7.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

None identified.

3.7.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 31 POTENTIAL CONTRIBUTIONS TO M&E (IM)

Data Collected	Use
Count of clients engaging with each platform	Allocate resources and define focus areas
Types of requests/topic areas	Allocate resources and define focus areas

3.8 GFW ACCESS TO FAMILY PLANNING INFORMATION

A menu-driven recorded voice information service would offer GFWs a source of neutral, trusted information that may lower barriers to use. Benefits include the ability of consumers to access information relevant to their specific interests. The interactive format also enables polling and quizzes for deeper engagement.

3.8.1 ACTIVITY DESCRIPTION

GFWs would access the service by dialing a short code to listen to a menu of topics. The service could be promoted by the GFs to build awareness. A web-based software platform will automatically link consumers to the messages of their choosing. Content could be organized by general family planning information, family planning benefits, specific methods and their efficacy, side effect management, myths, misconceptions, and frequently asked questions. This IVR service could complement the hotline by serving as a link for those seeking one-on-one counseling, and reach a higher volume at a lower cost.

3.8.2 POTENTIAL PARTNERS AND CONSULTANTS

ILO currently manages an IVR system to provide GFWs with information about their labor rights. The system also includes a limited amount of health content. The ILO service is managed by InSTEDD using their Verboice software. Rather than create an alternative IVR service that also targets GFWs, the project should partner with ILO to expand the health content and increase the promotion of the service. Benefits to ILO for collaborating with MSIC include cost share options for maintaining the platform. MSIC could partner with MediaOne on content development and design for mobile formats.

3.8.3 ESTIMATED BUDGET

Assuming the ILO is planning to continue supporting its IVR service, MSIC may reach an agreement to leverage their platform and avoid software costs to create a similar service. MSIC could add additional health content which would need to be integrated in to the system. This would cost $8,000 and $15,000 depending on the amount of content that the project adds to the system and how frequently that content needs to be updated. It is likely that ILO would require MSIC to pay for the health related calls.

TABLE 32 ESTIMATED ACTIVITY BUDGET (IVR INFO)

Item	Cost
Launch call-back survey (3,000 callers x $0.06/min x 5 minutes)	$900
Write/adapt additional content (developed by project staff)	$0
Record additional content	$8,000
Ongoing support to integrate additional content into the IVR system ($100/month for 60 months)	$6,000
Cover costs of calls (assuming 10,000 calls/month x 60 months x 4 minutes per call x $0.05/min[12]	$120,000
Marketing	To be determined
Total	**$134,900**

SHOPS also identified additional internal labor estimates for critical tasks.

TABLE 33 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (IVR INFO)

Task	Estimated Labor (days)
Develop and launch a call-back survey with 5 percent of recent callers to understand current awareness and interest in health topics as well as information on the current user base	5
Leverage existing catalogue of audio or other FP content such as MAMA and Hesperian	5
Develop and test alternative message format, tone, content, and complexity	10
Establish a contract or MoU with ILO to define the terms of the partnership	7

3.8.4 SWOT ANALYSIS

TABLE 34 SWOT ANALYSIS (IVR INFO)

Strengths	Weaknesses
Project can build on existing systems and proven information channels	Unclear whether ILO would support this collaboration
Opportunities	**Threats**
Establish a "one-stop shop" for garment factory workers seeking information. If the service becomes trusted enough, service could include other paid content that covers costs; increased cross-promotion with other health initiatives, especially the hotline service	Project's health content would be associated with labor rights issues, which could potentially be politically sensitive

3.8.5 RECOMMENDED TECHNOLOGIES

ILO uses Verboice technology which should be leveraged for this activity.

3.8.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

This activity provides a good cost share opportunity with ILO, which should be interested in sharing operational and promotional costs. An IVR service reaching thousands of GFWs is also likely to be attractive to advertisers, enabling MSIC to recover a portion of the costs. The service may also evolve to other value added service to subsidize the health content. Human Network International recently signed an agreement with mobile operator CellCard in which HNI agreed

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[12] Within the current ILO system, the calls are toll-free for GFWs and the cost is covered by ILO.

to create IVR content on social development issues (in partnership with local NGOs) develop social development content in exchange for free CellCard airtime. If MSIC can broker or support an agreement between HNI and ILO to collaborate on IVR platforms, MSIC might contribute family planning content in exchange for free CellCard calls for GFWs, potentially saving $120,000.

3.8.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 35 POTENTIAL CONTRIBUTIONS TO M&E (IVR INFO)

Data Collected	Use
Number/percentage of callers accessing health content	Evaluate if interest increases due to promotions
Most/least popular content	Add/remove/adjust content
Average time of phone calls	Estimate ongoing costs and user engagement
Most/least common times of day for content	Influence promotional materials
Number of repeat callers/unique callers (phone numbers)	Count actual unique users
Feedback from users on usefulness, relevance, value	Add/remove/adjust content

3.9 EXPAND SOCIAL MEDIA

MSIC currently manages a successful Facebook page called Knhom Samrab Nak. There is potential to expand use of this platform to better integrate and promote other family planning interventions. Additional youth-friendly web content on sexual and reproductive health topics is a relatively low cost way to supplement other channels of information.

3.9.1 ACTIVITY DESCRIPTION

GFWs with internet access on their phones should be encouraged to send messages to 'Knhom Samrab Nak' via Facebook messenger as an alternative to the IVR or hotline service. The hotline staff would be responsible for responding to these messages during quiet times when not receiving incoming calls, and refer clients to services or arrange a phone call as appropriate. Some beneficiaries, in particular youth, could be more comfortable communicating via message as opposed to by phone call.

In additional to accessing health care services and information at medical infirmaries, break times are an opportunity for GFWs to access health information. GFs will often provide seated areas where workers can eat. During lunch breaks workers sit together in small groups sharing food, sometimes listening to music or watching videos on their phones.

To leverage and expand the Facebook page's impact, the project should:

● Increase marketing, taking particular advantage of promotion through the GF who can place posters and fliers throughout the workspace. GF peer workers could show workers how to 'like' the Facebook page and how to ask questions using Messenger during lunchtime peer education activities.

● Increase frequency of content and consider the addition of quizzes, promotion codes for services, games, and a referral directory.

● Utilize existing content wherever possible. For example, there have been instances where MSIC has sponsored comedy sketches on Cambodian TV programs to promote MSIC

services. If possible, this content should be obtained and uploaded to the Facebook page.

- Establish a complementary MSIC YouTube page with video content.
- Train and integrate hotline staff into responding to IMs so they can use it to make referrals.

3.9.2 POTENTIAL PARTNERS AND CONSULTANTS

MSIC currently manages the Facebook page with existing staff. Those staff can coordinate with the mHealth lead and project technical leads to manage the social media effort.

3.9.3 ESTIMATED BUDGET

No budget estimate was required. However, SHOPS identified additional internal labor estimates for critical tasks.

TABLE 36 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (SOCIAL MEDIA)

Task	Estimated Labor (days)
Develop content	10
Pull and curate existing content	5
Engage clients over Facebook (30 min./ 3 times a week, 5 years)	48.75

3.9.4 SWOT ANALYSIS

TABLE 37 SWOT ANALYSIS (SOCIAL MEDIA)

Strengths	Weaknesses
Avoid airtime cost of sending messages; able to develop 'cut and paste' responses for frequently asked questions; foundation of the activity is already established	High relative cost of developing content; will not reach clients with simple phones or without internet access
Opportunities	**Threats**
Increased cross-promotion with other health initiatives, especially the IVR service; integration of referral directory	Increases in promotion do not lead to increased usage; usage may increase with limited behavior change

3.9.5 RECOMMENDED TECHNOLOGIES

No new technology is needed.

3.9.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

No significant revenue stream identified.

3.9.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 38 POTENTIAL CONTRIBUTIONS TO M&E (SOCIAL MEDIA)

Data Collected	Use
Number of 'likes'	Understand impact of marketing and measure number of women impacted
Number of messages	Understand impact of marketing and measure number of women impacted

Content of messages	Reinforce/supplement content in certain areas if training for hotline staff is limited in a certain area; interest/demand for information on topic
Time of day and day of week	Allocate staffing based on high volumes times/days

3.10 SUPPORTIVE SUPERVISION FOR PRIVATE PROVIDERS

Supportive supervision provides supervisory staff with a tool that helps manage the supervisory process, facilitate dialogue between providers and supervisors, and create actionable plans to address challenges. It provides checklists and easy-to-access historic information to guide oversight, and helps to identify weak performance and underlying causes. The tool essentially codifies best practices and use color-coded responses to highlight areas for improvement and suggestions for collaborative problem-solving with providers. The tool can automate comparisons of provider assessments across the network to motivate providers to improve relative to their peers.

3.10.1 ACTIVITY DESCRIPTION

This activity builds upon the previous provider registry and tracking system described in Activity 3.2. It is a separate activity because it serves as an optional add-on to the previous activity. This activity can either stand-alone or feed into the registry database. The application includes knowledge assessment questions and guides supervisors with suggestions for addressing gaps such as additional resource needs or training opportunities. Through software loaded onto a smartphone, information stored in the database is accessed and updated during supervisory visits. Assessment scores are calculated and presented in terms of absolute score and based on the degree of improvement. The tool can be designed to offer both detailed and high level feedback as desired. The software provides automated calculations to streamline analysis and planning.

3.10.2 POTENTIAL PARTNERS AND CONSULTANTS

Same as chosen for Activity 3.2.

3.10.3 ESTIMATED BUDGET

The cost of this activity will vary significantly depending on how complex the project chooses to make the resulting outputs (e.g. automated calculations, recommendations, and prioritization notes). SHOPS estimated that this activity would add an additional 5 to 20 percent to the cost of Activity 3.2, ($4,600 - $18,000) for software development and testing. SHOPS also identified the following internal labor estimates for critical tasks.

TABLE 39 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (SUPERVISION)

Task	Estimated Labor (days)
Build a coalition of individuals whose insights will inform the supportive supervision recommendations on the phones	5
Determine a clear process and authority for decisions on what logic is included on the phones	3
Establish a schedule for reviewing the logic on the phones. Changes to the application should happen as rarely as possible, no more than once per quarter	.5
Develop a paper handout that field staff can leave with the providers so that they have something tangible that visualizes the data collected on each visit	4

3.10.4 SWOT ANALYSIS

TABLE 40 SWOT ANALYSIS (SUPERVISION)

Strengths	Weaknesses
Guided supervision process encourages supervisors to address underlying causes and engage in joint problem-solving, rather than a static or adversarial audit of performance	Phone-based tools have the potential to disempower supervisors if it replaces independent judgment
Opportunities	**Threats**
Supportive supervision provides quality assurance for less experienced staff as the project scales	Phones are subject to loss, theft, and breakage, adding to program costs

3.10.5 RECOMMENDED TECHNOLOGIES

No new technology is needed.

3.10.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

No significant revenue stream identified.

3.10.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 41 POTENTIAL CONTRIBUTIONS TO M&E (SUPERVISION)

Data Collected	Use
Quality assurance measures related to counseling, products, record keeping	Identify gaps and areas for additional training
Progress of provider toward improved quality	Determine if supportive approach is effective in achieving project goals

3.10.8 OTHER CONSIDERATIONS

There is some risk of data loss and privacy concerns. Most low-cost data collection software do not encrypt the transmission of data between the mobile phone and the cloud-based system that hosts the data. An additional investment may be needed for systems that capture and store patient-level information. The proposed solution will capture information about a private providers' performance, but no client health data, so the project will need to determine whether to designate and treat this data as sensitive.

Depending on the particular software used and the preference of the project, collected data can either remain or be automatically deleted from devices after it is submitted. Remote wiping of Android phones is now a standard feature and a viable way to mitigate some risk of phone loss. This remote wiping, however, can only occur when a device is connected to the internet. If a phone is stolen and the SIM card removed, someone could hack the device and extract data on the device.

3.11 TRACK AND MANAGE INFIRMARY PERFORMANCE

Supportive supervision for infirmary staff can strengthen the relationship with the project, reinforce objectives related to services and referrals to providers, and identify areas for improvement in addressing health needs for GFWs.

3.11.1 ACTIVITY DESCRIPTION

This activity is the same as Activity 3.8, but with a focus on the garment factory infirmaries rather than private providers. Software in the phone to manage the infirmary tracking process can be expanded to address quality of care. Similar to the description above, this application builds upon the tracking system described in Activity 3.3. Each can also be developed as a stand-alone activity.

3.11.2 POTENTIAL PARTNERS AND CONSULTANTS

Same as chosen for Activity 3.8.

3.11.3 ESTIMATED BUDGET

The cost of this activity will vary significantly depending on how complex the project chooses to make the resulting outputs (e.g. automated calculations, recommendations, and prioritization notes). Based on past experiences, this activity would add an additional 5 to 20 percent to the cost of Activity 3.3 for software development and testing. Labor estimates are the same as for Activity 3.8.

3.11.4 SWOT ANALYSIS

Same as Activity 3.8.

3.11.5 RECOMMENDED TECHNOLOGIES

Same as Activity 3.8.

3.11.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

No significant cost share identified.

3.11.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 42 POTENTIAL CONTRIBUTIONS TO M&E (INFIRMARY PERFORMANCE)

Data Collected	Use
Quality assurance measures related to counseling, products, record keeping	Identify gaps and areas for additional training
Progress of provider toward improved quality	Determine if supportive approach is effective in achieving project goals

3.11.8 OTHER CONSIDERATIONS

The project will need to engage with GF management to identify performance measures to be addressed and share supervisory assessments.

3.12 TRAINING GAME FOR INFIRMARY AND PRIVATE PROVIDERS

The PSL project has nearly completed the development of a smartphone game to educate GFWs on health topics. The application is being developed by Open Institute. They have designed it be engaging, fun, and focused on audio content to make it usable for low literacy users. Building upon that effort, the project can adapt the same game for alternative audiences, namely infirmary staff and/or private providers. Open Institute would adapt its game with modest investment by duplicating the code base and republishing it with different audio files. Infirmary staff and private providers are much more likely to own/use a smartphone than the average GFW because of their higher income and education levels.

3.12.1 ACTIVITY DESCRIPTION

The project would identify provider content complementary and/or additive to the existing content, and develop and test the provider version of the game. This would reinforce provider knowledge and provide an entrée to discuss health topics from the game with clients who play. The game's current design does not include a way for administrators to record and monitor right and wrong answers of game players. This represents a significant missed opportunity to evaluate what topic areas and questions are easiest or most challenging to address in adaptations or other interventions. The budget for this activity includes adding this feature.

To encourage use, game play could be introduced as part of in-person meetings between the providers and project staff. Project staff could publically recognize high scoring individuals, incorporate it into supervisory sessions, or offer other motivations to play.

3.12.2 POTENTIAL PARTNERS AND CONSULTANTS

Open Institute is a necessary partner as the game developer.

3.12.3 ESTIMATED BUDGET

SHOPS estimated that it will cost between $30,000 to $40,000 to complete this activity, including the voice actors and studio time. Beyond the software development, project staff would promote the game during their in-person visits and coach providers on how to promote the game with their clients to encourage healthy behaviors. SHOPS also identified internal labor estimates for critical tasks.

TABLE 43 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (GAME)

Task	Estimated Labor (days)
Monitor the usage rates and educational impact of the smartphone game on garment factory workers	5
Work with Open Institute staff to adapt game content for providers	10
Develop and execute a promotion strategy for the game	15
Incorporate results and playing of the game into capacity building meetings for the infirmary staff and private providers	5
Provide guidance to Open Institute on the ideal outputs the project expects from a system that tracks the response of game participants	5

3.12.4 SWOT ANALYSIS

TABLE 44 SWOT ANALYSIS (GAME)

Strengths	Weaknesses
Games are an engaging educational approach that reinforces other channels for acquiring health information and attitudes.	There are more than 1.4 million apps in the Android play store competing for attention.
Opportunities	**Threats**
By building off of an existing, related activity, this approach is significantly cheaper and quicker to develop than developing a new platform.	If the game is released publically, then scores from other audiences could mask information regarding provider (and GFW) knowledge strengths and weaknesses.

3.12.5 RECOMMENDED TECHNOLOGIES

No new technology is needed beyond the Open Institute's game development platform.

3.12.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

No significant revenue stream identified.

3.12.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 45 POTENTIAL CONTRIBUTIONS TO M&E (GAME)

Data Collected	Use
Number of downloads	Track provider use of edutainment resources
Degree of engagement, frequency of play	Understand of how engaging the game is/exposure of stakeholders to the content
Correct/incorrect responses to each question in the game	Determine what content areas need more focus in the game and in broader areas of provider training

3.13 DISSEMINATE OFFLINE CONTENT

Multimedia formats offer advantages for professional education over simple voice and text formats, including visual demonstrations and images and interactive assessments. Blended learning approaches that combine face-to-face training and follow-up reinforcement spaced over time have been shown to improve knowledge acquisition, retention, and skills (Kerfoot, 2009).

Mobile technology provides an ideal platform for distributing multimedia content but high data costs inhibit online access. With this activity, users can access content offline and trade files on a microSD card. In the agriculture sector, Digital Green has implemented and evaluated activities using offline videos with pico projectors. One evaluation in India found the use of locally-generated videos to be ten times more cost effective than traditional agricultural extension interventions (Gandhi, 2007).

3.13.1 ACTIVITY DESCRIPTION

This activity assumes that MSIC already has multimedia training content and needs a cost-effective way to transfer content and encourage access among providers. Should the project develop any content (videos, pdfs, apps, etc.) to train or build capacity of private providers and infirmary staff, there are several ways to disseminate the content without expecting users to use data. Because project staff will be regularly meeting with this group of stakeholders in person, the staff can take the place of a data connection.

- **Pico projectors.** Should the project choose to organize group meetings to support knowledge transfer and support between stakeholders, the project can use low-cost pico projectors ($300-$400) to present video content or images to a group. The agriculturally-oriented NGO, Digital Green, has had significant success with this approach by producing locally-generated videos that include members of the community rather than actors and using the video as a basis for discussion.
- **Staff smartphones.** Project staff can supplement their presentations with video or image content on their phones for infirmary staff and private providers to watch.
- **Provider smartphones.** For those providers with smartphones, the files can be manually transferred on microSD cards preloaded with multimedia content, which has no need for data channels. SHOPS suggests that the project start small by distributing a single very useful file to gauge the interest and viability of the activity.

3.13.2 POTENTIAL PARTNERS AND CONSULTANTS

InSTEDD, MediaOne, or Open Institute could all assist MSIC with content adaptation or file transfers.

3.13.3 ESTIMATED BUDGET

This activity assumes the project already has content that it intends to distribute and does not factor in the cost of developing content. Distributing content on staff or stakeholders' smartphones would not involve any additional hardware costs. Staff would spend an additional 15 minutes per visit with providers to transfer files and ensure they are comfortable accessing the files. The mHealth lead and/or another partner would need to facilitate capacity building for staff working with providers and document the transfer and access process. Should the project choose to show images and/or video to groups, the project would need to purchase white sheets to serve as a make-shift screen, a speaker, and a pico projector for each field staff.

TABLE 46 ESTIMATED ACTIVITY BUDGET (OFFLINE CONTENT)

Item	Cost
Content development	Not included in activity
Pico projector ($300 x 4 staff)	$1200
White sheet for screen ($25 x 4 staff)	$100
Speaker ($150 x 4 staff)	$600
Total	**$1900**

SHOPS also estimated internal labor requirements for critical tasks.

TABLE 47 ESTIMATED INTERNAL LABOR ESTIMATES FOR CRITICAL TASKS (OFFLINE CONTENT)

Item	Estimated Labor (days)
Conduct review of providers' existing information sources, smartphone usage, information needs/wants, and willingness to access content through a digital format	10
Distribute content and provide training to staff and stakeholders on how to search/navigate/use a files	6
Manually add shortcuts to files onto the providers screens for them	2

3.13.4 SWOT ANALYSIS

TABLE 48 SWOT ANALYSIS OFFLINE CONTENT)

Strengths	Weaknesses
Approaches can be easily tested and quickly adjusted based on feedback from stakeholders.	These distribution approaches scale poorly because they are dependent on in-person interactions.

Opportunities	Threats
Distribution costs will be kept low by leveraging staff supervisory visits; for particularly compelling content, stakeholders may begin sharing content on their own with peers.	Manual transfer of files presents a security threat because viruses could be accidentally spread between phones.

3.13.5 RECOMMENDED TECHNOLOGIES

This activity provides suggestions for distribution methods. No specific technology is required as all smartphones already support interactive .pdfs; video files, etc.

3.13.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

No significant revenue stream identified.

3.13.7 CONTRIBUTIONS TO M&E

This activity's manual distribution focus means that very little information is centrally captured or available. When staff distribute a file or show a video to a group, basic information should be captured including number of individuals exposed to the files and trained on accessing the files. Independently, the project can follow-up with a subset to ask for a self-reporting of use and to validate if the stakeholders still remember how to access the file on their phone.

TABLE 49 POTENTIAL CONTRIBUTIONS TO M&E (OFFLINE CONTENT)

Data Collected	Use
Count of phones with files installed	Project reporting
Count of audience members exposed to group videos	Project reporting

3.13.8 OTHER CONSIDERATIONS

The Indian Academy of Pediatrics and the HealthPhone project recently launched a similar initiative where video clips are available and distributed to community health workers through microSD cards. There is no evidence for this early stages intervention yet, but the project may wish to track its progress.

3.14 ENCOURAGE ACCESS TO FINANCE THROUGH TRAVEL VOUCHERS

Access to family planning services can be limited by service fees and lack of access to transport needed to reach providers. Health programs have introduced electronic vouchers for services using mobile payment platforms to create an efficient and accountable system (Haas et al 2013). If GFWs seek to visit network providers which are not in walking distance, MSIC could introduce a digital voucher service to cover the costs of transport. In addition to facilitating secure payment processes, digital financial services open additional opportunities for savings, remittance transfers, and more sophisticated products such as insurance and credit.

Mobile payment services were first introduced in Cambodia in 2009 by WING, a mobile payment service provider, specifically designed to provide banking services to the previously unbanked. Customers register for a WING account and use it to pay bills or deposit, save, transfer, and withdraw funds through WING outlets and agents. WING dominates the mobile money market in Cambodia and focuses on payroll processing and other services in urban garment factories (Mondato 2014). If the GFs enrolled in the MSIC partnership currently pay workers electronically, existing GFW mobile money accounts could be leveraged for reproductive health voucher purposes.

The Voucher for Reproductive Health and Vulnerable Groups Project (RHVoucher) is a voucher program to support access to maternal and child health services. It currently serves clients at more than 340 public and private facilities (Lim 2015). Eligible clients meeting poverty criteria receive waivers of service fees as well as transport funds for long-term family planning (intrauterine devices and injectables). The transport fees ($2 to $10 per visit depending on distance to the clinic) are paid in advance to the providers for reimbursement to the clients who come for services. The Voucher Project implementers (Health Equity Fund Operators) may achieve potential benefits from transitioning to electronic payment process including improved security, tracking, and efficiency.

3.14.1 ACTIVITY DESCRIPTION

MSIC could explore opportunities with Voucher Project partners to introduce an electronic voucher pilot for GFW transport to clinics in the MSIC network. Necessary first steps include assisting assist GFWs who qualify for voucher assistance to receive the necessary Equity Card and facilitating contracting between participating private providers in the quality assured network with the Health Equity Fund Operator implementing the voucher program.

The voucher project currently provides transport funds (and reimbursement for other fees and costs) to the providers who then make payments to eligible clients. Without more details on the current payment processes used to reimburse transport and challenges incurred, it is difficult to identify best options for introducing mobile payment streams that improve accountability, reduce fraud, improve timeliness, or lower operational costs. One option might be to avoid advance funding transport fees to providers for prospective clients, with the voucher operator able to directly pay the client via mobile at the point of service when alerted by the provider. Alternatively, providers who receive the advance funds in their mobile money accounts could make the payments to eligible clients via mobile money rather than cash.

This activity assumes that the Health Equity Fund Operator would take the following steps to develop a mobile payment platform:

- Health Equity Fund Operator conducts an analysis of existing voucher payment streams to map payment processes and identify "pain points" or bottlenecks that digital payment systems could address. The process should document frequency, amounts and types of payments, and cash management procedures that could be transitioned to digital.

- Health Equity Fund Operator negotiates contract with WING to support integration of mobile money service for voucher project use. Terms would include transaction fees, monitoring and reporting system, and technical trouble-shooting. Digital payment providers such as WING offer customized services for institutional customers. WING's level of support will depend upon its perceived value of increasing GFW exposure to and use of their service.

MSIC's role would include providing a target segment (GFWs) with whom Health Equity Fund Operator could pilot mobile transfer of transport fees. If typical GFWs are unlikely to meet the

poverty criteria for the voucher program, this activity should not be pursued. In a partnership with the RHVoucher Project, MSIC activities might include:

- Working with GF infirmary staff to encourage GFWs who are referred for long acting family planning services to obtain Equity Card, if eligible, and enroll in mobile money (if not already users) to receive their transport fees.

- Assessing GFW familiarity with mobile money services, and level of trust in and understanding of mobile payment platforms.

- Providing follow-up with clients who receive the vouchers to assess client satisfaction with the voucher distribution process, problems encountered, benefits realized, and potential areas for improvement.

3.14.2 POTENTIAL PARTNERS AND CONSULTANTS

The introduction of mobile payment for transport will necessarily depend upon MSIC's partnership with the RHVoucher project to enroll the network of providers in the voucher program through the established certification process. It is assumed that the RHVoucher project would lead the negotiations with WING to create the electronic payment process. As the dominant mobile money provider in Cambodia, WING is the recommended partner with a sufficiently mature and stable service. WING has partnerships with all licensed mobile operators in the country which means GFWs can access the service through any mobile SIM card. There is no monthly fee for having a "mobile wallet" on WING.

3.14.3 ESTIMATED BUDGET

SHOPS was not able to estimate the costs of establishing a mobile-enabled voucher program because costs charged by mobile money providers are highly variable depending upon the level of customization the project would require and the volume of payments anticipated. It is also not clear what proportion of mobile dissemination costs would be borne by the voucher project consistent with their operational objectives versus costs MSIC might contribute. Budget categories would include:

- Assessment and requirements documentation described above

- LOE for contract negotiation with WING or another provider

- Startup costs to design a process to distribute transfer funds including validation and authorization processes and codes to trigger the payments

- Transaction fees

- Oversight, monitoring and evaluation

3.14.4 SWOT ANALYSIS

TABLE 50 SWOT ANALYSIS (VOUCHER)

Strengths	Weaknesses
Enrolling qualifying providers and clients in the voucher program can lower barriers to access, with mobile transport payments offering greater efficiency and accountability compared to cash disbursements.	Dependent upon the interest of the RHVoucher Project to introduce mobile transport vouchers and MSIC may have limited control of the design including GFW eligibility.
Opportunities	**Threats**

For GFWs who have never used digital payment platforms, introducing mobile transport vouchers exposes them to broader financial products including digital savings, credit and bill paying services.	Introducing both a new voucher program to the GFW project and a new transmission channel may distract project staff from core activities of greater impact.

3.14.5 RECOMMENDED TECHNOLOGIES

The mobile money provider would provide the underlying technology.

3.14.6 POTENTIAL BUSINESS MODELS OR COST SHARING FOR SUSTAINABILITY

Efforts should be made to get a mobile money partner to contribute financially or in-kind as this effort could support a broader adoption of mobile money by GFWs.

3.14.7 CONTRIBUTIONS TO M&E

This activity provides quantitative and qualitative feedback to support the project's M&E efforts.

TABLE 51 POTENTIAL CONTRIBUTIONS TO M&E (VOUCHER)

Data Collected	Use
Number of clients receiving mobile transport voucher	Understand the adoption of the program
Dollars dispersed for mobile transport as a ratio of providers and GFWs	Project future budgeting needs
Percentage of clients to taking and not taking advantage of voucher	Evaluate popularity and usability of the system

4 STAFFING REQUIREMENTS

SHOPS recommends that the project hire a mHealth Coordinator to coordinate activities and liaise with the other technology partners that are contracted to support the project. The mHealth Coordinator need not fully run each activity, but should serve in a cross-cutting support function for technical leads. This will best ensure integration of mHealth within project goals. For example, the project staff member responsible for private provider capacity building should own the private provider tracking and supportive supervision activities because they exist to help the staff member meet and track progress.

When hiring for the mHealth Coordinator, the project should consider the following:

- The project does not need to list the position with the world "mHealth" in the title, which might limit the pool of people that consider the position. Key skills include project management and operations.

- The mHealth Coordinator should have some behavior change communication or monitoring and evaluation experience as well as some mHealth experience. The Coordinator does not need to have a computer science degree or programming experience, as non-technology related skills as more important to the activities proposed.

To successfully implement mHealth into project activities, MSIC should seek staff for other technical positions that are willing to build their ICT skills. When hiring for other technical leads, the project should consider staff that are willing to experiment, keep an open mind, and build their ICT skills.

The introduction of new systems takes time to learn. The activities recommended in this report are unlike MSIC's existing activities and have different reporting requirements and processes. Monitoring and evaluation staff will initially need adequate time allocated to engage in the system development and extract all the needed data for reporting.

The project is very fortunate that Cambodia has a rich ecosystem of organizations and individuals that work in mHealth. Project staff, the mHealth Coordinator, and other technical leads should actively engage in the community. Participation in mHealth working groups allows the staff to share their challenges and experiences and learn from other implementers. The experiences of other organizations can help the project to select vendors, identify pitfalls, and brainstorm new ideas.

5 CONCLUSION

As MSIC establishes its GFW program to facilitate access to high quality health care services, there are many ways in which mobile technology can be leveraged to support its broader objectives. The activities proposed in this report can be introduced independently or as a set of interventions, depending upon available budget. The recommendations, designed in collaboration with MSIC staff, took into account USAID-endorsed Principles for Digital Development, including the importance of building on existing investments, understanding the existing ecosystem, and collaboration with other mHealth stakeholders. Appropriate investments in mHealth hold significant potential to strengthen MSIC's programs by better targeting and promotion of services for beneficiaries, educating and supporting providers and improving access to timely and accurate data.

ANNEX A: LIST OF STAKEHOLDER INTERVIEWS

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ANNEX B: TIPS AND TRICKS TO USING ONA FOR MOBILE DATA COLLECTION

- Ona only allows you to display maps with one data set (layer) on the map at a time. This means the project should create a single survey instrument to collect data about providers and garment factories.

- Ona is the web-based software. The project will use ODK Collect on the phones.

- The best guide for building survey instruments for Ona is www.xlsform.org.

- Always test your survey instrument and resulting data/maps before beginning the collection for real. This first what output you want and then shape the survey to get that output.

- Online support for using Ona is available at www.help.ona.io and through the active online community Google Group.

ANNEX C: PRINCIPLES FOR DIGITAL DEVELOPMENT

The nine Principles for Digital Development, developed in consultation the U.S. Agency for International Development (USAID), The Bill and Melinda Gates Foundation, the UN's Children's Fund (UNICEF) and others, serve as a guideline and framework that underpins this mHealth strategy. We, in line with the developers of the principles, recognize them as best practices and not mandates. This means that not every principles is strictly adhered to for each proposed mHealth activity. When they are not adhered to, a justification in the activity summary is noted.

Principle	Application in Strategy Development
Design with User	This principle is most critical during the more detailed design phase. Approaches on how to embrace designing with the user are included in the recommendations section.
Understand the Existing Ecosystem	The introduction section of this document provides an overview on Cambodia's existing mHealth ecosystem and we integrated existing mHealth activities and stakeholders directly into the Menu of Activities.
Design for Scale	Some of the mHealth activities here are meant to help MSIC better meet the project's goals. In a few cases, the activities have a potential to scale beyond MSIC's work. In those cases, an emphasis on building for scale is noted in the activity summary.
Build for Sustainability	Sustainable activities are environmentally, financially, and operationally sustainable. Our selection and design process looks for every opportunity to address sustainability. We do this by engaging other stakeholders, building solutions that are mutually beneficial, and exploring income generation opportunities where possible.
Be Data Driven	The recommended activities emphasize the value of using data to drive decisions in critical aspects of MSIC's workflow. These include: - Identifying and selecting GFs - Identifying, selecting and supporting Private Providers - Determining whether MSIC's capacity building efforts are improving services provided by infirmaries and private providers OR if MSIC should adjust them - Identifying information needs of GFWs
Use Open Standards, Open Data, Open Source, and Open Innovation	This is one consideration in the selection of specific technologies and technology partners, and is balanced against other considerations including ease of use, and total cost. When specific

	technologies are discussed in this document, we note whether they are open source. Additionally, opportunities for open data are noted in the specific activity summaries.
Reuse and Improve	Many activities intentionally build on existing efforts rather than creating something new. These include: Expanding MSIC's existing hotline Expanding ILO's IVR system Repurposing the MOTIF IVR system with different content
Address Privacy and Security	The Family Planning Reminders and Referral Tracking activities represent the greatest privacy risks because they deal with personal health information. Risk mitigation strategies are included in the detailed section on each.
Be Collaborative	A thorough documentation of potential partners/stakeholders was integral to the activity selection process. Additionally, we recommend engagement with Cambodia's larger technology for development community throughout the strategy.

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