

Care Community Hub

Baseline Report

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Acronyms and Abbreviations

Care Community Hub	CCH
Community Health Nurse	CHN
Community Health Officer	CHO
Community-Based Health Planning and Services	CHPS
District Health Management Team	DHMT
Ghana Health Service	GHS
Human Resources for Health	HRH
Information and Communications Technology	ICT
Innovations for Maternal, Newborn and Child Health	<i>Innovations</i>
JSI Research and Training Institute, Inc.	JSI R&T
Millennium Development Goal	MDG
Maternal, Newborn and Child Health	MNCH
Mobile Technology for Community Health	MOTECH
Public Health Nurse	PHN
Reproductive and Child Health	RCH

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Executive Summary

Although Ghana has experienced significant declines in maternal mortality (from 760 in 1990 to 380 in 2013) and under-five mortality (from 128 in 1990 to 78 in 2013) according to the World Health Organization, the country must increase their rate of improvement to reduce their current estimates by half in order to reach their MDG targets in 2015. To do so, Ghana has made efforts to strengthen human resources for health (HRH), an essential approach to lowering mortality levels and attaining established health related goals.

Ghana has implemented many policies and strategies in the development of its HRH and providing care at the community level over the last 15 years. One of these strategies is the Community-based Health Planning and Services (CHPS) program, which was implemented in the 1990s as part of an experimental study of the Navrongo Health Research Center (NHRC). The program has turned into a national community health care approach, becoming Ghana's primary strategy to extend healthcare provision to those who have been beyond the reach of the existing system. Community Health Nurses (CHNs), who are paid frontline health workers, are posted at CHPS compounds and provide community-based preventive and curative health care via "doorstep services" while residing in the community. These close-to-community providers live in the CHPS catchment areas, which may be different from their home areas and where they may be disconnected from larger health centers, their professional networks, and opportunities for advancement. Their lack of motivation due to factors such as professional isolation and lack of support is a critical potential challenge for CHNs.

The Care Community Hub (CCH) project, is part of the Innovations for maternal, newborn, & child health (*Innovations*) project, an initiative led by Concern Worldwide in collaboration with John Snow, Inc., which aims to provide the government of Ghana with an innovative solution to address barriers in health worker motivation through the use of information and communications technology via a smartphone application on mobile phones (CHN on the Go) to improve connectivity and career development among CHNs, increase their linkage and interactions with a professional network and supervisors, and provide clinical refreshers.

This report outlines the activities and results for the baseline assessment of CCH. The study followed a mixed method approach with qualitative and quantitative data collection involving CHNs and their supervisors from five districts in the Greater Accra and Volta regions.

The baseline data showed that nurses were satisfied with their jobs, although only one in ten nurses was very satisfied compared to the seven in ten who were satisfied or only somewhat satisfied. Furthermore, a higher percentage of older nurses were very satisfied with their jobs compared to younger nurses. Despite their overall satisfaction with their job, nurses in general were frustrated with the health system, citing shortages in resources and supervision among other challenges, but many of them were keen to find creative solutions to solve work problems and to do a good job. Compensation was also a source of their frustration, with less than two in five nurses being satisfied with their pay; however, despite their discontent with compensation, nurses still valued their job because they found it very rewarding and felt needed by their clients. Some nurses did stress the importance of opportunities for career advancement as an incentive to stay as a CHN, because the current system required that they leave their post for further education or else stay as a CHN for five years before being promoted to a senior CHN position.

The baseline also showed avenues where CCH can help nurses, such as improving their clinical skills. In general, nurses were confident in their clinical skills; however, despite their confidence in their skills, a

few nurses also felt that more training would help them handle more complex cases and do their job better.

CCH can also help improve work scheduling and time management. Some nurses mentioned that work scheduling and time management were sometimes an issue in their job, with problems such as home visits taking up more time than planned and patients not keeping their appointments with nurses. In terms of work relationships, CCH can help facilitate communication between nurses and their professional relationships. Most nurses reported that they had a cordial relationship with their supervisors; however, not everyone received the support they expected from their supervisor. Their working relationship with their peers was also good in general, and most of them felt respected by their clients.

These results presented in the report were collected to feed into the design of the CCH pilot and the development of the “CHN on the Go” mobile application and provide evidence to measure the direct outcome of the CCH pilot. As the results show, there is a potential for a program such as the CCH pilot to help health workers in countries such as Ghana to address factors that drive their motivation and ultimately improve health worker performance, service quality, and health outcomes. Many areas outlined in the baseline findings can be targeted by the “CHN on the Go” mobile phone application through the CCH pilot; however, some areas such as inadequate pay, transport unavailability, language barriers, and lack of resources may be harder to address programmatically. Some of these areas still need to be investigated to comprehend their implications with regard to the CCH pilot.

Introduction

While Ghana is considered a model for strong democratic leadership and economic growth within the African sub-continent, the country still lags in achieving the Millennium Development Goals (MDGs) for maternal and child mortality (MDGs 4 and 5) (UNICEF et al 2013). According to the World Health Organization, the maternal mortality rate declined from 580 per 100,000 live births in 1990 to 350 per 100,000 live births in 2010 (United Nations, 2013). Similarly, the under-five mortality rate declined from 128 per 1,000 live births in 1990 to 72 per 1,000 live births in 2012 according to the 2013 estimates from the UN Inter-Agency Group for Child Mortality Estimation (United Nations, 2013). To reach the MDGs targets in 2015, Ghana must reduce current mortality levels by half.

In order to achieve health goals such as the MDGs, coordinated action and solidarity at international, regional, national and local levels is needed. Equally important is the need for human resources for health (HRH) to attain these health objectives. The past decade has seen progress in health workforce development with numerous resolutions of intergovernmental groups and international action plans to reflect the crucial importance of HRH in achieving these goals. A global forum was established to urge all stakeholders and the international community to support and foster the shared vision that “*all people, everywhere have access to a skilled, motivated health worker, within a robust health system*” (“The Recife Political Declaration on Human Resources for Health: renewed commitments towards universal health coverage,” 2013). Ghana is among the countries pushing for human resource development to escalate the outcomes of the MDGs to ensure that Ghanaians have access to quality health care. Over the last fifteen years, Ghana has made efforts to implement many policies and strategies in the development of its HRH.

The Care Community Hub (CCH) project is part of Concern Worldwide’s Innovations for Maternal, Newborn, & Child Health (*Innovations*), an initiative that seeks to identify, support, and field test bold, innovative ways to overcome barriers to delivering proven solutions to women and children. Grameen Foundation, the implementing organization, led the design using a human centered-design approach, development of mobile applications, and implementation of the CCH project in Ghana. John Snow Inc. Research and Training (JSI R&T) serves as the global research partner for the project under a subgrant to Concern Worldwide. As the global research partner, JSI R&T provides strategic leadership and high caliber technical assistance to *Innovations* and its local partners to generate high quality data on project implementation and performance and translate these data into actionable learning at intervention and portfolio levels. CCH aims to provide the government of Ghana with an innovative solution to address barriers in health worker motivation through the use of information and communications technology (ICT). CCH seeks to provide knowledge, learning, motivational and communication tools through mobile technology to Community Health Nurses (CHNs) and Community Health Officers (CHOs) who work through the Community-based Health Planning and Services (CHPS) system and sub district health centers with the objective of improving their well-being and connectedness and decreasing feelings of de-motivation. The expectation is that this will have implications for improved quality of care. The proposed study aims to capture changes in CHN and CHO motivation, job satisfaction, and confidence in providing care from the use of the CCH mobile platform.

The CHPS in Ghana

Ghana implemented the Community-based Health Planning and Services (CHPS) Initiative in 1999 as a response to priority health challenges and progress towards MDGs (“Ghana Global Health Initiative Strategy 2012-2017,” 2012). The CHPS Initiative is Ghana’s primary strategy to extend healthcare

provision to those who have been beyond the reach of the existing system. Multi-purpose professional health workers (e.g. nurses, local volunteers) are deployed at CHPS compounds, which are simple facilities that comprise a room for the health worker living area and a room for a community clinic. Health workers at CHPS compounds provide community-based health care including safe motherhood and family planning services in hard to access areas. Other health workers travelling from compound to compound via motorcycle also provide doorstep services in the community. In 2009, the number of functional CHPS zones increased from 409 to 869, and the population covered by CHPS rose from 7.2% in 2008 to 15.3% (McGough, 2012). Typically there are two CHNs posted to a CHPS compound, with one or both of them having received Community Health Officers (CHO) training.

Some of the key personnel staffing the CHPS compounds are CHOs and CHNs supervised by the sub-district health center. CHOs are CHNs who receive an additional 3 to 6 months of training which focuses more on community engagement, outreach, and community health care planning as well as midwifery training (Ghana Health Service, 2002; McGough, 2013). In addition they reside in the communities rather than distant health centers. The role of CHNs and CHOs is to work at the community level to provide health services, including maternal, neonatal, and child health services. CHPS compounds are expected to be staffed by at least 2 CHOs/CHNs to be able to provide 24 hour services. One of the CHNs in a CHPS compound acts as the in-charge. At the sub-district level, the Public Health Nurse (PHN) or Reproductive and Child Health (RCH) in charge supervises activities of CHNs while the sub district head, usually a Physician Assistant or Medical Officer acts as the administrative head of the sub district. In the absence of these persons, a senior CHN may act as the sub- district head. At the district level, the District PHN is the main supervisor for all CHNs, also acting as the CHPS Coordinator.

Challenges faced by CHNs and CHOs

Ideally, introducing a CHPS compound in a community involves engaging with the local community to obtain their support. Policy stipulates that the District and Sub-district Health Management Teams (DHMT) play a key role in this introduction. However, this does not always take place effectively in practice, leaving the onus on nurses to build this relationship, sometimes contributing to their disempowerment and disrespect by some community members. The biggest challenge for CHOs and CHNs is their lack of motivation due largely to personal and professional isolation and lack of support (McGough, 2013). They are often deployed to remote areas where there are limited opportunities for career advancement where they receive little community support. Many CHOs and CHNs hope to further their education and yearn for opportunities to gain new knowledge and skills and have the chance to be promoted and posted in larger towns and urban areas. In terms of support, the sub-district health center (headed by a Medical/Physician Assistant and a Midwife/RCH in charge for community health) is responsible for providing supervision to CHOs and CHNs, particularly those posted to rural CHPS zones. The CHNs at a CHPS facility also receive support from the senior CHN (i.e. CHO) at their facility and from the District PHN. CHOs and CHNs reportedly need supportive visits from supervisors from the sub-district and DHMT, also covering topics related to provision of care in addition to the current focus on data collection and reporting issues to help them with administrative supervision, such as assisting them in the collection and reporting of health data, and clinical supervision, such as problem solving to improve outreach and home visits and increase family planning coverage; however, few receive the needed support or receive it too infrequently (January 2013 Nkwanta South District trip report).

Project Description

The Care Community Hub (CCH) project being implemented by the Grameen Foundation is designed to provide the government of Ghana with an innovative solution to address non-financial barriers in health worker motivation through the use of ICT to provide resources and a social and professional support network for CHNs in the Volta and Greater Accra regions.

The CCH project provides nurses access to mobile phones with a “CHN on the Go” mobile application with modules designed to facilitate health worker learning, supervision and performance monitoring, communication and work activity planning, as well as to support health worker wellness. Through these different modules, the CCH project through its mobile app “CHN on the go” seek to make improvements in the well-being of frontline health workers and their levels of motivation and job satisfaction and therefore contributing to improved quality of maternal, newborn and child health care in the long term.

The project being implemented in 5 districts in the Volta and Greater Accra regions, includes two intervention arms, one where health workers will receive access only to the CCH platform and one where health workers will receive access to CCH+MOTTECH (Mobile Technology for Community Health) in an integrated platform.

The two software application packages “CHN on the GO” and MOTTECH are complementary, with CCH supporting health worker wellness and facilitating health worker learning, supervision and performance monitoring, communication and work activity planning; and MOTTECH providing a platform for capturing and aggregating client level data for health workers (called Client Data Application), and registering women and children for a free service (called Mobile Midwife) using Interactive Voice Response (IVR) or Short Message Service (SMS) based appointment reminders and health information related to pregnancy and infant care.

The two intervention arms were selected to provide a means of comparing the effect on health worker motivation of the six CCH modules (CCH only) to an integrated package that includes client record keeping functions (CCH+MOTTECH). The CCH+MOTTECH arm was planned as part of *Innovations'* partnership with the Grameen Foundation, the local implementing partner for CCH and who developed and have been implementing the MOTTECH program in 3 of the 5 districts of interest in Ghana. . Working with Grameen Foundation and assessing the added value of a package that includes both CCH and MOTTECH is an effort to promote an integrated and interoperable support to mHealth programming at the community level and to address Ghana Health Service (GHS) priorities and interests in supporting integrated packages that have the potential for larger regional and national scale.

The MOTTECH program was launched in July 2010 in the Upper East Region; replications in Awutu Senya East and West districts and Gomaa West district in Central Region, the South Tongu district in the Volta Region, and Ada East and West districts in Greater Accra took place across 2011 and 2013. In the two intervention districts, South Tongu, Ada East and Ada West (formerly Dangme East) where the MOTTECH Mobile Midwife platform already exists, CCH will complement the available services on community level care seeking and information systems strengthening.

Table 1 shows the five districts where the CCH project is being implemented. For the purpose of this study, information on Ada East and West is presented together.

Table 1. Districts where CCH is being implemented by intervention arm

District	Region	Platform
Ningo Prampram	Greater Accra	CCH only
South Dayi	Volta	CCH only
South Tongu	Volta	CCH+MOTTECH
Ada East and West	Greater Accra	CCH+MOTTECH

Overall, the CCH project will cover approximately 50 health centers and associated CHPS and roughly 240 health workers. This selection of districts was informed by consultations that *Innovations* held with the Ghana Health Service (GHS), the Grameen Foundation and other community members between late 2012 and early 2013. In addition to stakeholder input, the following criteria were used to inform the selection:

Desired criteria

- Health workers report low motivation/satisfaction
- Outcomes for MNCH indicators are poor
- High level of support from GHS key personnel (e.g. Regional Health Director, District Health Director) to address issues around health worker motivation and work with CHNs/CHOs in their regions and districts
- Ghana Health Service has a clear mhealth strategy for implementation of mHealth projects
- Selected districts are predominantly rural
- The control (CCH only) districts are in the same regions as the CCH+MOTTECH districts.

When fully implemented, the CHN on the Go mobile app will include the following modules:

Learning Center – Nurses can take global health e-learning courses on topics such as family planning, and maternal, newborn and infant care.. It is also a repository for reference materials such as GHS protocols on Safe Motherhood, Maternal and Neonatal care, etc.

Point-of-Care –This has interactive diagnostic tools, based on GHS protocols, to help the CHN figure out the best course of action for a sick patient, and various counseling materials. It also includes visual aids that CHNs can show to their clients.

Event Planning – A calendar tool that helps nurses plan and record the various activities they perform such as outreach clinics, home visits, etc. Also includes a feature to set nationally mandated clinical targets on numbers of pregnant women, infants, etc. to reach, courses they plan to take in the Learning Center, and any other personal targets such as “This week I want to smile more with my clients.”

Achievement Center –CHNs can track progress with individual targets related to their regular work activities, courses they had planned to take in the Learning module and their associated final exam scores and certificates they received, and any personal targets such as “This week, I want to smile more with my clients”. Also work and learning-related activities and progress can be viewed by their supervisors in the Supervisory Dashboard.

Staying Well- This is the fun and stress relief module where CHNs can find inspirational material, personal wellness plans that includes nutrition and fitness recommendations,, and other material to help CHNs deal with the stresses of their difficult work.

Supervisory dashboard –This is the only module exclusively for supervisors. It is a reporting tool where supervisors can view their CHNs' work activities from the Event Planner, and their achievements towards clinical targets and courses completed in Learning Center, and provide feedback.

A **community hub** ("hangout center") – This hub is a platform for CHNs/CHOs to share ideas, challenges, and other thoughts with peers and colleagues. Communication between District Health Staff working with CHNs and CHOs and CHNs/CHOs at the sub-district and CHPS levels will be facilitated through WhatsApp groups.

Conceptual Framework

Job satisfaction and motivation are key factors responsible for health worker retention and performance (Peters et al. 2010). Understanding factors that influence an individual's motivation to perform his or her job is complex and the role of various factors varies widely by local context. At the individual level, many theories have elaborated on the role of internal and external factors on motivation. Furthermore, the relationship and differences between satisfaction and motivation have also been established. While satisfaction is associated with greater work commitment and desire to perform a better job, it is not a necessary condition for greater health worker motivation (Franco, Bennett, & Kanfer 2002). Simply stated, the Herzberg, Mausner, and Snyderman (1959) theory of motivation demonstrates the role of a combination of hygiene and motivating factors as influencing individual behavior¹. The presence or absence of hygiene factors such as supervision, interpersonal relations, work conditions, salary, job security for example determine levels of worker dissatisfaction and are extrinsic factors of motivation. Intrinsic factors on the other hand are key in determining the level of worker motivation, and include achievement, the work itself, recognition, responsibility, advancement, and growth.

Supervision plays a key role in improving health worker motivation. Health workers are motivated and tend to stay with the post when they are managed by leaders with the qualities of: listening to staff, lobbying on their staff's behalf, increasing their participation in decisions, encouraging innovation and providing fair opportunities for promotion and career advancement (Willis-Shattuck et al., 2008). Supervision is a factor of health worker motivation that presents an opportunity for CCH to make a positive impact on health workers' lives. The platform could connect health workers to supervisors remotely, providing mobile decision support.

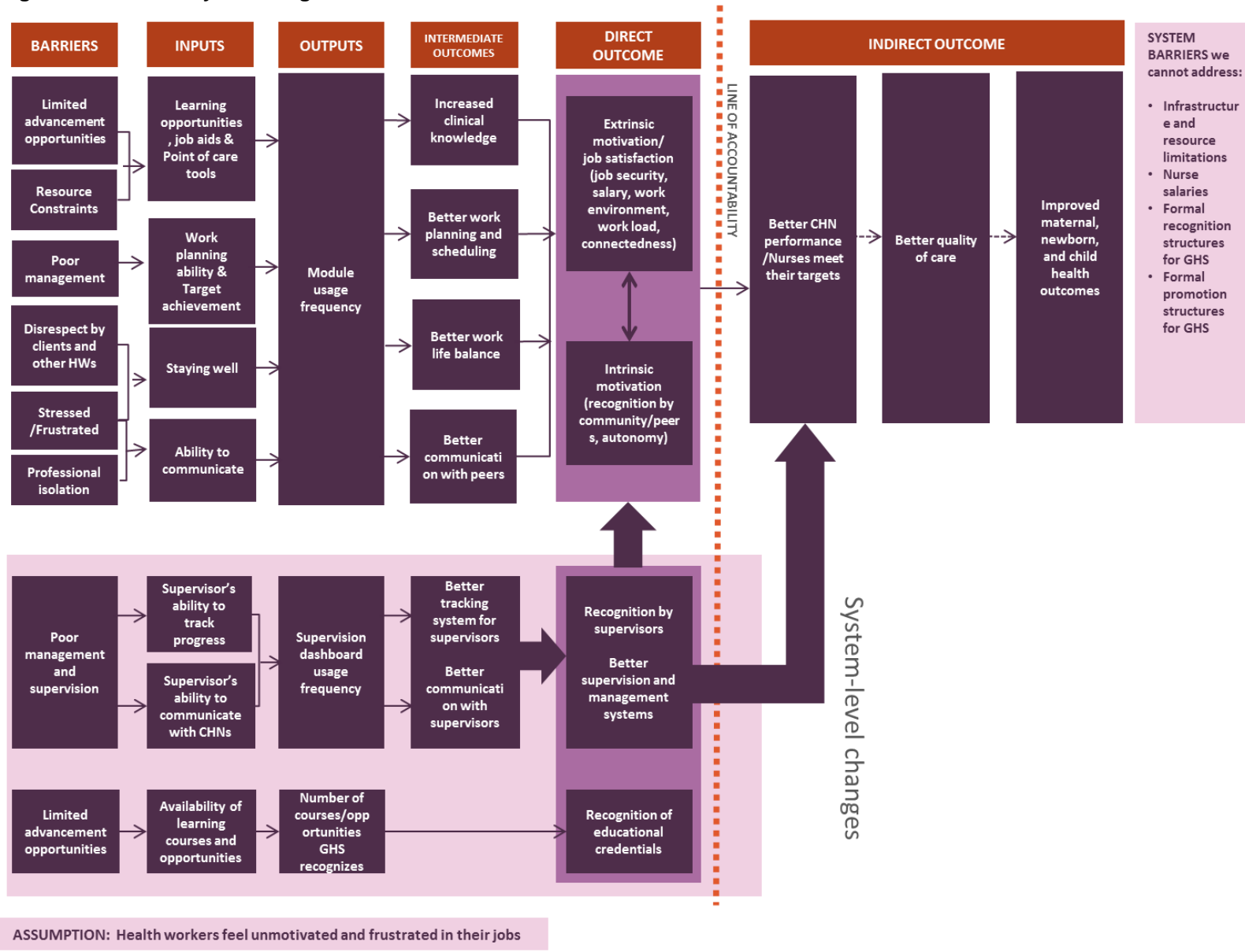
Figure 1 displays the pathways through which the various CCH application modules work at improving the motivation and job satisfaction levels of the participating CHNs and CHOs, improving their performance and ultimately the quality of MNCH care.

Research Questions

The baseline data collection is not designed to measure impact of the role of CCH, but rather to assess the current level of motivation among health workers, various factors associated with different aspects of motivation and job satisfaction, including supervision, and basic clinical knowledge in MNCH among CHNs.

¹ Hygiene factors are maintenance factors that are necessary to avoid dissatisfaction but by themselves do not provide satisfaction.

Figure 1. CCH Theory of Change



To this end, our research questions are:

- 1) What are baseline levels of CHN motivation and job satisfaction in rural Ghana?
- 2) How does motivation/job satisfaction differ among various subgroups of CHNs? Are there differences by region, district, and age?
- 3) How is motivation associated with other characteristics such as the extent of clinical knowledge, and respect and recognition of CHNs?
- 4) What are current and desired forms of relationship/communication with clients, peers and supervisors?
- 5) What are supervisors roles and expectations with regard to CHNs?
- 6) What is the current work environment in which CHNs work? How do they cope when they have challenges? What are some potential ways that technology can be used to help CHNs reduce their work burden and perform their job better?
- 7) How do CHNs perceive their opportunities for the future?

The findings of the analysis based on these research questions are identified by district and intervention arm in this report when differences are observed.

Methodology

Study Design

The research study follows the project design approach. It was designed to cover both the intervention arms, CCH only and CCH+MOTTECH and all CHNs and CHOs in the participating districts. It also includes selected supervisors who work with the CHNs and CHOs in the districts.

This study follows a mixed method approach with data collected from the key populations of interest - health workers, specifically CHOs and CHNs, and their supervisors.

Qualitative data collection

- In-depth interviews and focus group discussions with CHNs and CHOs to better understand their work roles, work burden and challenges, job satisfaction, psyche, relationship with peers and supervisors
- In-depth interviews of supervisors including the District public health nurses (PHNs)

Quantitative data collection

- A short self-reported written survey on job satisfaction, motivation, relationship and communication with peers and supervisors, career goals and challenges faced by CHNs and CHOs.
- A short self-reported written clinical knowledge assessment covering the areas of newborn care, infant care, family planning, HIV and infectious diseases

Quantitative data collection was conducted when CHNs/CHOs were trained in each district.

Baseline Instruments

In depth Interview and Focus Group Discussion Guides

Instruments for qualitative data collection include guides for in-depth interviews and focus group discussions of CHNs and CHOs (Appendix A and B), and interview guides for supervisors (Appendix C). These qualitative data collection guides probe deeper into the quantitative job satisfaction survey to better understand the reasons for general job satisfaction and motivation to perform or lack thereof. They also

provide greater information on the context in which CHNs and CHOs work including the job environment and work load, the communication and respect they receive from clients, communication, support and respect from peers and supervisors, other job related challenges, ability to cope with challenges, and future expectations and goals of CHNs and CHOs. Interviews of supervisors provide more information from the supervisor' perspective on their work environment, relationship and frequency of communication with CHNs, and the ability to supervise them.

Job Satisfaction Survey

Grounded in the definition of motivation as “an individual’s degree of willingness to exert and maintain effort towards organizational goals” (Franco, Bennett, & Kanfer, 2002) and building on the work of groups such as WHO’s expert group on *Increasing access to health workers in remote and rural areas through improved retention*, IntraHealth’s *CapacityPlus* project and others (Mbindyo, Blaauw, Gilson, & English, 2009; Pacque-Margolis, Ng, & Kauffman, 2011; Prytherch et al., 2012; WHO, 2010), baseline motivation data was collected from CHNs and CHOs using a short survey with 39 questions using the instrument attached in Appendix D. Topics covered in the survey include an overview of general job satisfaction and motivation to perform, the job environment, communication and respect from clients, communication, support and respect from peers and supervisors, other job related challenges, and ability to cope with challenges, and future expectations and goals of CHNs and CHOs. These topics were drawn from the literature on motivation and job satisfaction as well as themes that arose during formative research and a human centered design workshop conducted to understand CHN perspectives in order to guide project implementation.

Clinical Knowledge Assessment

CHNs and CHOs were also given a baseline knowledge assessment (Appendix E). This assessment includes 40 multiple choice questions to be directly drawn from the CHPS Nursing Curriculum and GHS norms. Topics include general preventive and curative health care in the areas of maternal and child health (antenatal care, postnatal care, infant care, immunization), family planning and HIV.

Data Collection Process:

Qualitative Data Collection

The qualitative data collection was conducted by a team organized by the local research partner, ILC Africa, based in Ghana. Interviews were conducted in English by two teams of enumerators, comprised of two members each so that detailed notes could be taken in addition to recording of interviews. All respondents were first asked to sign a consent form before the interviews took place. All in-depth interviews were conducted May 14-30, 2014 in all districts after reviewing all data collection guides to ensure that they were appropriate to the cultural context. Three days were allocated for all in-depth interviews and focus group discussions in each district. Names and other identifying information given by the respondent were redacted from the written transcription.

In each district the following selection criteria were applied².

- In-depth interviews conducted with 8 CHOs/CHNs, one of whom is a male CHO/CHN. Of the remaining, about half would be female CHO/CHNs who were less than 30 years old.
- The CHNs and CHOs would be distributed between CHPS and health centers.

² For the purpose of this baseline study, nurses from Ada East and West were combined together to match the data from the written survey on job satisfaction and the clinical knowledge assessment. All results are also presented together for these two districts.

- In-depth interviews would be conducted with 2 supervisors, one of whom is the District PHN, others including the midwife, Physician or Medical Officer.
- One focus group discussion would be conducted with 5-8 CHNs/CHOs as participants

As Table 2 shows, a total of 40 in-depth interviews and 4 focus group discussions were conducted in the five districts. Overall, there was a 7-person shortfall in the number of expected persons attending the focus group discussion, the main reasons for which were i) transportation challenges, ii) last-minute scheduling changes, and iii) network/communication difficulties in rural districts. However, even with the focus group discussion with 4 people, valuable information was obtained. In all, data was collected from 63 persons in all districts.

Table 2. Sample for Qualitative Data Collection

District	Interviews with CHOs/CHNs	Interviews with Supervisors	Focus Group Discussion Participants	Total Participants
Ningo Prampram	8	2	1 (7 people)	17
South Dayi	8	2	1 (4 people)	14
Ada East and West	7	3	1 (7 people)	17
South Tongu	6	4	1 (5 people)	15
Total	29	11	4	63

In general, the data collection exercise was well-planned and allowed for enumerators to document their observations. In terms of general challenges, enumerators faced transportation difficulties, network/communication problems, power outages, and particularly poor interactions with CHNs/CHOs from Ada East and West. Enumerators found that while most respondents were receptive to the data collection exercise, a minority of respondents categorically refused to be interviewed³.

Quantitative Data Collection

The job satisfaction survey and knowledge assessment were administered to all CHNs/CHOs participating in CCH during their training to use the CCH software application as per the schedule prescribed below in Table 3. Grameen Foundation, the CCH implementing partner in Ghana and Concern Worldwide staff attending the training supervised all quantitative data collection.

Table 3. Schedule for Training and Quantitative Data Collection in May-August 2014

District	No. of CHOs/CHNs trained and completed survey	Dates of training and survey
Ningo Prampram	50	May 19-28
Ada East and West	55	June 16-25
South Tongu	53	July 9 – 31
South Dayi	47	July 21 – August 6
Total	205	

All respondents were first informed about the purpose of the baseline assessment and were required to complete an informed consent form before they completed both the self-administered paper surveys (Appendix A-E). Respondents were asked to respond to both surveys typically providing only one

³ In Ada East and West, in particular, many CHNs/CHOs were unwilling to meet the enumerators for in-depth interviews or a focus group discussion. While some of the CHNs/CHOs cited transportation difficulties as the main reason, others were simply not interested in participating. Enumerators also found that supervisors were less willing to be recorded during the in-depth interview in Ada East and West.

response for each of the questions. Unique identifiers were not collected in either survey. An ID number linking the two surveys were entered by the participating nurses so that data from the two surveys could be interlinked. However, the names of the nurses cannot be identified. Although the survey was administered to 205 persons, data are available only for 186 nurses who completed both the satisfaction survey and knowledge assessment which could be linked together.

Data Processing and Analysis

Data from the qualitative data collection were compiled in the form of summary notes and interview transcripts. All data were coded by JSI R&T in NVIVO and findings extracted based on predefined codes. Quantitative data from the job satisfaction survey and knowledge assessment were entered into Excel and transferred to Stata for analysis by JSI R&T. No identifying information such as names was included in the data entry files. Analysis of quantitative data was comprised of frequencies of indicators representing job satisfaction and motivation among CHNs/CHOs as well as their clinical knowledge assessment.

Findings

The results from the in-depth interviews, focus group discussions, and job satisfaction and knowledge assessments are summarized below. The results are grouped in terms of the factors influencing job satisfaction and motivation such as their; confidence in clinical skills; work environment and associated challenges; interpersonal relations with peers, clients, and supervisors; and future work opportunities. These components reflect characteristics of both extrinsic and intrinsic motivation. Among these factors, confidence in clinical skills and future work opportunities, respect and recognition from clients, peers and supervisors act as intrinsic factors; whereas work environment and its associated challenges are extrinsic factors of motivation. Table 4 presents the list of extrinsic and intrinsic motivation factors that are explored in this study of job satisfaction and motivation, some of which are addressed in the CCH project.

Table 4. Extrinsic and Intrinsic Motivation Factors

Extrinsic Motivation Factors	Addressed in CCH
Supervision	Yes
Interpersonal relations	Yes
Work environment	To some extent
Salary	No
Job security	No
Intrinsic Motivation Factors	Addressed in CCH
Achievement	Yes
Satisfaction with work and roles	Yes
Recognition	Yes
Responsibility	No
Career advancement	To some extent
Learning and growth	To some extent

Findings from quantitative data analysis presented below are only stratified by district, health worker age, and facility type when differences were observed. When not reported in the main text, expanded tables are presented in Appendix F. With all questions, nurses were asked to report only one response. The

results from the analysis need to be interpreted accordingly taking into account the fact that respondents chose the most important response among multiple response choices

Basic Demographics

Table 5. Community Health Nurse (CHN) Demographics (%)

	Greater Accra		Volta		Total
	Ada East/West	Ningo Prampram	South Tongu	South Dayi	
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only	
n	54	43	46	41	184
Sex					
Female	94.4	90.7	89.1	92.7	91.8
Male	5.6	9.3	10.9	7.3	8.2
n	54	43	46	42	185
Age					
18-24 yrs	3.7	9.3	19.6	9.5	10.3
25-30 yrs	75.9	65.1	65.2	64.3	68.1
31-39 yrs	16.7	9.3	15.2	19.0	15.1
40-49 yrs	1.9	2.3	0.0	7.1	2.7
50 yrs or older	1.9	14.0	0.0	0.0	3.8
n	54	44	46	41	185
Marital Status					
Married	33.3	47.7	37.0	34.1	37.8
Single	63.0	50.0	63.0	58.5	58.9
Divorced	0.0	2.3	0.0	0.0	0.5
Living with someone	1.9	0.0	0.0	7.3	2.2
Widowed	1.9	0.0	0.0	0.0	0.5
n	54	44	46	42	186
Where do you work as a CHN?					
CHPS zone	31.5	56.8	32.6	14.3	33.9
CHPS compound/facility	13.0	20.5	28.3	9.5	17.7
Health Center/poly clinic	50.0	20.5	28.3	54.8	38.7
Hospital	5.6	0.0	10.9	19.0	8.6
DHMT	0.0	2.3	0.0	2.4	1.1
n	54	44	42	43	183
Are you an in-charge?					
Yes	29.6	9.1	23.3	21.4	21.3
No	70.4	90.9	76.7	78.6	78.7
n	54	43	46	42	185
Is your hometown in the same district you are working in now?					
Yes	7.4	2.3	13.0	4.8	7.0
No	92.6	97.7	87.0	95.2	93.0
n	54	43	46	42	185
Does any member of your family, including children, live with you ?					
Yes	40.7	48.8	34.8	47.6	42.7
No	59.3	51.2	65.2	52.4	57.3

A total of 186 nurses who completed the CCH training were administered the job satisfaction and knowledge assessments. The majority of the nurses were female, single and between the ages of 25-39 years (Table 5). Only a little more than a third of the nurses in each district were married. Almost all nurses worked in districts that are not their hometown. As a result, many did not speak the local language. Only about half of the nurses lived with any member of their family. In particular, in South Tongu, about two in three nurses did not live with any member of their family.

Nurses from Ningo Prampram and South Tongu were mostly tied to a CHPS zone/compound compared to nurses from Ada East, Ada West, and South Dayi, where at least half were located in a Health Center or a poly clinic. In Ningo Prampram in particular, more than half the nurses reported that they were attached to CHPS zones. About one in five CHNs reported to be an senior CHN and therefore served as an in-charge. The highest percentage is in Ada East and West (30%). About 20-30% of the CHNs reported that they were an in-charge; however, in Ningo Prampram, only 9% were an in-charge.

Satisfaction

Respondents were asked whether they were very satisfied, satisfied, somewhat satisfied, or not satisfied with their jobs. We combine the categories of satisfied and very satisfied in presenting results for job satisfaction. More than three quarters of the respondents indicated that they were satisfied or very satisfied with their jobs, with the highest rates observed in Ada East and West districts (Table 6). On average, about 10% of CHNs in each district were very satisfied with their role. Although CHNs under the age of 30 formed only a small group of the surveyed population of nurses (20%), they reported being very satisfied with their jobs (22%). There was little distinction by whether they were attached to a health facility or a CHPS. In qualitative interviews conducted, a few nurses cited pay as a demotivating factor; they felt that they work very hard with little compensation.

When asked to describe themselves, overall, more than 70% of all CHNs interviewed (except for a slightly smaller percentage in South Dayi) felt that being a nurse was their key mission and that they strive to find solutions that will help them do their job well (Table 7). About 23-33% of the CHNs interviewed in Ningo Prampram, South Dayi and South Tongu expressed frustration with the health system; however, only 11% of nurses Ada East and West felt the same way. None of the nurses described themselves as working just to earn an income to support their families.

Table 6. CHN Level of Job Satisfaction

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampram	South Tongu	South Dayi					
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	54	44	45	41	143	40	95	89	184
Very satisfied	11.1	9.1	8.9	12.2	7.0	22.5	9.5	11.2	10.3
Satisfied	51.9	40.9	44.4	46.3	49.7	35.0	48.4	43.8	46.2
Somewhat satisfied	25.9	34.1	33.3	26.8	28.0	35.0	29.5	30.3	29.9
Not satisfied	11.1	15.9	13.3	14.6	15.4	7.5	12.6	14.6	13.6

Table 7. How CHNs Describe Themselves (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada	Ningo	South	South	≤30 years	>30 years	CHPS	Health	
	East/	Prampram	Tongu	Dayi					
	CCH +	CCH Only	CCH +	CCH Only					
	MOTECH		MOTECH				Center		
n	53	43	45	42	142	40	94	89	183
I am a CHN because I need a paycheck to suport myself or my family	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I believe being a nurse is my mission but I feel very frustrated with the health system	11.3	23.3	26.7	33.3	24.6	17.5	19.1	27.0	23.0
I believe being a nurse is my mission and I do my best to find solutions to do my job well	84.9	76.7	73.3	66.7	74.6	80.0	80.9	70.8	76.0
None of the above	3.8	0.0	0.0	0.0	0.7	2.5	0.0	2.2	1.1

While close to 90% of CHNs felt, overall, that they had a job that fit their skills and did not view the job as something they had taken up just for their paycheck, some did express frustration regarding compensation. Only about 17% were satisfied with their pay and felt they were paid fairly for the work they did (Table 8). In qualitative interviews conducted, a few nurses cited pay as a demotivating factor; they felt that they work very hard with little compensation.

“To me nowadays it has been like a crime that we have committed to become a community health nurse. I am saying this because you are trying to kill yourself for the job. You try everything. You are working hard. There is no way the top people will recognize your work.” – CHN from Ada West.

Despite discontent regarding their pay, a majority of the CHNs reported that being able to find creative solutions to solve their client problems was something that they valued the most in their job (Table 9). Data from in-depth interviews indicated that nurses felt that being a CHN was a “calling” and found their work very rewarding. They felt needed by their clients and recognized in the communities and this motivated them to continue with their work.

“If you're being recognized for what you're doing, if you're being praised for what you are doing, it gives you the morale to do more.” – CHN from South Dayi.

Slightly less than a quarter of the CHNs valued learning new skills in their jobs (Table 9). This was also supported with information from interviews where CHNs reported that they had a desire to advance their careers and indicated that they wanted to continuously better their skills so that they could do more for their clients.

Table 8. CHN Feelings on Job Desirability and Compensation (%)

	Total
n	184
Working as a CHN is a desirable job for someone with my skills	
Strongly Agree	35.3
Agree	53.3
Neutral	7.6
Disagree	3.3
Strongly Disagree	0.5
n	178
Satisfied with pay compared to what I think people make in similar jobs in other organizations	
Strongly Agree	2.8
Agree	14.6
Neutral	18.5
Disagree	32.6
Strongly Disagree	31.5
n	178
Feel that I am paid fairly for the work that I do	
Strongly Agree	4.5
Agree	12.9
Neutral	19.7
Disagree	36.0
Strongly Disagree	27.0

Table 9. What CHNs Value Most in their Job (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampam	South Tongu	South Dayi	≤30 years	>30 years	CHPS	Health Center	
	CCH + MOTECHE	CCH Only	CCH + MOTECHE	CCH Only					
n	54	44	42	46	145	40	96	90	186
Finding useful and creative solutions for my clients' problems	63.0	75.0	78.6	73.9	69.7	82.5	72.9	71.1	72.0
Learning new skills in my job	29.6	18.2	19.0	21.7	23.4	17.5	21.9	23.3	22.6
Being part of a strong community of CHNs	0.0	2.3	2.4	2.2	2.1	0.0	1.0	2.2	1.6
Earning respect and support from my supervisors	7.4	2.3	0.0	0.0	3.4	0.0	2.1	3.3	2.7
None of the above	0.0	2.3	0.0	2.2	1.4	0.0	2.1	0.0	1.1

Knowledge and Confidence in Clinical Skills

Nurse responses to the in-depth interviews indicate that almost all nurses were confident of their clinical skills. During the interviews, they reported that they tried their best and were always learning new things to better their skills. They felt confident in their ability to treat cases when their supervisors were not there to oversee their work.

“[These] past three years I have learnt [a lot]. We don’t do clinical aspect in the training college. It is on the field that you learn it. So for my three years, I have been here, I have learned a lot to the extent that if my in-charge is not around I can treat malaria, diarrhea, give drip to the delivery side, too”. – CHN from South Dayi.

A few nurses who were interviewed also mentioned that they needed more training. Supporting the findings from qualitative data, more than 80% of the nurses who responded to the survey felt confident of their basic skills but wanted to strengthen their skills to deal with more complex cases (Table A3).

Table 10. Percent Questions Answered Correctly by CHNs in each MNCH section of Knowledge Assessment (%)

	Level of Satisfaction		Age		Total
	Very Satisfied	Satisfied	≤30 years	>30 years	
n	104	80	144	40	185
Antenatal care	71.3	69.6	71.1	68.9	70.7
Postnatal Care	76.1	74.1	73.7	80.7	75.3
Immunizations	95.3	94.3	95.0	94.5	94.9
Infant Care	74.7	72.0	73.1	75.3	73.6
HIV	77.2	72.8	76.6	71.3	75.3
Family Planning	80.1	77.6	80.1	76.7	79.1

Data from the clinical knowledge assessment show that scores were generally high in all categories with little difference seen in scores between CHNs that were satisfied with their job and those that were not (Table 10). Job satisfaction was measured in terms of their response to the question in the survey on how satisfied they were with their jobs. However, nurses scored highest on knowledge assessment questions related to immunization and lowest on questions related to antenatal care. Though the differences were small, nurses aged 30 and above scored higher on antenatal care, immunization, HIV and family planning sections while nurses younger than 30 scored higher in the areas of postnatal care and infant care.

Work Environment, Management, and Planning

Challenges in Work Environment

When asked about their work environment, very few nurses talked about the positive aspects of their job. Instead, the majority of the nurses expressed frustration. During the interviews, the most frequently cited challenges to work performance for CHNs were related to poor work conditions such as the long distances they need to walk to get to the communities and the general lack of resources. In the survey conducted, nurses most often indicated the lack of resources needed to do their job (43% average) and inadequate opportunities to advance their career (41% average) as the two perceived barriers with their job (Table 11). The lack of resources including transport, phones and commodities ranked higher as a source of discontent in most districts with the exception of South Dayi (29%). In South Dayi, inadequate resources to advance a nurse’s career were most often cited as the main barrier to the performance of

their jobs (52%). A few nurses who were respondents of the in-depth interviews complained about facilities being short on staff and not having some equipment or the right kind of equipment.

One nurse from Ada West explained, “We don’t have some of the equipment; you requested but [it] is not available and that makes the work difficult and [so you are] not able to render service to the clients.”

Table 11. CHN Perceived Barriers with their Job Performance (%)

	Greater Accra		Volta		Age	Health Facility	Total		
	Ada	Ningo	South	South					
	East/ West	Prampram	Tongu	Dayi					
	CCH + MOTEC H	CCH Only	CCH + MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	52	40	45	42	141	37	91	88	179
Inadequate Pay	3.8	5.0	6.7	4.8	5.0	5.4	4.4	5.7	5.0
Inadequate support/guidance from my supervisors	0.0	5.0	4.4	2.4	3.6	0.0	4.4	1.1	2.8
Poor living conditions	5.8	2.5	2.2	2.4	3.6	2.7	5.5	1.1	3.4
Inadequate opportunities to advance my career	40.4	40.0	31.1	52.4	41.8	35.1	33.0	48.9	40.8
Inadequate resources to do my job (transport, commodities, phones for example)	46.2	45.0	48.9	28.6	41.1	48.6	48.4	36.4	42.5
Poor mobile coverage/bad network to reach the people I need	1.9	0.0	4.4	4.8	2.8	2.7	2.2	3.4	2.8
Being isolated or having difficulty finding friends or partners	1.9	0.0	0.0	2.4	0.7	2.7	1.1	1.1	1.1
None of the above	0.0	2.5	2.2	2.4	1.4	2.7	1.1	2.3	1.7

The in-depth Interviews revealed additional challenges at work to be transportation issues, out of pocket transport costs, and language barriers when trying to communicate with clients. A few nurses also complained about the lack of housing for themselves. The lack of space to conduct tasks with patients was also an issue for a few nurses.

“[P]eople working at the CHPS zone are not supposed to rent at a different place and come to work. They are supposed to be accommodated so that they will be in the community with the people” – CHN from South Dayi.

“In our catchment areas where we normally do our clinic, there is no table for us to sit and write. Even mothers when they come to the clinic, where they will sit? Some will bring their chairs from the house, some will be standing. So it has become a problem for us ” – CHN from South Dayi.

More than half of the nurses interviewed cited transport as a major challenge in doing their work. Facilities rarely have vehicles available for CHNs to get in and out of the communities with all of their equipment. Lack of equipment, particularly refrigerators for vaccines and weighing scales for babies, was another challenge that prevented them from providing all of the necessary services to their clients.

“The department lacks some clinical equipment and the few which are there such as the toddlers scale is not working; it gives wrong or inconsistent measurement. Also, the department has only one sphygmomanometer (BP apparatus) which is used by all nurses.” – CHN from Ningo Prampram

“Without the basic equipment that we mentioned, doing most of our routines becomes difficult.” – CHN from South Dayi

Along the same lines, a few nurses felt that more staff for support or refresher courses for existing and new skills would make their jobs easier and help them better serve their clients.

Use of Technology

CHNs across all districts had access to shared facility phones. For those from Ada East and West and South Tongu (CCH+MOTECH districts), nurses also had access to mobile phones loaded with the MOTECH application to help them with their work. A few of these nurses mentioned that they liked to use the MOTECH platform and were comfortable with it. They liked the alerts that came through MOTECH, which helped them to plan ahead or to know what to do next.

“For technology-wise like the MOTECH, it’s working.” – CHN from South Tongu

“Oh, as you said earlier on, the phone is doing a lot, especially when we were using the MOTECH...They will give you alerts messages, what you are supposed to do next, and what is on the pipeline coming, and everything is there. And sometimes, they also give educational talks to the clients through their messages.” – CHN from Ada East

Nurses from all districts were asked whether they were satisfied with their current work phones available at the facility, and only 18% of nurses responded “yes” (Table 12). One in three nurses wished they had a personal phone instead of a shared facility phone and 35% wanted a smart phone to help them with their work. Except in South Tongu, where 34% of nurses reported being satisfied with their current phones, approximately 40% of nurses wanted a new phone (Table 12 and Table A 4). Overall, more nurses in the CCH + MOTECH districts had access to a mobile phone located in the facility than nurses in the CCH only districts and therefore recognized the utility of the access to a mobile phone. Access to a mobile phone made their lives easier as compared to nurses in the CCH only districts (Ningo Prampram and South Dayi).

Despite the advantages, nurses expressed frustration with technology challenges that they face at work. With regards to data reporting, nurses were asked about the biggest challenge they encountered, among various response options. The challenge most frequently reported by nurses was the time it took to record data in multiple registers (34% in Table 12). Twenty six percent of the nurses reported that the time it took to report in a register and upload data was their biggest challenge, while 24% reported the time it took to generate reports as the biggest challenge. For nurses from CCH only districts, the time it took to record data was the biggest challenge, whereas for nurses from CCH + MOTECH districts it was the time it took to report in a register and upload data (Table A 4).

The in-depth interviews also revealed other challenges for CHNs, such as not having enough credit to make calls when they need to use the phones to communicate with supervisors, other nurses, and even clients and not being trained well enough to use the phones.

“[B]ecause it is not a one-on-one training, they will say we need this number of months to train you, but our level of learning is different. We go and gather at one place. Then, within one hour or two hours we are done. If we need it to work then the training has to be very deep. The training has to be deeper if it matters that you meet the person one-on-one and train the person. it should be done.” – CHN from Ada West

A few nurses also complained about the lack of electricity, issues with the network, issues with phones freezing, as well as the phones being too small.

Table 12. CHNs Use of Phones and Barriers to Data Reporting (%)

	Total
n	176
In relation to phones, my work would be easier if:	
I had access to a mobile phone because I don't have a phone	14.8
I had a personal phone instead of a facility phone	31.8
I had a smart phone rather than my current basic/feature phone	35.2
I am satisfied with the phone that I have now	18.2
n	178
In terms of data reporting, my biggest challenge is:	
The time it takes to generate reports	23.6
The time it takes to record data in multiple registers	34.3
The time it takes to upload data on a mobile phone	16.3
The time it takes to report in a register and upload data	25.8

When asked about other technology functionalities that they liked or would like to have for their work, the majority of CHNs reported that they liked technology that helped them communicate with their clients and peers. They also expressed the need for technology to facilitate communication with their supervisors.

“[I]f like you are working with your colleagues and you are having a problem, as if you have seen something and you are not too sure about it. You can call your colleague and discuss it with the person.” – CHN from Ningo Prampram

The nurses take their clients' phone numbers “so if [the clients'] dates are due [the CHNs] will call them to inform them.” – CHN from Ada

“If you go for an outreach too, when you see certain things, “you can take pictures of it and come and show it to your in-charge.” – CHN from Ningo Prampram

Some other helpful technology-based functions that nurses mentioned included online courses or internet access to find information, tools to help them plan their work such as calendars, ability to record patient information—such as phone numbers, for example—for easy access, and email capabilities to send reports to supervisors. These are functions they did not have access to in the past.

"Then you can set a reminder on your phone to remind you that today you have this or maybe a day before you go to your client it will remind you. You'd be able to call your client for him or her to prepare before you get there."- CHN from Ningo Prampram

"For me, I do most of my research on it. It is like most of the diseases. I do research to know much about it so it really helps me a lot as in nutrition. I mean everything about health that is where I go to learn much about it." -CHN from Ningo Prampram

"To plan our work that one too is very important. It tells you where you are going to, when you are moving and then connecting." – CHN from Ada East

"At least we could have like a replica of our report format, so when you just go you just have to key in the figures. [I would] create something like a protocol that has sets on how to maybe take care of a patient with this disease so you know [what to do] when a patient presents this type of symptom." – CHN from Ada West

Work Scheduling and Time Management

CHNs reported time management as one of their concerns. A large part of a CHN's time is spent on home visits. The amount of time they spend with their clients can sometimes consume their entire day, causing them to run out of time for other work activities. For instance, introductions during home visits can take a lot of time because clients often want to talk at length with the nurses. A few nurses also reported that some clients do not show up at their scheduled time, and nurses waste time traveling to see their clients or waiting for their clients during their day.

"Yes, time management becomes a problem, why? Because you're trying to explain one thing to the person, the person is not understanding you. And, in the terms of helping the person, what do you do? You keep on pushing for the person to hear you as you're speaking or saying as you're directing to the person, do you see?" –CHN from South Dayi

"Sometimes some of the clients, if you give them the opportunity, they will talk from morning 'til evening." – CHN from South Dayi

"[Y]ou tell them to come to antenatal [care] on Wednesday, they will come on Monday. Somebody, she is not sick, but she will come on Monday. You know, it makes the work difficult for you, because you wouldn't be around; you've gone for outreach and you've come, you understand? And she will say, "I came there and you guys were not around." -CHN from Ada East

Despite challenges reported in the interviews regarding the amount of time that CHNs spend on home visits, more than 80% of nurses who completed the survey agreed that they were able to plan their day in ways that allowed them to meet their targets. A larger percentage of nurses from South Dayi (8%) and Ada East and West (9%) were likely to disagree or strongly disagree when asked if they were able to plan

their day to meet targets compared to nurses from Ningo Prampram (0%) and South Tongu (4%) (Table A 5).

Communication and Respect from Clients

In general, the CHNs reported that their interactions with their communities were very rewarding. They valued the respect of their clients the most (65%) followed by community members in general (24%), other CHNs (9%), and supervisors (1%) (Table A 6). In South Dayi in particular, 80% of CHNs reported that the respect they earned from clients/patients was most important (Table A 6). A majority of CHNs either agreed or strongly agreed that they feel respected by clients (Table 13). In Ada East and West, however, as compared to the other districts, fewer nurses (74%) felt respected by their clients and about 6% of nurses reported that they did not feel respected by their clients at all.

Table 13. CHN's Perception of Respect Received from Clients (%)

	Greater Accra		Volta		Age		Health Facility		
	Ada East/West	Ningo Prampram	South Tongu	South Dayi	≤30 years	>30 years	CHPS	Health Center	Total
	CCH + MOTECH	CCH Only	CCH + MOTECH	CCH Only					
n	53	44	46	41	143	40	95	87	184
Strongly agree	18.9	31.8	34.8	24.4	23.8	40.0	25.0	29.5	27.2
Agree	54.7	54.5	54.3	53.7	57.3	42.5	59.4	48.9	54.3
Neutral	20.8	13.6	10.9	22.0	18.2	12.5	14.6	19.3	16.8
Disagree	3.8	0.0	0.0	0.0	0.7	2.5	1.0	1.1	1.1
Strongly disagree	1.9	0.0	0.0	0.0	0.0	2.5	0.0	1.1	0.5

Data from the in-depth interviews supported these findings with more than half the CHNs reporting that they had good personal relationships with the clients they serve. One nurse from Ningo Prampram exclaimed, *“I feel respected and loved because sometime when I walk in the community and the community members call me: “Ma’am nurse, how are you? How are you faring?”*

Despite the high volume of clients they see in the community, the CHNs did not see their clients as a burden. Many CHNs felt that community members respected them and were appreciative of their services, and often confided in the CHNs with their problems.” This made the CHNs feel good about the work that they did.

“It’s because of them [that] we are in the community.” “And for you being a nurse they will by all means come to you if they are finding any problem or difficulties – CHN from South Dayi

A few nurses however felt that some community members did not respect the CHN’s role and position, making it difficult for them to do their work.

One nurse from South Dayi explained, *“We as community health nurses working in the community, the people over there, they regard the general nurses [better] than us. They think we, we are, we don’t know, so they discriminate about us a lot. Sometimes when we are going for [a] home visit, you enter a house and even when you greet them they are not ready to respond.”*

When asked what they enjoyed most about their interactions with clients, three fourths of the nurses in all districts stated that they most enjoyed listening to their clients' problems and finding workable solutions (Table 14). This percentage was highest in South Dayi (88%). Although they enjoyed working with clients, very few nurses (only in Ningo Prampram and South Tongu) rated feeling respect and being admired by their clients as being the most important factor in their interactions with clients rather than listening to their clients problems and finding workable solutions.

Although they describe their relationship with clients as generally good, during the interviews most CHNs also mentioned several difficulties with client interactions, such as language barriers, lack of resources, lack of respect, and inability to pay. Some CHNs cited language as a common barrier. *"I can't speak the language here very well,"* an Ada West CHN explained. *"The dialect the people are speaking here I can't express myself. That's another aspect because when you are living with people, you have to understand their language [so when they] come to you [you can] give them good counseling."* They are also frustrated by clients that either don't understand the information being provided to them or just choose to completely ignore the nurses' advice after they have taken the time to sit with them.

"Some of them, the education we give them, they don't practice it, so they come with the same problem over and over again." – CHN from South Dayi

"[T]he pregnant mothers, when they come to the antenatal [care] the midwives give them education. After the education, they do all the necessary things for them, [and] then they give them their drug. When [the mothers] get to [their] house, they don't take the drug." –CHN from South Dayi

Nurses were asked the question on what made their interaction with clients most difficult and multiple responses were posed as presented in Table 14. The majority of CHNs reported not having the proper resources to help clients made their interactions with patients most difficult comparable to other responses. The percentage of nurses who chose this response was particularly high in the CCH only districts as compared to those in the CCH + MOTECH districts.

Another major challenge was paying for services, as nurses often encountered community members who claimed to be unable to pay once the services had been rendered.

For instance, they come for the family planning services, some know that, 'Oh I am supposed to pay this amount.' "But she'll not bring the money." –CHN from Ningo Prampram

Sometimes the drugs they provide are not covered by the insurance, so their clients cannot pay. "The drugs [we] are supposed to give to the patient. But if you give a drug to the patient and that drug is not [covered by the insurance], they will not pay." –CHN from South Dayi

Table 14. Positive and Negative Aspects of Client Interaction Perceived by CHNs (%)

	Greater Accra		Volta		Age		Health Facility		
	Ada East/ West	Ningo Prampram	South Tongu	South Dayi					
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	Total
n	53	44	45	42	143	40	95	89	184
What I enjoy MOST from my interactions with clients is...									
Feeling proud that I am able to serve the community	13.2	13.6	9.9	9.5	10.5	15.0	10.5	12.4	11.4
Listening to their problems, and finding workable solutions for them	73.6	75.0	73.3	88.1	79.7	67.5	73.7	80.9	77.2
Figuring out what their medical issues are, and knowing how to treat them	13.2	9.1	11.1	2.4	8.4	12.5	11.6	6.7	9.2
Feeling respected or admired by clients	0.0	2.3	6.7	0.0	1.4	5.0	4.2	0.0	2.2
n	52	43	46	42	142	40	94	89	183
What I find MOST difficult from my interactions with clients is...									
When they argue or disagree with my recommendations	13.5	16.3	23.9	4.8	17.6	5.0	18.1	11.2	14.8
I feel I don't have the right resources to help them	65.4	74.4	58.7	88.1	69.7	77.5	67.0	75.3	71.0
I don't have the knowledge on what to do	3.8	4.7	6.5	2.4	3.5	5.0	5.3	3.4	4.4
I have no challenges in working with the community	17.3	4.7	10.9	4.8	9.2	12.5	9.6	10.1	9.8

Peer support

More than 90% of the nurses in Ada East/West and Ningo Prampram in the Greater Accra region either agreed or strongly agreed that they felt respected by other CHNs in their district (Table 15) compared to a smaller percentage of the nurses in the Volta region districts - South Dayi (78%) and South Tongu (68%). Overall, nurses had a good, supportive relationship with one another although there were some district differences. Most nurses reported that their colleagues were supportive and eager to advise and help them in difficult situations at work.

Table 15. CHN Interactions with Peers (%)

	Greater Accra		Volta		Age		Health Facility		
	Ada East/ West	Ningo Prampram	South Tongu	South Dayi	≤30 years	>30 years	CHPS	Health Center	Total
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only					
n	54	44	45	41	143	40	95	89	184
Overall, I feel respected by other CHNs in my district									
Strongly agree	25.9	31.8	13.3	9.8	18.2	30.0	22.1	19.1	20.7
Agree	55.6	59.1	64.4	58.5	62.9	45.0	63.2	55.1	59.2
Neutral	14.8	9.1	20.0	26.8	16.8	20.0	14.7	20.2	17.4
Disagree	1.9	0.0	2.2	4.9	2.1	2.5	0.0	4.5	2.2
Strongly disagree	1.9	0.0	0.0	0.0	0.0	2.5	0.0	1.1	0.5
n	52	43	44	41	141	38	94	86	180
The most important thing I wish I got from other CHNs									
Respect for what I do	11.5	14.0	11.4	9.8	13.5	5.3	11.7	11.6	11.7
Answers to my clinical questions	9.6	7.0	13.6	9.8	10.6	7.9	9.6	10.5	10.0
Encouragement when I do things well	38.5	51.2	40.9	39.0	40.4	47.4	42.6	41.9	42.2
Support when I make a mistake	40.4	20.9	34.1	39.0	34.0	34.2	33.0	34.9	33.9
None of the above	0.0	7.0	0.0	2.4	1.4	5.3	3.2	1.2	2.2

Most CHNs reported that they used their phones, particularly applications such as WhatsApp and Facebook, to communicate with their peers. Some nurses also reported meeting one-on-one to discuss work-related issues and how to resolve them. When asked what they wished they got from other CHNs, 70-80% of nurses indicated that they wished that other CHNs would give them encouragement when they did things well and support when they made mistakes (Table 15). Few nurses (less than 25%) identified as most important a desire for answers to their clinical questions from other CHNs and respect for what they did.

“We can respect and encourage each other in spite of our experiences. Maybe someone had [an] experience that you never had before or has been [working] a longer time than you. She knows more about the field than you. So she can tell you about her experiences and encourage you.” –CHN from Ada East

“We have cordial relationship because one thing about our job is one person cannot do it all, so when the team work is there and you easily approach each other, you will be able to achieve your target. So even in terms whether the other one is not feeling well, one person can go to that person’s catchment and render service and then comes.” –CHN from South Tongu

Interaction with Supervisors

Overall, the nurses had cordial relationships with their supervisors. They most commonly communicated with the supervisors via phone or in person and interacted most with the District PHN who also often acted as the CHPS coordinator. Nurses reported that their supervisors were easy to talk to and the nurses were not apprehensive to go to their supervisors with problems. Supervisors provided assistance with patients when requested by the nurses, and many of the nurses described their supervisors as being “like a mother”. Almost all the nurses appreciated their supervisor’s feedback and felt that it was relevant to help them perform their jobs better (Table 16).

“The relationship is very good. She doesn’t take decisions on her own, we all come to the table and decide on one and that’s all.” – CHN from Ada East

“Sometimes they feel for us. When we are in the field, being in the sun working; they feel for us when we are in the sun working. They encourage us to go back to school better our grades, so that we can also leave that system and go to the next level. So these are the things they do for us.” –CHN from South Tongu

Table 16. CHN’s Reaction to Feedback from Supervisors (%)

	Total
n	182
Be calm and listen to what they have to say because it will help me do my job better	95.1
Feel upset because I am trying hard but I am constrained and unable to do my job well	4.4
Feel angry because I think I am right	0.5
I am not bothered as long as I keep my job	0.0

A few nurses however complained that their supervisors were not always encouraging or respectful. When responding to questions on the support they received from their supervisors, one nurse from Ningo Prampram reported, *“I think it’s the director and some few people who have been encouraging us to maybe further our education, but some are not concerned.”* Another from the same district echoed, *“Even if you ask them [supervisors] to motivate you, they will tell [you] that they are not to motivate you.”*

Tables 17-20 explore the relationship of CHNs with their supervisors at various levels in more detail focusing on the facility/CHPS in-charge, sub district PHN/RCH in-charge, sub district Head and the District PHN. Aspects related to the assistance received from all supervisors, frequency of performance discussions, feedback received, and expectations from supervisors are all presented in these tables.

Overall, 58-70% of nurses reported that they received assistance from their supervisors at various levels (Table 17), though the type and frequency of assistance varied. They reported that they received the least support from the sub-district head (58%). Sixty five to 70% of nurses reported receiving support from other supervisors such as the facility/CHPS in-charge, sub district PHN/RCH in charge/district PHN. While nurses interacted regularly with supervisors, most of this interaction was to discuss performance in particular and was either weekly or monthly or quarterly (Table 18). With the in-charge, the discussions of

performance were sometimes daily (19%), weekly (11%) or more often monthly (25%). With the higher level supervisors, this interaction was typically not daily. Discussions of performance were predominantly monthly or quarterly. More than half the nurses had these discussions monthly with the sub district PHN/in charge, and with the District PHN. With the sub district head, this percentage was lower (38%), and interaction tended to be more often quarterly. Interestingly, close to 20% of nurses felt they did not discuss performance with any of their supervisors.

When nurses interacted with supervisors, the feedback they received was mainly related to meeting clinical targets (44-50%) and about how to handle specific cases/patients (approximately 20%) (Table 19). The survey also explored nurses' expectations of different supervisors. They reported the desire to receive feedback on areas in need of improvement (37-43%) and to receive encouragement when they did things well (approximately 30%) (Table 20).

Table 17. Assistance received from supervisors (%)

	Total
n	184
I feel that my in-charge helps me with the challenges I face in my job	
Strongly agree	20.7
Agree	44.6
Neutral	15.2
Disagree	9.2
Strongly disagree	6.0
Not applicable	4.3
n	183
I feel that my sub-district PHN/RCH in-charge helps me with the challenges I face	
Strongly agree	15.3
Agree	55.2
Neutral	14.8
Disagree	5.5
Strongly disagree	6.0
Not applicable because I am the sub-district RCH in-charge	1.1
Not applicable because there is no sub-district PHN/RCH in-charge	2.2
n	182
I feel that my sub-district head helps me with the challenges I face in my job	
Strongly agree	14.3
Agree	44.0
Neutral	20.3
Disagree	12.1
Strongly Disagree	7.7
Not applicable because I am the sub-district head	0.6
Not applicable because my in-charge is the sub district head	1.1
n	181
I feel that the District PHN helps me with the challenges I face in my job	
Strongly agree	17.7
Agree	50.3
Neutral	18.8
Disagree	11.0
Strongly disagree	2.2

Table 18. Frequency of Interaction with Supervisors (%)

	Total
n	182
My in-charge discusses my performance with me	
Daily	19.2
Weekly	11.0
Monthly	24.7
Quarterly	13.7
Less than quarterly	4.9
Never	20.3
Not applicable	6.0
n	179
My sub-district PHN/RCH in-charge discusses my performance with me	
Daily	5.6
Weekly	4.5
Monthly	51.4
Quarterly	17.3
Less than quarterly	3.4
Never	15.1
Not applicable because I am the sub-district RCH in-charge	1.1
Not applicable because there is no sub-district PHN/RCH in-charge	1.7
n	179
My sub-district head discusses my performance with me	
Daily	5.0
Weekly	5.6
Monthly	38.0
Quarterly	25.1
Less than quarterly	6.2
Never	19.0
Not applicable because I am the sub-district head	0.0
Not applicable because my in-charge is the sub district head	1.1
n	181
The District PHN discusses my performance with me	
Daily	2.2
Weekly	3.3
Monthly	51.4
Quarterly	20.4
Less than quarterly	5.0
Never	17.7

Table 19. Nature of Feedback from Supervisors (%)

	Total
n	181
Most of the time, the feedback I receive from my in-charge is about	
Meeting clinical targets	43.6
How I handle specific cases/patients	19.3
Managing my time	3.3
My attitude towards work	8.8
Punctuality	3.3
Not applicable because I am an in-charge	6.6
None of the above	14.9
n	179
Most of the time, the feedback I receive from my PHN/RCH in-charge is about	
Meeting clinical targets	50.3
How I handle specific cases/patients	21.8
Managing my time	2.8
My attitude towards work	8.9
Punctuality	0.6
Not applicable because I am the sub-district RCH in-charge	0.0
Not applicable because there is no sub-district PHN/RCH in-charge	2.8
None of the above	12.8
n	177
Most of the time, the feedback I receive from my sub-district head is about	
Meeting clinical targets	46.9
How I handle specific cases/patients	23.7
Managing my time	2.8
My attitude towards work	6.2
Punctuality	1.7
Not applicable because I am the sub-district head	0.6
Not applicable because my in-charge is the sub district head	1.7
None of the above	16.4
n	179
Most of the time, the feedback I receive from the District PHN is about	
Meeting clinical targets	50.3
How I handle specific cases/patients	26.3
Managing my time	2.8
My attitude towards work	3.9
Punctuality	3.4
None of the above	13.4

Table 20. Expectations from Supervisors (%)

	Total
n	181
The most important thing I wish my in-charge did for me is:	
Give respect for what I do	16.6
Give more input on clinical targets	4.4
Feedback on things I need to improve on	37.6
Encouragement when I do things well	28.2
Not applicable because I am an in-charge	6.6
None of the above	6.6
n	179
The most important thing I wish my PHN/RCH in-charge did for me is:	
Give respect for what I do	12.3
Give more input on clinical targets	7.8
Feedback on things I need to improve on	42.5
Encouragement when I do things well	31.3
Not applicable because I am the sub-district RCH in-charge	0.0
Not applicable because there is no sub-district PHN/RCH in-charge	2.8
None of the above	3.4
n	178
The most important thing I wish my sub-district head did for me is:	
Give respect for what I do	15.2
Give more input on clinical targets	13.5
Feedback on things I need to improve on	37.1
Encouragement when I do things well	29.8
Not applicable because I am the sub-district RCH in-charge	0.0
Not applicable because there is no sub-district PHN/RCH in-charge	1.1
None of the above	3.4
n	179
The most important thing I wish the District PHN did for me is:	
Give respect for what I do	12.3
Give more input on clinical targets	12.3
Feedback on things I need to improve on	43.0
Encouragement when I do things well	30.2
None of the above	2.2

Supervisors' Perspective

This section reports on information collected from supervisors regarding their relationship and interaction with CHNs. Supervisors responded to in-depth interviews but were not administered a survey.

Relationship with nurses

The majority of the supervisors reported that they had a cordial or close relationship with the nurses. Most supervisors explained that they worked closely together with their nurses to get the job done.

One supervisor from South Dayi reported, *"[O]ur relationship is very good. Why? If they [nurses] are not there, you alone [supervisor] can't work. So they assist in all aspects of the work there...so they help a lot."*

However, two supervisors from Ningo Prampram explained that sometimes nurses could be stubborn.

"Some nurses, especially the new ones, don't want to be taught. When they are doing something and you are trying to correct them, they don't take it. Some get annoyed and they will tell you that you are an "ancient" nurse." – Supervisor from Ningo Prampram

"Nurses should change their attitude." "Nurses do not automatically respect you. You must make yourself respected." – Supervisor from Ningo Prampram

Most supervisors reported that they communicated with the nurses via phone. Although supervisors were only required to conduct quarterly supervision visits, some supervisors reported that they spoke to their nurses whenever they needed to via phone. A supervisor from South Dayi explained, *"If the supervision is frequent, it helps [the nurses]."*

All supervisors reported that they provide feedback to the nurses. Most supervisors described a cordial one-on-one discussion with their supervisee where they work together on issues. A few supervisors expressed that providing feedback was not enough, because they did not see the nurses face to face on a regular basis. There was a need for supportive supervision. One supervisor from Ningo Prampram on the other hand explained that *"sometimes they just listen to you, but they won't take [the advice]."*

Challenges

Supervisors reported several different challenges they face in their work. Just as nurses reported, most supervisors talked about not having enough equipment, staff shortages, and lack of funds. A few supervisors mentioned that the terrain to the facilities was terrible, and it was particularly difficult to access the facility during the rainy season. They suggested the increased availability of transportation as a potential solution. One supervisor from Ningo Prampram mentioned salary as an issue. He said *"I wish our salaries were tied to our performance."*

CHN Opportunities for Advancement

While they performed their current roles, CHNs were also keen on professional advancement. The baseline study explored their choice of profession as a CHN and their interest in acquiring new skills and advancing their career.

Profession choice

Many of the CHNs had always wanted to be a nurse in order to serve their community. A few nurses said they did not have the grades to pursue another profession, such as medicine for example, so they became nurses instead.

One nurse from Ningo Prampram shared, *“I studied science at the SS (Senior High School) level and my aim was to become a medical doctor, but the grades I had at then couldn’t permit me to go straight into medicine]. So, I went into community health nursing.”*

Others started with a different profession such as banking, business or teaching, but ended up choosing nursing. One respondent was a business student in Senior High School, but then heard that there was “so much pressure in the business sector.” She tried nursing and was happy with what she was doing, so she decided to stay in the health sector. Most nurses also expressed the desire to go back to school after five years to upgrade to a midwife or public health nurse.

“I chose to be a community health nurse because I’ve realized people in the community actually are not [aware] of basic health needs and things that can promote their health so being a community health nurse I want to be with them in the community and then give [education] in terms of health education on their nutrition.”-CHN from South Dayi

“I want to be a community nurse because I want to go to the community and help the community members, educate them on the basic need, how to live a healthy life and then how to prevent basic diseases before it has become complicated” –CHN from South Dayi

Professional Development

The health system offers some opportunities for professional development. CHNs sometimes attended workshops although one CHN reported that these workshops were infrequent and irregular. Moreover, workshops were not something that all nurses were allowed to attend. Normally, a few nurses attended them, and they go back to the facility and teach their colleagues. In terms of promotions, nurses reported that they were required to remain CHNs for five years in order to become a senior CHN or to leave their post for further education. Some nurses were frustrated with this system and believed that there should be an alternative of remaining a CHN and yet still have a chance of advancing their career. One CHN reported these regulations as a disadvantage for older CHNs because they did not want to go back to school.

“So they should have the degree, so that maybe if you want to further your education, you will still be a community health nurse, but, maybe you will have a degree or something. Because right now, if you want to further it’s either you leave community health nurse, or maybe I’m a diploma holder, and I want to further, I can’t go and do the degree...I have to divert.” –CHN from Ningo Prampram

“Some of our colleagues are old in the system. They cannot go to any school or advance in any education again. So what I would like them, our in-charges, to do is to find some ways to upgrade them[selves] so that they can also be happy, because they are in the system for long.” –CHN from Ningo Prampram

Summary of findings

In summary, CHNs in the study districts are mainly young, single women who live away from their home districts. Overall, nurses were satisfied with their jobs, although only one in ten nurses was very satisfied compared to the seven in ten who were satisfied or only somewhat satisfied. Furthermore, a higher percentage of older nurses were very satisfied with their jobs compared to younger nurses. More specific questions on the nature of their jobs, concerns and interactions with clients, peers and supervisors provide a better understanding of their feelings about their jobs.

Despite their overall satisfaction with their jobs, nurses in general were frustrated with the health system, citing resource shortages and limitations of supervision among other challenges. Nevertheless, many of them were keen to find creative solutions to solve work problems and perform effectively. Compensation was a source of frustration for nurses. Less than two in five nurses were satisfied with their pay; however, despite their discontent, they still valued their jobs because they found them very rewarding and felt that their clients appreciated them. Some nurses stressed the importance of introducing opportunities for career advancement as an incentive for remaining a CHN. The current system requires that they leave their post for further education or else remain a CHN for five years before being eligible for a promotion to a senior CHN position.

In general, nurses were confident in their clinical skills. They were most knowledgeable about immunization topics and least knowledgeable in antenatal care topics. Despite their confidence in their skills, a few nurses also felt that more training would help them handle clinical cases and improve their job performance.

Many nurses face challenges that are not easily addressed with training. A majority of nurses cited lack of resources and the need to use personal funds for transport. Some nurses were frustrated with the use of technology in the workplace, explaining that use of technology for data reporting was a burden and time consuming. According to others, work scheduling and time management were sometimes an issue and home visits took up more time than planned and patients failed to keep their appointments..

In terms of work relationships, nurses reported that they had a cordial relationship with their supervisors; however, not everyone received the support they expected. Most of the support nurses receive from supervisors, regardless of the type, were around meeting their clinical targets and performance. There was less discussion on troubleshooting problems and ways to improve provision of care and counseling,

and in general feeling recognized and encouraged for their hard work. In general, their working relationship with their peers was good, and most of them felt respected by their clients.

Programmatic Implications

The results of the baseline study are intended to provide evidence to measure the direct outcome of the CCH pilot in comparison to the endline. The development of the “CHN on the Go” app by itself was informed by the formative research and human centered design workshops that were conducted prior to the launch of the project. Although the findings of the baseline study may not influence the development of the mobile app, the findings could be applied to make system level changes that are needed in the areas of supervision and better recognition of CHN efforts, and career development and learning that are essential to making the role of the mobile app more successful.

As the results show, the CCH pilot can potentially help health workers in countries such as Ghana improve motivation in the work place and ultimately improve health worker performance, service quality, and health outcomes. The “CHN on the Go” mobile phone application can target many areas outlined in the baseline findings through the CCH pilot. These areas include connectivity to increase communication between nurses and their supervisors, peers, or clients; work scheduling to better address time management; and training to increase knowledge in key areas.

Working with the GHS, Regional and District Directors, the CCH pilot can also help address the effectiveness of supervision and provide career advancement opportunities. However, some areas may be a bit more difficult to address programmatically, such as inadequate pay, transport unavailability, language barriers, and lack of resources. There is need to investigate these areas further to assess their implications with regard to the CCH pilot.

References

- Franco LM, Bennett S, Kanfer R. Health sector reform and public sector health worker motivation: a conceptual framework. 2002. *Social Science & Medicine* 2002, 54:1255-1266.
- Ghana Global Health Initiative. (2012) Ghana Global Health Initiative Strategy 2012-2017. GHI Ghana. <http://www.ghi.gov/whereWeWork/docs/GhanaStrategy.pdf>
- Ghana Health Service (2002. The Community-based Health Planning and Services (CHPS) Initiative: The Concepts and Plans for Implementation. PPMED. Ghana. Available at: <http://www.ghanachps.org/wp-content/uploads/2008/05/concepts.pdf>
- Hertzberg, F., Mausner, B., a Snyderman, B. (1959). The motivation to work. New York: Wiley.
- Mbindyo, P., Gilson, L. Blaauwe, D., & English, M. (2009). Contextual influences on health worker motivation in district hospitals in Kenya. *Human Resources for Health* 2009, 7:40. <http://www.human-resources-health.com/content/pdf/1478-4491-7-40.pdf>
- McGough, L. J. (2012). *Achievements and Challenges of Community-based Health: Documenting the History of Ghana's Community-based Health Planning and Services initiative (CHPS)*. Population Council, Ghana.
- McGough, L. J. (2013). *Report on maternal and child health knowledge and perceptions in Gomoa West for MOTECH*. Grameen Foundation, Ghana.
- Peters DH, Chakraborty S, Mahapatra P, Steinhard L. (2010). Job satisfaction and motivation of health workers in public and private sectors: crosssectional analysis from two Indian states. *Human Resources for Health* 2010, 8:27. <http://www.human-resources-health.com/content/pdf/1478-4491-8-27.pdf>
- Prytherch, H., Kakoko, D. C. V., Leshabari, M. T., Sauerborn, R., & Marx, M. (2012). Maternal and newborn healthcare providers in rural Tanzania: in-depth interviews exploring influences on motivation, performance and job satisfaction. *Rural and Remote Health*, 12, 2072.
- The Recife Political Declaration on Human Resources for Health: renewed commitments towards universal health coverage. (2013, November). World Health Organization.
- UNICEF, WHO, World Bank, UN-DESA Population Division (2013). Levels & Trends in Child Mortality Report 2013. Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation
- United Nations. (2013). MDG Country Progress Snapshot: Ghana.
- WHO. (2010). Increasing access to health workers in remote and rural areas through improved retention. Global policy recommendations
- Willis-Shattuck, M., Bidwell, P., Thomas, S., Wyness, L., Blaauw, D., & Ditlopo, P. (2008). Motivation and retention of health workers in developing countries: a systematic review. *BMC Health Services Research*, 8, 247. doi:10.1186/1472-6963-8-247

Appendix A. CHN Interview Guide

Informed Consent Form for Interviews and Discussions

My name is _____. I am working for a project called *Innovations*, Care Community Hub, a partnership between ILC Africa, Concern Worldwide, US, and JSI Research and Training, Inc. This project being implemented by Grameen Foundation in Ghana hopes to use mobile health technologies to overcome barriers to access and use of maternal, newborn, and child health services. This study being conducted in the following districts: Ningo prampram, Ada E & West in Greater Accra, and South Dayi and South Tongu in Volta region has been approved by the Ghana Ethics Review Committee (ID No. GHS-ERC: 07/09/13).

We want to thank you in advance for your participation in this study. If you choose to participate in this interview, you will be asked a series of questions that will help us learn more about your background and experience of working in maternal and newborn services. You are being asked to participate because of your role as a CHN or CHO in the Ghana Health Service.

Your participation in the study is entirely voluntary. Participating in the study may not benefit you directly, but it will help us learn about health worker motivation within maternal, newborn, and child health services in the region. If you choose not to participate in the study, there will be no penalty. Your employer will not be informed as to which people agreed to participate or not. Your medical care at any of the participating facilities will not be affected. You may withdraw your consent and discontinue participation at any time, and you have the right not to answer any question that you do not want to. There is no penalty for stopping at any time.

The interview/discussion should take approximately two hours. You can choose not to answer any question with no penalty. You may stop the interview at any time with no penalty. The information you share will be protected as confidential and will only be used as a part of group data for the purpose of the study. No attempts shall be made to identify individual respondents by name in any analysis, discussion, or publications resulting from this study. Information that could identify individual informants shall not be included in the reports or any published information. A summary report of our findings and a formal briefing session will be conducted after the study is completed.

If you have any concerns about your participation in this study, you may contact the following individuals/organizations

GHS ERC: Hannah Frimpong, Administrator, GHS Ethical Review Committee
024-323-5225 or 050-704-1223

JSI Research & Training Inc.: Soumya Alva +1 703 310 5260 (US)

ILC Africa: Jennifer Pierre 0202110135

Concern Worldwide, Ghana: Patricia Porekuu 0244 824964

If you agree to participate, you will be given a copy of this consent form for your records.

Do you agree to participate?

Yes [☐]

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any question I have asked has been answered to my satisfaction. I consent voluntarily to participate as a subject in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care/employment.

No [☐]

I choose not to participate in this study.

Participant signature _____ Date____/____/2014

Participant name (PRINT) _____ District _____

Care Community Hub: Interview Guide for Community Health Nurses

Instructions to facilitators: Before you begin, you must have the respondent complete a consent form.

The following questions are a guide. An in-depth interview should feel like a conversation (where the respondent does most of the talking). It is best to begin with easy, open ended questions so the respondent feels comfortable, then ask more specific questions. Try not to ask Yes/No questions or leading questions. You should probe and ask follow up questions where appropriate. You should try to cover the main topics as listed here.

Name of Facilitator: _____

Name of Note taker: _____

Date: _____

District: _____

Location of Interview: _____

Please circle one: _____ Man _____ Woman

Please circle where they work: CHPS _____ Health center

Please circle one: 20 – 30 years 30 – 40 years 40 – 50 years 50 – 60 years 60+ years

Years of experience as a CHN/CHO: _____

Interview Start Time:

Please introduce yourself to the respondent and thank him or her. After they have introduced themselves, turn on the audio recorder.

1. Let's begin by talking about why you became a CHN/CHO.
 - a. Probe for what inspired or influenced you to become a CHN/CHO?
 - b. Probe: why did you want to become a nurse?
 - c. Probe: did you always plan to become a nurse?
2. What are the aspects of your job that you like the most?
 - a. Probe for specific examples.
3. What are the aspects of your job that you do not like at all?
 - a. Probe for difficulties and challenges experienced
 - b. Probe for specific examples
4. What would make your job easier?
 - a. Probe for different types of items, equipment or infrastructure
 - b. Probe for different types of support or relationships
 - c. Probe for various tools or technologies
 - d. Probe for specific examples
5. What would inspire you to do your job better?
 - a. Probe: Is your job challenging enough? Rewarding enough?
 - b. Probe for what might be changeable
6. In 5 years, do you see yourself having a new title or new responsibilities? What type of job do you see yourself doing in the future?
 - a. Probe: Would you want to be a nurse at a different facility?
 - b. Probe: Would you want a different role at your same facility?
 - c. Do you need more education/diploma/certificate for the job you want?

7. How would you define good quality care for Maternal Newborn & Child Health (MNCH)?
 - a. Probe: What are the most important elements?
 - b. Probe: How would you judge the quality of care that is provided at your facility? Can you tell us a percentage from 0 – 100%?
 - c. Probe: How would you improve this quality? (Which aspects of this do you believe you can change and what are the challenges that you do not feel you have control over?)
 - d. Probe for confidence in clinical ability. Do you feel that you could provide better care if you had better supervision or support? Do you feel that you could provide better care if you had more refreshers or online training courses?
 - e. Probe: What takes the most time away from patient care? (For example: administration, reporting, research/surveys, trainings)
8. Can you describe in general how you work with your supervisors? Tell me about the different types of supervisors that you have.
 - a. Probe: Do you feel respected? Encouraged? What are examples of times when you felt this way?
 - b. Probe: What types of feedback would be helpful for you to do your job? Based on this, which of your supervisors do you wish spent more quality time with you?
9. How do you communicate with your supervisors? What are some examples of this?
 - a. Probe: How do you and your supervisors share information? And what methods do you use?
 - b. Probe: Do you communicate differently with your various supervisors?
 - c. Probe: What are some challenges you face when speaking with your supervisors?
 - d. Probe: Do you sometimes feel shy / feel free when discussing certain issues with your supervisors? What are some examples?
10. Are there additional ways your supervisors can give you support? What are some examples?
 - a. Probe: Which supervisors would you like more support from?
 - b. Probe: What kind of information do you wish your supervisors knew more about you and your work that they currently do not have or do not have time to observe?
 - c. Probe: If you were the supervisor, what would you do to support your nurses?
11. Tell me about the relationship that you have with the other nurses at your facility / CHPS compound.
 - a. Probe: How do nurses support one another? What are some examples?
 - b. Probe: How do nurses share information with one another? What are some examples?
 - c. Probe: Are nurses friendly to each other?
 - d. Probe: How could nurses respect and encourage each other? What are specific ways?
 - e. Probe: Do you communicate with nurses at other facilities in your district?
12. Tell me about the relationship that you have with (how you work with) your patients/clients?
 - a. Probe: Do you ever see your patients as a burden? If so, why?
 - b. Probe: What are some challenges you have in working with patients? And what are examples of these? (Possibilities: Time management? Language issues? Inability to pay? No health education? Rude?)
 - c. Probe: What would make you feel (more) respected by your patients?
13. How do you currently use technology in your work?
 - a. Probe for computers and phones
 - b. Probe: How does it help or hinder you in your practice? How do you use it to support your daily activities?
 - c. Probe for specific examples.

14. Are there ways that technology could help improve the relationship with your supervisors? With your peers? And with your patients?
- Probe for aspects of CCH: connectedness/networking, clinical updates, organizational (event planning), relaxing/staying well, recognition for achievement, and point of care tools.
 - Probe for specific examples.
15. If you could design an ideal phone/application to help you with your work, what would it look like?
- Probe for the 6 elements in CCH: connectedness/networking aspects (hangout), clinical updates, organizational (event planning), relaxing/staying well, recognition for achievement, point of care tools, etc.
 - Do you think a phone/application would improve your work?
 - Probe for specific reasons and examples.
16. Is there anything else that you think we should know related to the topics we talked about?

Thank the respondent for their time and ask if they have any questions for you. Turn off the recorder and save the consent form. It should not be linked to the particular interview.

End Time:

Summary Notes

For each interview and focus group, please complete the following prompts. The following is a template for you to collect your thoughts. You should provide as much detail for each of the topics listed below. It is preferred that interviewers/note takers draft this on the same day the interview/FGD is conducted.

- Describe the circumstances of the interview.
- Describe any relevant district or contextual information not captured in the interview.
- Summarize the interview by highlighting key points below.
- List topics that were confusing explaining why this was the case.
- List topics of particular relevance/interest/excitement to you and participants.
- List specific notes related directly to Community Care Hub (CCH) Intervention.
- List suggested topics which need further study explaining why you think this is the case.
- Describe any suggested programmatic implications.
- List any suggested codes/themes for analysis.
- Describe any additional information that you find relevant for the research team.

Appendix B. CHN Focus Group Discussion Guide

Informed Consent Form for Interviews and Discussions

My name is _____. I am working for a project called *Innovations*, Care Community Hub, a partnership between ILC Africa, Concern Worldwide, US, and JSI Research and Training, Inc. This project being implemented by Grameen Foundation in Ghana hopes to use mobile health technologies to overcome barriers to access and use of maternal, newborn, and child health services. This study being conducted in the following districts: Ningo prampram, Ada E & West in Greater Accra, and South Dayi and South Tongu in Volta region has been approved by the Ghana Ethics Review Committee (ID No. GHS-ERC: 07/09/13).

We want to thank you in advance for your participation in this study. If you choose to participate in this interview, you will be asked a series of questions that will help us learn more about your background and experience of working in maternal and newborn services. You are being asked to participate because of your role as a CHN or CHO in the Ghana Health Service.

Your participation in the study is entirely voluntary. Participating in the study may not benefit you directly, but it will help us learn about health worker motivation within maternal, newborn, and child health services in the region. If you choose not to participate in the study, there will be no penalty. Your employer will not be informed as to which people agreed to participate or not. Your medical care at any of the participating facilities will not be affected. You may withdraw your consent and discontinue participation at any time, and you have the right not to answer any question that you do not want to. There is no penalty for stopping at any time.

The interview/discussion should take approximately two hours. You can choose not to answer any question with no penalty. You may stop the interview at any time with no penalty. The information you share will be protected as confidential and will only be used as a part of group data for the purpose of the study. No attempts shall be made to identify individual respondents by name in any analysis, discussion, or publications resulting from this study. Information that could identify individual informants shall not be included in the reports or any published information. A summary report of our findings and a formal briefing session will be conducted after the study is completed.

If you have any concerns about your participation in this study, you may contact the following individuals/organizations

GHS ERC: Hannah Frimpong, Administrator, GHS Ethical Review Committee
024-323-5225 or 050-704-1223

JSI Research & Training Inc.: Soumya Alva +1 703 310 5260 (US)

ILC Africa: Jennifer Pierre 0202110135

Concern Worldwide, Ghana: Patricia Porekuu 0244 824964

If you agree to participate, you will be given a copy of this consent form for your records.

Do you agree to participate?

Yes []

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any question I have asked has been answered to my satisfaction. I consent voluntarily to participate as a subject in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care/employment.

No []

I choose not to participate in this study.

Participant signature _____ Date ____/____/2014

Participant name (PRINT) _____ District _____

Care Community Hub: Focus Group Guide for Community Health Nurses

Instructions to facilitators: Before you begin, you must complete a consent form FOR EACH PARTICIPANT.

The following questions are a guide. It is best to begin with easy, open ended questions so the respondents feel comfortable, then ask more specific questions. Try not to ask Yes/No questions or leading questions. You should probe and ask follow up questions where appropriate. You should try to cover the main topics as listed here. Your job as the facilitator is to try and keep the conversation going, make sure everyone has a chance to speak, keep respondents from speaking at the same time and overall trying to elicit where there is agreement and where there is variety in response without any judgment.

Name of Facilitator: _____

Name of Note taker: _____

Date: _____

District: _____

Location of Focus Group: _____

Number of Participants: _____

Interview Start Time:

Please introduce yourself to the respondents and thank them for their time. After they have introduced themselves, turn on the audio recorder.

Please fill in the following information for each participant.

No.	Male or Female	Age Range (for example 20 – 30 years)	Hometown District	Do they work at CHPS or Health Center?	Years of Experience
01					
02					
03					
04					
05					
06					
07					
08					

1. Let's begin by talking about how you became CHNs and what influenced you to become CHNs?
 - a. Probe for internal vs external motivation, feelings of choice about profession, regret or satisfaction
 - b. Listen for differences between ages, between men and women etc.
2. What are the aspects of your job that you like the most?
 - a. Probe for specific examples.
3. What are the aspects of your job that you do not like at all or what are the challenges?
 - a. Probe for specific examples.
4. What would make your job easier?
 - a. Probe for items and infrastructure
 - b. Probe for types of support (personal / professional)
 - c. Probe for things that might be changeable
 - d. Probe for specific examples
5. What would inspire you to do your job better?
 - a. Probe: is your job challenging enough? Rewarding enough?
 - b. Listen for both INTERNAL and EXTERNAL motivations
 - c. Probe for specific examples.
6. Can you describe in general how you work with your supervisors? Tell me about the different types of supervisors that you have.
 - a. Probe: Do you feel respected? Encouraged? What are examples of times when you felt this way?
 - b. Probe: What types of feedback would be helpful for you to do your job? Based on this, which of your supervisors do you wish spent more quality time with you?
7. How do you communicate with your supervisors? What are some examples of this?
 - a. Probe: How do you and your supervisors share information? And what methods do you use?
 - b. Probe: Do you communicate differently with your various supervisors?
 - c. Probe: What are some challenges you face when speaking with your supervisors?
 - d. Probe: Do you sometimes feel shy / feel free when discussing certain issues with your supervisors?
8. Are there additional ways your supervisor can give you support? What are some examples?
 - a. Probe: Which supervisors would you like more support from?
 - b. Probe: What kind of information do you wish your supervisors knew more about you and your work that they currently do not have or do not have time to observe?
 - c. Probe: If you were the supervisor, what would you do to support your nurses?
9. How do you work with other nurses? (ONLY ask this if the nurses in the group are from different facilities.)
 - a. Note differences between different facilities. Probe: What makes the dynamic different? Are they friendly in some places and not others?
 - b. Probe: How could nurses work together better? What could help make the environment more supportive?
 - c. Probe for specific examples

10. Tell me about the relationship that you have with (how you work with) your patients/clients?
 - a. Probe: Do you ever see your patients as a burden? If so, why?
 - b. What are some challenges you have in working with patients? And what are examples of these? (Possibilities: Time management? Language issues? Inability to pay? No health education? Rude?)
 - c. Probe: What would make you feel (more) respected by your patients?
11. How do you currently use technology in your work?
 - a. Probe for computers and phones
 - b. Probe: How does it help or hinder you in your practice? How do you use it to support your daily activities?
 - c. Probe for specific examples.
12. Are there ways that technology could help improve the relationship with your supervisors? With your peers? And with your patients?
 - a. Probe for aspects of CCH: connectedness/networking, clinical updates, organizational (event planning), relaxing/staying well, recognition for achievement, and point of care tools.
 - b. Probe for specific examples.
13. If you could design an ideal phone/application to help you with your work, what would it look like?
 - a. Probe for the 6 elements in CCH: connectedness/networking aspects (hangout), clinical updates, organizational (event planning), relaxing/staying well, recognition for achievement, point of care tools, etc.
 - b. Do you think a phone/application would improve your work?
 - c. Probe for specific reasons and examples.
14. Is there anything else that you think we should know related to the topics we talked about?

Thank the respondents for their time and ask if they have any questions for you. Turn off the recorder and save the consent forms. Offer the respondents snacks or compensation, as has been agreed upon. When possible, write down your impressions as soon as possible after the group so as not to forget anything.

End Time:

Summary Notes

For each interview and focus group, please complete the following prompts. The following is a template for you to collect your thoughts. You should provide as much detail for each of the topics listed below. It is preferred that interviewers/note takers draft this on the same day the interview/FGD is conducted.

1. Describe the circumstances of the interview.
2. Describe any relevant district or contextual information not captured in the interview.
3. Summarize the interview by highlighting key points below.
4. List topics where there was agreement during the interview.
5. List topics where there was disagreement during the interview.
6. List topics that were confusing.
7. List topics of particular relevance/interest/excitement to you and the participants.
8. List specific notes related directly to Community Care Hub (CCH) Intervention.
9. List suggested topics which need further study explaining why you think this is the case.
10. Describe any suggested programmatic implications.
11. List any suggested codes/themes for analysis.
12. Describe any additional information that you find relevant for the research team.

Appendix C. Supervisor Interview Guide

Informed Consent Form for Interviews and Discussions

My name is _____. I am working for a project called *Innovations*, Care Community Hub, a partnership between ILC Africa, Concern Worldwide, US, and JSI Research and Training, Inc. This project being implemented by Grameen Foundation in Ghana hopes to use mobile health technologies to overcome barriers to access and use of maternal, newborn, and child health services. This study being conducted in the following districts: Ningo prampram, Ada E & West in Greater Accra, and South Dayi and South Tongu in Volta region has been approved by the Ghana Ethics Review Committee (ID No. GHS-ERC: 07/09/13).

We want to thank you in advance for your participation in this study. If you choose to participate in this interview, you will be asked a series of questions that will help us learn more about your background and experience of working in maternal and newborn services. You are being asked to participate because of your role as a CHN or CHO in the Ghana Health Service.

Your participation in the study is entirely voluntary. Participating in the study may not benefit you directly, but it will help us learn about health worker motivation within maternal, newborn, and child health services in the region. If you choose not to participate in the study, there will be no penalty. Your employer will not be informed as to which people agreed to participate or not. Your medical care at any of the participating facilities will not be affected. You may withdraw your consent and discontinue participation at any time, and you have the right not to answer any question that you do not want to. There is no penalty for stopping at any time.

The interview/discussion should take approximately two hours. You can choose not to answer any question with no penalty. You may stop the interview at any time with no penalty. The information you share will be protected as confidential and will only be used as a part of group data for the purpose of the study. No attempts shall be made to identify individual respondents by name in any analysis, discussion, or publications resulting from this study. Information that could identify individual informants shall not be included in the reports or any published information. A summary report of our findings and a formal briefing session will be conducted after the study is completed.

If you have any concerns about your participation in this study, you may contact the following individuals/organizations

GHS ERC: Hannah Frimpong, Administrator, GHS Ethical Review Committee
024-323-5225 or 050-704-1223

JSI Research & Training Inc.: Soumya Alva +1 703 310 5260 (US)
ILC Africa: Jennifer Pierre 0202110135
Concern Worldwide, Ghana: Patricia Porekuu 0244 824964

If you agree to participate, you will be given a copy of this consent form for your records.

Do you agree to participate?

Yes []

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any question I have asked has been answered to my satisfaction. I consent voluntarily to participate as a subject in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care/employment.

No []

I choose not to participate in this study.

Participant signature _____ Date ____/____/2014

Participant name (PRINT) _____ District _____

Care Community Hub: Interview Guide for Supervisors

Instructions to facilitators: Before you begin, you must have the respondent complete a consent form.

The following questions are a guide. An in-depth interview should feel like a conversation (where the respondent does most of the talking). It is best to begin with easy, open ended questions so the respondent feels comfortable, then ask more specific questions. Try not to ask Yes/No questions or leading questions. You should probe and ask follow up questions where appropriate. You should try to cover the main topics as listed here.

Name of Facilitator: _____

Name of Note taker: _____

Date: _____

District: _____

Location of Interview: _____

Please circle one: _____ Man _____ Woman

Please circle where they work: CHPS _____ Health center _____

Please circle one: _____ 20 – 30 years _____ 30 – 40 years _____ 40 – 50 years _____ 50 – 60 years _____ 60+ years

Years of experience as a CHN/CHO: _____

Years of experience as a supervisor: _____

Interview Start Time:

Please introduce yourself to the respondent and thank him or her. After they have introduced themselves, turn on the audio recorder.

1. Let's begin by talking about why or how you became a supervisor.
 - a. Probe for what inspired or influenced you to become a CHN/CHO?
 - b. If you were a nurse first, what was it like to transition from nurse to supervisor?
2. What are the aspects of your job that you like the most?
 - a. Probe for specific examples.
3. What are the challenges of your job?
 - a. Probe on possible activities: supervising nurses, organizing schedules, conducting outreach, pressure of meeting targets, difficulty of collecting/collating/reporting on data, not knowing how our facility is doing in relation to others, time management, many trainings or events, isolation or lack of support, cannot predict work load, balancing supervision vs clinical practice, etc.
 - b. Probe for specific examples.
4. What would make your job easier?
 - a. Probe for different types of Items, equipment, infrastructure
 - b. Probe for different types of support or relationships
 - c. Probe for various tools, resources or technologies
 - d. Probe for specific examples.
5. What are your professional goals?
 - a. Probe: Is your job challenging enough? Rewarding enough?
 - b. Probe for aspects of the job that might be changeable

6. In 5 years, do you see yourself having a new title or new responsibilities? What type of job do you see yourself doing in the future?
 - a. Probe: Would you want to be a supervisor at a different facility?
 - b. Probe: Would you want a different role at your current facility?
 - c. Probe: do you need more education/diploma/certificate for the job that you want?
7. How would you define good quality care for Maternal Newborn & Child Health (MNCH)?
 - a. Probe: What are the most important elements?
 - b. Probe: How would you judge the quality of care that is provided at your facility or in your district? Can you tell us a percentage from 0 – 100%?
 - c. Probe: How would you improve this quality? (Which aspects of this do you believe you can change and what are the challenges that you do not feel you have control over?)
 - d. Probe for confidence in the clinical ability of nurses. Do you feel that the nurses you supervise could provide better care if they had better supervision or support? Do you feel that the nurses you supervise could provide better care if they had more refreshers or online training courses?
 - e. Probe: What takes the most time away from patient care? (For example: administration, reporting, research/surveys, trainings) and how do you handle this?
 - f. If district level, probe for which facilities are experiencing challenges with providing quality MNCH care and why?
8. How do you feel about the non-clinical / organizational aspects of your facility?
 - a. Probe: do you feel confident in your supervision or management ability? If not, what would make you feel more confident? What would help you be a better manager?
 - b. Probe for specific examples.
9. Tell me about how you work with the nurses that you supervise? What are some examples of this?
 - a. Probe: How do you communicate with them? Or how do you share information with them?
 - b. Probe: How do you give feedback? Is this effective? How do the nurses take the feedback? Is it possible to improve care / change behavior?
 - c. Probe: What aspects of the nurses' work would you want to monitor better?
 - d. Probe: Do you feel respected? Is it friendly/collegial?
 - e. Probe: What could help you work better with the nurses?
 - f. Probe: If resources and time were not an issue, how would you spend more time with CHNs? What do you wish you could teach them/mentor them on?
10. How do you currently use technology in your work?
 - a. Probe for computers, phones and electronic medical records?
 - b. Probe: How does it help or hinder you in your practice? How do you use it to support your daily activities?
 - c. Probe for specific examples.
11. Are there ways that technology could help improve relationships with nurses?
 - a. Probe for aspects of the Community Care Hub (CCH) application: connectedness/networking, clinical updates, organizational (event planning), relaxing/staying well, recognition for achievement, and point of care tools.
 - b. Probe for specific examples.
12. If you could design an ideal phone/application to help you with your work, what would it look like?
 - a. Probe for the 6 elements in CCH: connectedness/networking aspects (hangout), clinical updates, organizational (event planning), relaxing/staying well, recognition for achievement, point of care tools, etc.

- b. Do you think a phone/application would improve your work?
- c. Probe for specific reasons and examples.

13. Is there anything else that you think we should know related to the topics we talked about?

Thank the respondent for his or her time and ask if he or she has questions for you. Turn off the recorder and save the consent form. It should not be linked to the particular interview.

End Time:

Summary Notes

For each interview and focus group, please complete the following prompts. The following is a template for you to collect your thoughts. You should provide as much detail for each of the topics listed below. It is preferred that interviewers/note takers draft this on the same day the interview/FGD is conducted.

1. Describe the circumstances of the interview.
2. Describe any relevant district or contextual information not captured in the interview.
3. Summarize the interview by highlighting key points below.
4. List topics that were confusing.
5. List topics of particular relevance/interest/excitement to you and participants.
6. List specific notes related directly to Community Care Hub (CCH) Intervention.
7. List suggested topics which need further study explaining why you think this is the case.
8. Describe any suggested programmatic implications.
9. List any suggested codes/themes for analysis.
10. Describe any additional information that you find relevant for the research team.

Appendix D. Job Satisfaction Survey

Care Community Hub: Job Satisfaction Survey Consent Form

This survey is for a project called Care Community Hub, a project under the *Innovations for Maternal, Newborn & Child Health* initiative, a partnership between Concern Worldwide, US and JSI Research and Training, Inc. This project being implemented by Grameen Foundation in Ghana hopes to use mobile health technologies to overcome barriers to access and use of maternal, newborn, and child health services. This research study being conducted in the following districts: Ningo prampram, Ada E & West in Greater Accra, and South Dayi and South Tongu in Volta region has been approved by the Ghana Ethics Review Committee (ID No. GHS-ERC: 07/09/13).

We want to thank you in advance for your participation in this study. If you choose to participate in this survey, you will go through a series of questions that will help us learn more about your background, the nature of your job, and experience of working in maternal and newborn services. You are being asked to participate because of your role as a Community Health Nurse/Officer (CHN/CHO) in the Ghana Health Service.

Your participation in the study is entirely voluntary. Participating in the study may not benefit you directly, but it will help us learn about the nature of the job of health workers within maternal, newborn, and child health services in the region. If you choose not to participate in the study, there will be no penalty. Your employer will not be informed as to which people agreed to participate or not. Your answers will not be shared with your colleagues or supervisors. Your medical care at any of the participating facilities will not be affected. You may withdraw your consent and discontinue participation at any time, and you have the right not to answer any question that you do not want to. There is no penalty for stopping at any time.

The survey should take approximately 20 minutes. You can skip any questions you choose not to answer and there will be no penalty. You may stop the survey at any time with no penalty. The information you share will be protected as confidential and will only be used as a part of group data for the purpose of the study. No attempts shall be made to identify individual respondents by name in any analysis, discussion, or publications resulting from this study. Information that could identify individual informants shall not be included in the reports or any published information. A summary report of our findings and a formal briefing session will be conducted after the study is completed.

If you have any concerns about your participation in this study, you may contact the following individuals/organizations

GHS ERC: 0302 681109

Grameen Foundation: 0540 107502

JSI Research & Training Inc. +1 703 310 5260 (US)

Concern Worldwide: 0244 824964

If you agree to participate, you will be given a copy of this consent form for your records.

Do you agree to participate?

Yes [☐] I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any question I have asked has been answered to my satisfaction. I consent voluntarily to participate as a subject in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care/employment.

No [☐] I choose not to participate in this study.

Participant signature _____ Date ____/____/2014

Participant name (PRINT) _____ District _____

CARE COMMUNITY HUB: JOB SATISFACTION SURVEY

Please enter your assigned number here: _____

The following survey will help us understand the nature of the job of Community health nurses/ Community health officers.

PLEASE NOTE: For each question, please only select **ONLY ONE** answer.

Please answer a few questions about yourself:

1. Sex
 - a. Female
 - b. Male
2. Age
 - a. 18-24 years old
 - b. 25-30 years old
 - c. 31-39 years old
 - d. 40-49 years old
 - e. 50 years or older
3. Marital status
 - a. Married
 - b. Single
 - c. Divorced
 - d. Living with someone
 - e. Widowed
4. Does any member of your family, including children, live with you?
 - a. Yes
 - b. No
5. Is your hometown in the same district you are working in now?
 - a. Yes
 - b. No
6. Is housing provided for free with your job?
 - a. Yes
 - b. No
7. Where do you work as a CHN?
 - a. CHPS zone
 - b. CHPS compound/facility
 - c. Health center/polyclinic

- d. Hospital
- e. DHMT
- f. Other specify: _____

8. Are you an in-charge?

- a. Yes
- b. No

Please answer a few questions about things that you like or do not like about your job:

9. How would you describe yourself?

[ANSWER ONLY ONE]

- a. I am a CHN because I need a paycheck to support myself or my family
- b. I believe being a nurse is my mission but I feel very frustrated with the health system
- c. I believe being a nurse is my mission and I do my best to find solutions to do my job well
- d. None of the above

10. How would you describe your skills?

[ANSWER ONLY ONE]

- a. I am not skilled enough and I wish I could improve
- b. I am confident in my skills in basic care, but I need to strengthen my skills for complicated cases
- c. I am confident in all of my clinical skills
- d. None of the above

11. How satisfied are you with your job? I am....

[ANSWER ONLY ONE]

- a. Very satisfied
- b. Satisfied
- c. Somewhat satisfied
- d. Not satisfied

12. What I value most in my job as a CHN is:

[ANSWER ONLY ONE]

- a. Finding useful and creative solutions for my clients' problems
- b. Learning new skills in my job
- c. Being part of a strong community of CHNs
- d. Earning respect and support from my supervisors
- e. None of the above

13. What I struggle most with my job as a CHN is:

[ANSWER ONLY ONE]

- a. Not being paid enough
- b. Not receiving enough support/guidance from my supervisors
- c. Poor living conditions
- d. Not having good opportunities to advance my career
- e. Not having enough resources to do my job (transport, commodities, phones for example)
- f. Poor mobile coverage/bad network to reach the people I need
- g. Being isolated or having difficulty finding friends or partners
- h. None of the above

14. Whose respect is MOST IMPORTANT to you in your job as a CHN?

[ANSWER ONLY ONE]

- a. Clients/patients
- b. Supervisors
- c. Other CHNs
- d. Community members
- e. Nobody
- f. None of the above

15. Overall, I feel respected by my clients/patients.

[MARK ONLY ONE]

☐

Strongly
agree

☐

Agree

☐

Neutral

☐

Disagree

☐

Strongly
disagree

16. What I enjoy MOST from my interactions with clients is...

[ANSWER ONLY ONE]

- a. Feeling proud that I am able to serve the community
- b. Listening to their problems, and finding workable solutions for them
- c. Figuring out what their medical issues are, and knowing how to treat them
- d. Feeling respected or admired by clients

17. What I find MOST difficult from my interactions with clients is...

[ANSWER ONLY ONE]

- a. When they argue or disagree with my recommendations
- b. I feel I don't have the right resources to help them
- c. I don't have the knowledge on what to do
- d. I have no challenges in working with the community

18. Overall, I feel respected by other CHNs in my district.

[MARK ONLY ONE]

☐

Strongly
agree

☐

Agree

☐

Neutral

☐

Disagree

☐

Strongly
disagree

19. The most important thing I wish I got from other CHNs:

[ANSWER ONLY ONE]

- a. Respect for what I do
- b. Answers to my clinical questions
- c. Encouragement when I do things well
- d. Support when I make a mistake
- e. None of the above

The next set of questions is about your work relationship with your in-charge.

<p>20a. I feel that my in-charge helps me with the challenges I face in my job. [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree f. Not applicable because I am an in-charge 	<p>20b. My in-charge discusses my performance with me approximately ... [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Daily b. Weekly c. Monthly d. Quarterly e. Less than quarterly f. Never g. Not applicable because I am an in-charge
<p>20c. Most of the time, the feedback I receive from my in-charge is about: [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Meeting clinical targets b. How I handle specific cases/patients c. Managing my time d. My attitude towards work e. Punctuality f. Not applicable because I am an in-charge g. None of the above 	<p>20d. The most important thing I wish my in-charge did for me is: [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Give respect for what I do b. Give more input on clinical targets c. Feedback on things I need to improve on d. Encouragement when I do things well e. Not applicable because I am an in-charge f. None of the above

The next set of questions is about your work relationship with the sub-district PHN/RCH in-charge.

<p>21a. I feel that my sub-district PHN/RCH in-charge helps me with the challenges I face in my job. [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree f. Not applicable because I am the sub-district RCH in-charge g. Not applicable because there is no sub-district PHN/RCH in-charge 	<p>21b. My sub-district PHN/RCH in-charge discusses my performance with me approximately ... [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Daily b. Weekly c. Monthly d. Quarterly e. Less than quarterly f. Never g. Not applicable because I am the sub-district RCH in-charge h. Not applicable because there is no sub-district PHN/RCH in-charge
<p>21c. Most of the time, the feedback I receive from my PHN/RCH in-charge is about: [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Meeting clinical targets b. How I handle specific cases/patients c. Managing my time d. My attitude towards work e. Punctuality f. Not applicable because I am the sub-district RCH in-charge g. Not applicable because there is no sub-district PHN/RCH in-charge h. None of the above 	<p>21d. The most important thing I wish my PHN/RCH in-charge did for me is: [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Give respect for what I do b. Give more input on clinical targets c. Feedback on things I need to improve on d. Encouragement when I do things well e. Not applicable because I am the sub-district RCH in-charge f. Not applicable because there is no sub-district PHN/RCH in-charge g. None of the above

The next set of questions is about your work relationship with the sub-district head.

<p>22a. I feel that my sub-district head helps me with the challenges I face in my job. [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree f. Not applicable because I am the sub-district head g. Not applicable because my in-charge is the sub district head 	<p>22b. My sub-district head discusses my performance with me approximately ... [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Daily b. Weekly c. Monthly d. Quarterly e. Less than quarterly f. Never g. Not applicable because I am the sub-district head h. Not applicable because my in-charge is the sub district head
<p>22c. Most of the time, the feedback I receive from my sub-district head is about: [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Meeting clinical targets b. How I handle specific cases/patients c. Managing my time d. My attitude towards work e. Punctuality f. Not applicable because I am the sub-district head g. Not applicable because my in-charge is the sub district head h. None of the above 	<p>22d. The most important thing I wish my sub-district head did for me is: [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Give respect for what I do b. Give more input on clinical targets c. Feedback on things I need to improve on d. Encouragement when I do things well e. Not applicable because I am the sub-district head f. Not applicable because my in-charge is the sub district head g. None of the above

The next set of questions is about your work relationship with the **District PHN**.

<p>23a. I feel that the District PHN helps me with the challenges I face in my job. [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree 	<p>23b. The District PHN discusses my performance with me approximately ... [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Daily b. Weekly c. Monthly d. Quarterly e. Less than quarterly f. Never
<p>23c. Most of the time, the feedback I receive from the District PHN is about: [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Meeting clinical targets b. How I handle specific cases/patients c. Managing my time d. My attitude towards work e. Punctuality f. None of the above 	<p>23d. The most important thing I wish the District PHN did for me is: [ANSWER ONLY ONE]</p> <ul style="list-style-type: none"> a. Give respect for what I do b. Give more input on clinical targets c. Feedback on things I need to improve on d. Encouragement when I do things well e. None of the above

Please answer a few questions about your feelings about your job and your ability to perform:

24. I know where to get help when I am overwhelmed with my job.

[MARK ONLY ONE]



Strongly agree



Agree



Neutral



Disagree



Strongly disagree

25. When I experience a difficult situation or problem at work, I go **MOST FREQUENTLY** to my _____ for support:

[ANSWER ONLY ONE]

- a. CHPS In-charge
- b. Sub-district level staff
- c. District PHN
- d. Other CHNs
- e. Family
- f. Friends
- g. I don't have anyone to go to
- h. I don't feel I need to go to anyone
- i. Other: _____

26. If my supervisor gives me feedback on something I have not done well, my first reaction is to:

[ANSWER ONLY ONE]

- a. Be calm and listen to what they have to say because it will help me do my job better
- b. Feel upset because I am trying hard but I am constrained and unable to do my job well
- c. Feel angry because I think I am right
- d. I am not bothered as long as I can keep my job

27. In relation to phones, my work would be easier if:

[ANSWER ONLY ONE]

- a. I had access to a mobile phone because I don't have a phone
- b. I had a personal phone instead of a facility phone
- c. I had a smart phone rather than my current basic/feature phone
- d. I am satisfied with the phone that I have now

28. In terms of data reporting, my biggest challenge is:

[ANSWER ONLY ONE]

- a. The time it takes to generate reports
- b. The time it takes to record data in multiple registers
- c. The time it takes to upload data on a mobile phone
- d. The time it takes to report in a register and upload data

29. Overall, I think working as a CHN is a desirable job for someone with my skills.

[MARK ONLY ONE]

☐

Strongly agree

☐

Agree

☐

Neutral

☐

Disagree

☐

Strongly disagree

30. If it were up to me, I would continue to work for this health facility for quite some time.

[MARK ONLY ONE]

☐

Strongly agree

☐

Agree

☐

Neutral

☐

Disagree

☐

Strongly disagree

31. To be happy working as a CHN, I most need/want:

[ANSWER ONLY ONE]

- a. More training
- b. More money
- c. Better supervision
- d. Respect from supervisors
- e. Respect from other CHNs
- f. Nothing. I have everything.

32. In 5 years, I see myself as a...

[ANSWER ONLY ONE]

- a. CHN/CHO

- b. Midwife
- c. Public health nurse
- d. Other: _____

33. In order to achieve my future goals, the most important thing I would need is:

[ANSWER ONLY ONE]

- a. In-service training opportunities
- b. Training materials (books or online) to strengthen my skillsets
- c. A good working relationship with supervisors who can advise you in achieving my goals
- d. Nothing specific. I don't need anything
- e. I am not sure and I feel stuck in my situation

34. I am satisfied with my pay compared to what I think people make in similar jobs in other organizations.

[MARK ONLY ONE]

- | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strongly agree | Agree | Neutral | Disagree | Strongly disagree |

35. I feel that I am paid fairly for the amount of work that I do.

[MARK ONLY ONE]

- | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strongly agree | Agree | Neutral | Disagree | Strongly disagree |

36. I feel that I can plan my day well to meet all my targets.

[MARK ONLY ONE]

- | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strongly agree | Agree | Neutral | Disagree | Strongly disagree |

37. I actively look for opportunities to strengthen my skills so I can be better at my job.

[MARK ONLY ONE]

- | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strongly agree | Agree | Neutral | Disagree | Strongly disagree |

38. I easily have access to resources such as continuing education and professional meetings that will help build my skills for this job.

[MARK ONLY ONE]

- | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strongly agree | Agree | Neutral | Disagree | Strongly disagree |

39. Most of the time, I am overwhelmed and do not know how to handle an excessive workload.

[MARK ONLY ONE]

☐

Strongly
agree

☐

Agree

☐

Neutral

☐

Disagree

☐

Strongly
disagree

Appendix E. Knowledge Assessment

Care Community Hub: Provider Knowledge Assessment

This survey is for a project called Care Community Hub, a project under the Innovations for Maternal, Newborn & Child Health initiative, a partnership between Concern Worldwide, US and JSI Research and Training, Inc. This project being implemented by Grameen Foundation in Ghana hopes to use mobile health technologies to overcome barriers to access and use of maternal, newborn, and child health services. This research study being conducted in the following districts: Ningo prampram, Ada E & West in Greater Accra, and South Dayi and South Tongu in Volta region has been approved by the Ghana Ethics Review Committee (ID No. GHS-ERC: 07/09/13).

We want to thank you in advance for your participation in this study. If you choose to participate in this survey, you will go through a series of questions that will help us learn more about your skills and knowledge in key maternal and newborn topics. You are being asked to participate because of your role as a CHN or CHO in the Ghana Health Service.

Your participation in the study is entirely voluntary. Participating in the study may not benefit you directly, but it will help us learn about the nature of the job of health workers within maternal, newborn, and child health services in the region. If you choose not to participate in the study, there will be no penalty. Your employer will not be informed as to which people agreed to participate or not. Your medical care at any of the participating facilities will not be affected. You may withdraw your consent and discontinue participation at any time, and you have the right not to answer any question that you do not want to. There is no penalty for stopping at any time.

The survey should take approximately **30** minutes. It is NOT an examination. You can skip any questions you choose not to answer with no penalty. You may stop the survey at any time with no penalty. The information you share will be protected as confidential and will only be used as a part of group data for the purpose of the study. No attempts shall be made to identify individual respondents by name in any analysis, discussion, or publications resulting from this study. Information that could identify individual informants shall not be included in the reports or any published information. A summary report of our findings and a formal briefing session will be conducted after the study is completed.

If you have any concerns about your participation in this study, you may contact the the following individuals/organizations

GHS ERC: 0302 681109

Grameen Foundation: 0540 107502

JSI Research & Training Inc. +1 703 310 5260 (US)

Concern Worldwide: 0244 824964

If you agree to participate, you will be given a copy of this consent form for your records.

Do you agree to participate?

Yes [☐] I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any question I have asked has been answered to my satisfaction. I consent voluntarily to participate as a subject in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care/employment.

No [☐] I choose not to participate in this study.

Participant signature _____ Date ____/____/2014

Participant name (PRINT) _____ District _____

CARE COMMUNITY HUB: PROVIDER KNOWLEDGE ASSESSMENT

Please enter your assigned number here: _____

ABOUT: This assessment includes questions that address your knowledge and skills on key maternal, newborn, and child health topics.

PLEASE NOTE: For each question, please only select **ONLY ONE** answer.

NOTES TO RESEARCHER: **Please administer satisfaction survey first**

Content areas - ANC, Postnatal Care, Infant care, Immunization, Family Planning

1.	What is the minimum number of recommended ANC visits?	<ul style="list-style-type: none"> 1. 1 2. 2 3. 3 4. 4
2.	Which is NOT a necessary aspect of ANC visit?	<ul style="list-style-type: none"> 1. Growth monitoring 2. Birth preparedness 3. Notifying the family 4. Optional HIV testing
3.	Which is NOT a danger sign during pregnancy?	<ul style="list-style-type: none"> 1. Swollen feet 2. Vaginal bleeding 3. Anemia 4. Weight gain
4.	Which is NOT high-risk pregnancy?	<ul style="list-style-type: none"> 1. Maternal anemia 2. Twin pregnancy 3. A previous C-section 4. A second pregnancy
5.	Which of these is a major cause of maternal death (in the first month after delivery)?	<ul style="list-style-type: none"> 1. Uterine cysts 2. Postpartum hemorrhage 3. Cervical cancer 4. Gestational diabetes
6.	Which is NOT a major cause of death during the first month of life (neonatal period)?	<ul style="list-style-type: none"> 1. HIV/AIDS 2. Preterm birth 3. Neonatal sepsis 4. Birth asphyxia

7.	Babies born at less than _____g require special attention.	<ol style="list-style-type: none"> 1. 2500 2. 3000 3. 3500 4. 4000
8.	Which of these is NOT a good practice for newborn care?	<ol style="list-style-type: none"> 1. Thermoregulation 2. Delayed bathing 3. Cold baths 4. Immediate breastfeeding
9.	What is the minimum number of hours that a mother and newborn should be kept in a health facility after birth?*	<ol style="list-style-type: none"> 1. 6 2. 12 3. 18 4. 24
10.	When should parents be encouraged to bring the newborn for postnatal care if the baby is born at home?*	<ol style="list-style-type: none"> 1. Within 24 hours 2. Within one week 3. Within one month 4. Within 6 weeks
11.	Which of these is NOT a sign of neonatal sepsis?	<ol style="list-style-type: none"> 1. High temperature 2. Seizures 3. Red eyes 4. Swollen belly
12.	The pentavalent vaccine (5 in 1) contains vaccines against: Diphtheria, Pertussis, Tetanus, Hepatitis B and ____.**	<ol style="list-style-type: none"> 1. Rotavirus 2. Haemophilus influenza A 3. Haemophilus influenza B 4. Polio
13.	The pentavalent vaccine (5 in 1) requires three doses given when?***	<ol style="list-style-type: none"> 1. 3, 6, 8 weeks 2. 3, 8, 12 weeks 3. 6, 10, 14 weeks 4. 6, 12, 18 weeks
14.	At birth, a baby should be given which vaccines?***	<ol style="list-style-type: none"> 1. Measles only 2. Polio 0 only 3. Polio 0 and BCG 4. Polio 0 and MMR
15.	Which vaccine should all children be given at 9 months?***	<ol style="list-style-type: none"> 1. HPV 2. Shingles 3. Yellow fever 4. Japanese Encephalitis

16.	When should a baby be given the measles vaccine(s)?**	<ol style="list-style-type: none"> 1. 3 months only 2. 3 and 6 months 3. 9 months only 4. 9 and 18 months
17.	Which of these are ways to prevent diarrhea in an infant?	<ol style="list-style-type: none"> 1. Frequent hand washing 2. Frequent feeding of juice 3. Avoid breastfeeding at night 4. Avoid breastfeeding until after 1 week of life
18.	What are the ingredients of ORS?	<ol style="list-style-type: none"> 1. Sugar, salt, coffee 2. Sugar, salt, water 3. Salt, water, maize 4. Salt, maize, yam
19.	What is the defining symptom of kwashiorkor?	<ol style="list-style-type: none"> 1. Pedal oedema 2. Petechial rash 3. Deflated abdomen 4. Hydrocephalus
20.	Marasmus is a deficiency of which nutrients?	<ol style="list-style-type: none"> 1. Protein only 2. Protein and glucose 3. Carbohydrates only 4. Nearly all nutrients
21.	Which is NOT a cause of a child being underweight?	<ol style="list-style-type: none"> 1. Poor diet 2. Worms 3. Anemia 4. Diabetes
22.	A child who is too short for their age is showing symptoms of ____ malnutrition. A child whose weight is too low for their height is showing symptoms of ____ malnutrition.	<ol style="list-style-type: none"> 1. Chronic; acute 2. Acute; chronic 3. Big; small 4. Small; big
23.	Which of these are symptoms of malaria in children?	<ol style="list-style-type: none"> 1. Fever 2. Chills 3. Vomiting 4. All of the above
24.	A child with anuria requires immediate hospitalization for which condition?	<ol style="list-style-type: none"> 1. Epilepsy 2. Renal affliction 3. Acidotic respiration 4. Pallor

25.	Which is not a symptom of malaria in pregnancy?	<ol style="list-style-type: none"> 1. Fatigue 2. Muscular pain 3. Bacterial vaginosis 4. Cephalalgia
26.	Women at risk of malaria during the 2 nd trimester of pregnancy should be given:	<ol style="list-style-type: none"> 1. Oral quinine 500mg 2. Sulfadoxine 500mg + Pyrimethamine 25 mg 3. Sulfadoxine 25mg + Pyrimethamine 25 mg 4. Chloroquine 500mg
27.	In the 1 st trimester of pregnancy, a woman with uncomplicated malaria may be given:	<ol style="list-style-type: none"> 1. Oral quinine 600 mg, 7 days 2. Oral quinine 600 mg, 10 days 3. Amodiaquine 10 mg + Lumefantrine 120 mg, 7 days 4. Lumefantrine 120 mg only, 10 days
28.	What is the definition and recommended duration of exclusive breastfeeding?	<ol style="list-style-type: none"> 1. Only breast milk for 6 months 2. Only breast milk and water for 6 months 3. Only breast milk, water and cereal for 6 months 4. Only breast milk for 3 months
29.	When is it appropriate to begin complementary feeding?	<ol style="list-style-type: none"> 1. One month 2. Two months 3. Three months 4. Six months
30.	All of the following can reduce the risk of HIV between mother and baby EXCEPT?	<ol style="list-style-type: none"> 1. Subsequent testing for those initially negative 2. Antenatal ARV prophylaxis, as eligible 3. Safe delivery techniques 4. Complete isolation during delivery
31.	An HIV-infected mother should only feed the baby formula if ____.	<ol style="list-style-type: none"> 1. Safe formula is available, affordable and acceptable 2. The formula comes from the hospital 3. Her family already knows her HIV status 4. Formula is available, even if it is expensive.
32.	What is a benefit of family planning?	<ol style="list-style-type: none"> 1. Allows families to decide how many children to have 2. Allows for healthy spacing of children 3. Reduces adolescent and grand multipara pregnancies 4. All of the above

33.	Which of these is a permanent method of sterilization?	<ol style="list-style-type: none"> 1. Injectable progestogen 2. Tubal ligation 3. Implant (norplant) 4. Intrauterine devices
34.	Which of the following is NOT a modern/effective family planning method?	<ol style="list-style-type: none"> 1. Oral pills (estrogen only) 2. Oral pills (estrogen + progestogen) 3. Coitus interruptus 4. Intrauterine devices
35.	For healthiest spacing, a woman should wait ____ after the birth of a child to get pregnant again.	<ol style="list-style-type: none"> 1. 6 months 2. 9 months 3. 12 months 4. 18 months
36.	What is the definition of dual protection?	<ol style="list-style-type: none"> 1. Protects against pregnancy for both men and women 2. Protects against both HIV and STIs 3. Protects against both pregnancy and STIs 4. Protects against twin pregnancies
37.	Which method of family planning is NOT recommended for women with HIV?	<ol style="list-style-type: none"> 1. Intrauterine contraceptive device 2. Spermicides 3. Oral contraceptive pills 4. Condoms
38.	The lactational amenorrhea method (LAM) can be over 90% effective at preventing pregnancy:	<ol style="list-style-type: none"> 1. For six months if the mother is exclusively breastfeeding 2. For one year if the mother is only giving breastmilk and water 3. For one year if the mother is eating nutritious foods rich with iron 4. For one year if the baby is her first child
39.	What is recommended for emergency contraception?	<ol style="list-style-type: none"> 1. Enemas and douching 2. Levonogestrel 1.5mg within 5 days of intercourse 3. Depo Provera 1 mL within 5 days of intercourse 4. All of the above
40.	When is abortion legal?	<ol style="list-style-type: none"> 1. In cases of rape or incest 2. In cases of fetal abnormalities 3. To save the life of the mother 4. All of the above

Appendix F. Expanded Tables

Table A 1. CHN Feelings on Job Desirability and Compensation (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampira	South Tongu	South Dayi					
	CCH + MOTTECH	CCH Only	CCH + MOTTECH	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	54	42	46	42	145	38	94	90	184
Working as a CHN is a desirable job for someone with my skills									
Strongly Agree	25.9	45.2	34.8	38.1	37.9	26.3	38.3	32.2	35.3
Agree	61.1	47.6	54.3	47.6	51.0	60.5	54.3	52.2	53.3
Neutral	11.1	4.8	4.3	9.5	6.2	13.2	4.3	11.1	7.6
Disagree	1.9	0.0	6.5	4.8	4.1	0.0	2.1	4.4	3.3
Strongly Disagree	0.0	2.4	0.0	0.0	0.7	0.0	1.1	0.0	0.5
n	54	40	45	39	141	36	92	86	178
Satisfied with pay compared to what I think people make in similar jobs in other organizations									
Strongly Agree	1.9	0.0	6.7	2.6	2.1	5.6	3.3	2.3	2.8
Agree	11.1	27.5	15.6	5.1	13.5	19.4	19.6	9.3	14.6
Neutral	16.7	20.0	17.8	20.5	17.7	22.2	16.3	20.9	18.5
Disagree	46.3	27.5	22.2	30.8	34.0	27.8	32.6	32.6	32.6
Strongly Disagree	24.1	25.0	37.8	41.0	32.6	25.0	28.3	34.9	31.5
n	54	40	45	39	141	36	92	86	178
Feel that I am paid fairly for the work that I do									
Strongly Agree	1.9	7.7	8.9	0.0	2.1	14.3	5.5	3.4	4.5
Agree	14.8	17.9	11.1	7.5	14.1	8.6	16.5	9.2	12.9
Neutral	18.5	23.1	17.8	20.0	18.3	25.7	16.5	23.0	19.7
Disagree	42.6	25.6	35.6	37.5	36.6	34.3	38.5	33.3	36.0
Strongly Disagree	22.2	25.6	26.7	35.0	28.9	17.1	23.1	31.0	27.0

Table A 2. Percent Answered Correctly by CHN for each MNCH Section in Knowledge Assessment

	Greater Accra		Volta		
	Ningo				
	Ada East/West	Prampram	South Tongu	South Dayi	
	CCH + MOTECH	CCH Only	CCH + MOTECH	CCH Only	Total
n	53	44	46	42	185
ANC	71.2	71.4	63.4	77.2	70.7
Postnatal Care	74.7	77.3	79.0	70.1	75.3
Immunization	92.1	96.8	96.9	94.3	94.9
Infant Care	72.3	76.1	75.3	70.9	73.6
HIV	82.4	73.9	75.6	67.9	75.3
Family Planning	78.2	79.6	80.0	78.8	79.1

Table A 3. CHN Confidence in Clinical Skills

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/West	Ningo Prampram	South Tongu	South Dayi					
	CCH + MOTECH	CCH Only	CCH + MOTECH	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	54	44	46	42	145	40	96	90	186
I am not skilled enough and I wish I could improve	0.0	2.3	0.0	4.8	0.7	5.0	1.0	2.2	1.6
I am confident in my skills in basic care, but I need to strengthen my skills for complicated cases	83.3	84.1	80.4	78.6	82.8	85.0	85.4	77.8	81.7
I am confident in all of my clinical skills	16.7	13.6	19.6	16.7	16.6	15.0	13.5	20.0	16.7
None of the above	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A 4. Use of Phones and Barriers to Data Reporting (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West CCH + MOTEC	Ningo Prampram CCH Only	South Tongu CCH + MOTEC	South Dayi CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	52	39	44	41	140	35	90	86	176
In relation to phones, my work would be easier if:									
I had access to a mobile phone because I don't have a phone	15.4	20.5	6.8	17.1	11.4	25.7	16.7	12.8	14.8
I had a personal phone instead of a facility phone	23.1	30.8	40.9	34.1	32.9	28.6	32.2	31.4	31.8
I had a smart phone rather than my current basic/feature phone	40.4	41.0	18.2	41.5	36.4	31.4	35.6	34.9	35.2
I am satisfied with the phone that I have now	21.2	7.7	34.1	7.3	19.3	14.3	15.6	20.9	18.2
n	52	39	45	42	141	36	93	85	178
In terms of data reporting, my biggest challenge is:									
The time it takes to generate reports	19.2	28.2	22.2	26.2	21.3	33.3	22.6	24.7	23.6
The time it takes to record data in multiple registers	21.2	46.2	17.8	57.1	31.9	44.4	33.3	35.3	34.3
The time it takes to upload data on a mobile phone	26.9	17.9	15.6	2.4	17.7	11.1	16.1	16.5	16.3
The time it takes to report in a register and upload data	32.7	7.7	44.4	14.3	29.1	11.1	28.0	23.5	25.8

Table A 5. CHNs Feel they are Able to Plan Their Day Well to Meet Targets (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampram	South Tongu	South Dayi					
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	54	40	45	40	142	36	92	87	179
Strongly agree	14.8	25.0	24.4	30.0	22.5	25.0	23.9	21.8	22.9
Agree	64.8	72.5	68.9	52.5	66.2	58.3	67.4	62.1	64.8
Neutral	11.1	2.5	2.2	10.0	4.9	13.9	3.3	10.3	6.7
Disagree	7.4	0.0	0.0	7.5	4.2	2.8	4.3	3.4	3.9
Strongly disagree	1.9	0.0	4.4	0.0	2.1	0.0	1.1	2.3	1.7

Table A 6. Perceived Respect by CHNs in their Job (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampram	South Tongu	South Dayi					
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	54	41	45	41	140	40	94	87	181
Whose Respect is most important to you in your job as a CHN?									
Clients/patients	64.8	61.0	55.6	80.5	64.3	67.5	62.8	67.8	65.2
Supervisors	13.0	9.8	8.9	2.4	9.3	7.5	8.5	9.2	8.8
Other CHNs	1.9	0.0	0.0	2.4	0.7	2.5	1.1	1.1	1.1
Community members	18.5	29.3	33.3	14.6	25.0	20.0	27.7	9.5	23.8
Nobody	1.9	0.0	2.2	0.0	0.7	2.5	0.0	2.3	1.1
n	53	44	46	41	143	40	96	88	184
I feel respected by my clients.									
Strongly agree	18.5	31.8	34.8	24.4	23.8	40.0	25.0	29.5	21.2
Agree	54.7	54.5	54.3	53.7	57.3	42.5	59.4	48.9	54.4
Neutral	20.8	13.6	10.9	22.0	18.2	12.5	14.6	19.3	16.9
Disagree	3.8	0.0	0.0	0.0	0.7	2.5	1.0	1.1	1.1
Strongly disagree	1.9	0.0	0.0	0.0	0.0	2.5	0.0	1.1	0.5

Table A 7. Assistance Received from Supervisors (%)

	Greater Accra		Volta		Age		Health Facility		ALL
	Ada	Ningo	South	South					
	East/West	Prampram	Tongu	Dayi					
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	Total
n	53	44	45	42	143	40	96	88	184
I feel that my in-charge helps me with the challenges I face in my job.									
Strongly agree	15.1	11.4	35.6	21.4	19.6	25.0	20.8	20.5	20.7
Agree	64.2	40.9	37.8	31.0	42.0	55.0	42.7	46.6	44.6
Neutral	13.2	13.6	4.4	31.0	16.1	12.5	10.4	20.5	15.2
Disagree	1.9	18.2	8.9	9.5	10.5	2.5	10.4	8.0	9.2
Strongly disagree	5.7	13.6	2.2	2.4	7.0	2.5	7.3	4.5	6.0
Not applicable	0.0	2.3	11.1	4.8	4.9	2.5	8.3	0.0	4.3
n	53	44	45	41	143	39	95	88	183
I feel that my sub-district PHN/RCH in-charge helps me with the challenges I face									
Strongly agree	11.3	6.8	28.9	14.6	14.0	20.5	14.7	15.9	15.3
Agree	66.0	50.0	57.8	43.9	53.1	61.5	55.8	54.5	55.2
Neutral	11.3	18.2	8.9	22.0	15.4	12.8	15.8	13.6	14.8
Disagree	7.5	9.1	0.0	4.9	7.0	0.0	6.3	4.5	5.5
Strongly disagree	3.8	11.4	4.4	4.9	7.0	2.6	5.3	6.8	6.0
Not applicable because I am the sub-district RCH in-charge	0.0	0.0	0.0	4.9	0.7	2.6	0.0	2.3	1.1
Not applicable because there is no sub-district PHN/RCH in-charge	0.0	4.5	0.0	4.9	2.8	0.0	2.1	2.3	2.2
n	54	42	45	41	142	39	93	89	182
I feel that my sub-district head helps me with the challenges I face in my job.									
Strongly agree	11.1	14.3	20.0	12.2	12.0	23.1	16.1	12.4	14.3
Agree	55.6	40.5	33.3	43.9	54.1	41.0	45.2	42.7	44.0
Neutral	18.5	16.7	20.0	26.8	20.4	20.5	17.2	23.6	20.3
Disagree	11.1	11.9	15.6	9.8	12.7	7.7	14.0	10.1	12.1
Strongly Disagree	3.7	16.7	6.7	4.9	7.7	7.7	7.5	7.9	7.7
district head	0.0	0.0	2.2	0.0	0.7	0.0	0.0	1.1	0.6
Not applicable because my in-charge is the sub district head	0.0	0.0	2.2	2.4	1.4	0.0	0.0	2.2	1.1
n	53	41	45	42	142	38	93	88	181
I feel that the District PHN helps me with the challenges I face in my job.									
Strongly agree	13.2	14.6	22.2	21.4	16.9	21.1	19.4	15.9	17.7
Agree	54.7	48.8	48.9	47.6	48.6	55.3	51.6	48.9	50.3
Neutral	17.0	22.0	17.8	19.0	19.0	18.4	17.2	20.5	18.8
Disagree	13.2	9.8	8.9	11.9	13.4	2.6	10.8	11.4	11.0
Strongly disagree	1.9	4.9	2.2	0.0	2.1	2.6	1.1	3.4	2.2

Table A 8. Frequency of Interaction with Supervisors (%)

	Greater Accra		Volta		Age	Health Facility	ALL		
	Ada	Ningo	South	South					
	East/West	Prampam	Tongu	Dayi					
	CCH +		CCH +		≤30 years	>30 years	CHPS	Health Center	Total
	MOTEC	CCH Only	MOTEC	CCH Only					
n	53	44	45	42	143	40	96	88	182
My in-charge discusses my performance with me approximately ...									
Daily	11.1	12.2	28.9	26.2	22.0	10.0	17.2	21.3	19.2
Weekly	7.4	12.2	17.8	7.1	11.3	10.0	11.8	10.1	11.0
Monthly	31.5	22.0	24.4	19.0	22.7	32.5	26.9	22.5	24.7
Quarterly	14.8	17.1	8.9	14.3	12.1	20.0	10.8	16.9	13.7
Less than quarterly	9.3	4.9	2.2	2.4	5.7	2.5	6.5	3.4	4.9
Never	20.4	29.3	6.7	26.2	19.9	20.0	17.2	23.6	20.3
Not applicable because I am an in-charge	5.6	2.4	11.1	4.8	6.4	5.0	9.7	2.2	6.0
n	53	44	45	41	143	39	95	88	179
My sub-district PHN/RCH in-charge discusses my performance with me approximately									
Daily	2.2	4.7	2.3	2.4	6.5	2.6	5.4	5.7	5.6
Weekly	3.8	4.7	2.3	7.3	4.3	5.1	1.1	8.0	4.5
Monthly	44.2	39.5	83.7	39.0	49.6	59.0	56.5	46.0	51.4
Quarterly	23.1	18.6	4.7	22.0	18.7	10.3	18.5	16.1	17.3
Less than quarterly	3.8	7.0	0.0	2.4	3.6	2.6	6.5	0.0	3.4
Never	13.5	20.9	7.0	19.5	13.7	20.5	9.8	20.7	15.1
Not applicable because I am the sub-district RCH in-charge	0.0	2.3	0.0	2.4	1.4	0.0	1.1	1.1	1.1
Not applicable because there is no sub-district PHN/RCH in-charge	0.0	2.3	0.0	4.9	2.2	0.0	1.1	2.3	1.7
n	54	42	45	41	142	39	93	89	179
My sub-district head discusses my performance with me approximately ...									
Daily	1.9	5.0	8.9	5.0	5.7	2.7	5.5	4.5	5.0
Weekly	3.7	7.5	4.4	7.5	5.0	8.1	4.4	6.8	5.6
Monthly	37.0	42.5	53.3	17.5	39.7	32.4	48.4	27.3	38.0
Quarterly	25.9	15.0	20.0	40.0	22.7	32.4	48.4	27.3	25.1
Less than quarterly	11.1	5.0	4.4	2.5	7.8	0.0	7.7	4.5	6.2
Never	20.4	25.0	6.7	25.0	17.7	24.3	13.2	25.0	19.0
Not applicable because I am the sub-district head									0.0
Not applicable because my in-charge is the sub district head	0.0	0.0	2.2	2.5	1.4	0.0	0.0	2.3	1.1
n	53	41	45	42	142	38	93	88	181
The District PHN discusses my performance with me approximately ...									
Daily	0.0	5.0	2.2	2.4	2.8	0.0	4.3	0.0	2.2
Weekly	1.9	5.0	4.3	2.4	3.5	2.6	2.2	4.5	3.3
Monthly	45.3	40.0	73.9	45.2	52.1	50.0	55.4	47.2	51.4
Quarterly	24.6	20.0	10.9	23.8	20.4	18.4	10.5	22.5	20.4
Less than quarterly	9.4	5.0	0.0	4.8	4.2	7.9	7.6	2.2	5.0
Never	17.0	25.0	8.7	21.4	16.9	21.1	12.0	23.6	17.7

Table A 9. Nature of Feedback from Supervisors

	Greater Accra		Volta		Age		Health Facility		ALL
	Ada	Ningo	South	South					
	East/West	Prampam	Tongu	Dayi					
	CCH +	CCH +							
	MOTEC	CCH Only	MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	53	44	45	42	143	40	96	88	181
Most of the time, the feedback I receive from my in-charge is about:									
Meeting clinical targets	55.8	37.2	36.8	40.5	44.7	41.0	43.0	44.3	43.6
How I handle specific cases/patients	11.5	18.6	27.3	21.4	20.6	12.8	20.4	18.2	19.3
Managing my time	1.9	4.7	4.5	2.4	1.4	10.3	1.1	5.7	3.3
My attitude towards work	11.5	9.3	4.5	9.5	9.9	5.1	6.5	11.4	8.8
Punctuality	0.0	11.6	0.0	2.4	2.1	7.7	5.4	1.1	3.3
Not applicable because I am an in-charge	3.8	2.3	13.6	7.1	6.4	7.7	10.8	2.3	6.6
None of the above	15.4	16.3	11.4	16.7	14.9	15.4	12.9	17.0	14.9
n	53	44	45	41	143	39	95	88	179
Most of the time, the feedback I receive from my PHN/RCH in-charge is about:									
Meeting clinical targets	49.0	52.4	62.2	36.6	51.1	48.7	53.8	46.5	50.3
How I handle specific cases/patients	25.5	9.5	20.0	31.7	21.6	20.5	22.6	20.9	21.8
Managing my time	3.9	4.8	0.0	2.4	3.6	0.0	2.2	3.5	2.8
My attitude towards work	9.8	7.1	11.1	7.3	8.6	10.3	6.5	11.6	8.9
Punctuality	2.0	0.0	0.0	0.0	0.7	0.0	1.1	0.0	0.6
Not applicable because I am the sub-district RCH in-charge	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not applicable because there is no sub-district PHN/RCH in-charge	0.0	7.1	0.0	4.9	2.2	5.1	3.2	2.3	2.8
None of the above	9.8	19.0	6.7	17.1	12.2	15.4	10.8	15.1	12.8
n	54	42	45	41	142	39	93	89	177
Most of the time, the feedback I receive from my sub-district head is about:									
Meeting clinical targets	53.8	45.0	51.1	35.0	46.8	48.6	50.0	43.7	46.9
How I handle specific cases/patients	19.2	20.0	24.4	32.5	23.0	24.3	23.3	24.1	23.7
Managing my time	1.9	5.0	2.2	2.5	2.2	5.4	2.2	3.4	2.8
My attitude towards work	5.8	5.0	11.1	2.5	7.2	2.7	10.0	2.3	6.2
Punctuality	3.8	2.5	0.0	0.0	2.2	0.0	1.1	2.3	1.7
Not applicable because I am the sub-district head	0.0	0.0	0.0	2.5	0.7	0.0	0.0	1.1	0.6
Not applicable because my in-charge is the sub district head	0.0	0.0	2.2	5.0	2.2	0.0	0.0	3.4	1.7
None of the above	15.4	22.5	8.9	20.0	15.8	18.9	13.3	19.5	16.4
n	53	41	45	42	142	38	93	88	179
Most of the time, the feedback I receive from the District PHN is about:									
Meeting clinical targets	57.7	51.2	60.0	29.3	49.3	55.3	56.0	44.3	50.3
How I handle specific cases/patients	23.1	17.1	22.2	43.9	26.4	23.7	19.8	33.0	26.3
Managing my time	1.9	7.3	0.0	2.4	3.6	0.0	4.4	1.1	2.8
My attitude towards work	1.9	2.4	8.9	2.4	4.3	2.6	4.4	3.4	3.9
Punctuality	1.9	12.2	0.0	0.0	4.3	0.0	4.4	2.3	3.4
None of the above	13.5	9.8	8.9	22.0	12.1	18.4	11.0	15.9	13.4

Table A 10. Expectations from Supervisors (%)

	Greater Accra		Volta		Age		Health Facility		ALL
	Ada	Ningo	South	South					
	East/West	Prampam	Tongu	Dayi					
	CCH +	CCH +	CCH +	CCH +	≤30 years	>30 years	CHPS	Health Center	
	MOTECH	CCH Only	MOTECH	CCH Only					
n	53	44	45	42	143	40	96	88	181
The most important thing I wish my in-charge did for me is:									
Give respect for what I do	11.5	33.3	11.1	11.9	14.1	26.3	14.9	18.4	16.6
Give more input on clinical targets	11.5	0.0	4.4	0.0	4.9	2.6	3.2	5.7	4.4
Feedback on things I need to improve on	38.5	19.0	35.6	57.1	40.8	26.3	34.0	41.4	37.6
Encouragement when I do things well	28.8	38.1	28.9	16.7	26.8	31.6	30.9	25.3	28.2
Not applicable because I am an in-charge	3.8	4.8	11.1	7.1	7.0	5.3	11.7	1.1	6.6
None of the above	5.8	4.8	8.9	7.1	6.3	7.9	5.3	8.0	6.6
n	53	44	45	41	143	39	95	88	179
The most important thing I wish my PHN/RCH in-charge did for me is:									
Give respect for what I do	18.9	20.0	40.0	4.9	12.9	10.5	8.9	15.7	12.3
Give more input on clinical targets	7.5	5.0	8.9	9.8	7.9	7.9	6.7	9.0	7.8
Feedback on things I need to improve on	37.7	27.5	53.3	51.2	39.3	55.3	43.3	41.6	42.5
Encouragement when I do things well	34.0	40.0	31.1	19.5	32.1	26.3	37.8	24.7	31.3
Not applicable because I am the sub-district RCH in-charge	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not applicable because there is no sub-district PHN/RCH in-charge	1.9	5.0	0.0	4.9	3.6	0.0	2.2	3.4	2.8
None of the above	0.0	2.5	2.2	9.8	4.3	0.0	1.1	5.6	3.4
n	54	42	45	41	142	39	93	89	178
The most important thing I wish my sub-district head did for me is:									
Give respect for what I do	11.3	33.3	8.9	9.8	15.7	13.5	15.6	14.8	15.2
Give more input on clinical targets	22.6	5.1	8.9	14.6	12.1	18.9	7.8	19.3	13.5
Feedback on things I need to improve on	32.1	25.6	40.0	51.2	37.9	35.1	42.2	31.8	37.1
Encouragement when I do things well	32.1	33.3	35.6	17.1	28.6	32.4	33.3	26.1	29.8
Not applicable because I am the sub-district RCH in-charge	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not applicable because there is no sub-district PHN/RCH in-charge	0.0	0.0	2.2	2.4	1.4	0.0	0.0	2.3	1.1
None of the above	1.9	2.6	4.4	4.9	4.3	0.0	1.1	5.7	3.4
n	53	41	45	42	142	38	93	88	179
The most important thing I wish the District PHN did for me is:									
Give respect for what I do	20.8	17.9	4.3	4.9	12.1	13.2	12.2	12.4	12.3
Give more input on clinical targets	18.9	7.7	10.9	9.8	11.4	15.8	8.9	15.7	12.3
Feedback on things I need to improve on	24.5	43.6	45.7	63.4	44.3	36.8	46.7	39.3	43.0
Encouragement when I do things well	34.0	28.2	37.0	19.5	30.0	31.6	31.1	29.2	30.2
Not applicable because I am an in-charge	1.9	2.6	2.2	2.4	2.1	2.6	1.1	3.4	2.2

Table A 11. Interactions with In-Charge (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampram	South Tongu	South Dayi					
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	
	53	44	45	42	143	40	96	88	
I feel that my in-charge helps me with the challenges I face in my job.									
Strongly agree	15.1	11.4	35.6	21.4	19.6	25.0	20.8	20.5	20.7
Agree	64.2	40.9	37.8	31.0	42.0	55.0	42.7	46.6	44.6
Neutral	13.2	13.6	4.4	31.0	16.1	12.5	10.4	20.5	15.2
Disagree	1.9	18.2	8.9	9.5	10.5	2.5	10.4	8.0	9.2
Strongly disagree	5.7	13.6	2.2	2.4	7.0	2.5	7.3	4.5	6.0
Not applicable	0.0	2.3	11.1	4.8	4.9	2.5	8.3	0.0	4.3
n	54	41	45	42	141	40	93	89	184
My in-charge discusses my performance with me approximately ...									
Daily	11.1	12.2	28.9	26.2	22.0	10.0	17.2	21.3	19.2
Weekly	7.4	12.2	17.8	7.1	11.3	10.0	11.8	10.1	11.0
Monthly	31.5	22.0	24.4	19.0	22.7	32.5	26.9	22.5	24.7
Quarterly	14.8	17.1	8.9	14.3	12.1	20.0	10.8	16.9	13.7
Less than quarterly	9.3	4.9	2.2	2.4	5.7	2.5	6.5	3.4	4.9
Never	20.4	29.3	6.7	26.2	19.9	20.0	17.2	23.6	20.3
Not applicable	5.6	2.4	11.1	4.8	6.4	5.0	9.7	2.2	6.0
n	54	41	45	42	141	40	93	89	182
Most of the time, the feedback I receive from my in-charge is about:									
Meeting clinical targets	55.8	37.2	36.8	40.5	44.7	41.0	43.0	44.3	43.6
How I handle specific cases/patients	11.5	18.6	27.3	21.4	20.6	12.8	20.4	18.2	19.3
Managing my time	1.9	4.7	4.5	2.4	1.4	10.3	1.1	5.7	3.3
My attitude towards work	11.5	9.3	4.5	9.5	9.9	5.1	6.5	11.4	8.8
Punctuality	0.0	11.6	0.0	2.4	2.1	7.7	5.4	1.1	3.3
Not applicable	3.8	2.3	13.6	7.1	6.4	7.7	10.8	2.3	6.6
None of the above	15.4	16.3	11.4	16.7	14.9	15.4	12.9	17.0	14.9
n	52	42	45	42	142	38	94	87	181
The most important thing I wish my in-charge did for me is:									
Give respect for what I do	11.5	33.3	11.1	11.9	14.1	26.3	14.9	18.4	16.6
Give more input on clinical targets	11.5	0.0	4.4	0.0	4.9	2.6	3.2	5.7	4.4
Feedback on things I need to improve on	38.5	19.0	35.6	57.1	40.8	26.3	34.0	41.4	37.6
Encouragement when I do things well	28.8	38.1	28.9	16.7	26.8	31.6	30.9	25.3	28.2
Not applicable	3.8	4.8	11.1	7.1	7.0	5.3	11.7	1.1	6.6
None of the above	5.8	4.8	8.9	7.1	6.3	7.9	5.3	8.0	6.6

Table A 12. Interaction with Sub-District PHN/RCH in Charge (%)

	Greater Accra		Volta		Age		Health Facility		
	Ada East/ West	Ningo Prampira	South Tongu	South Dayi	≤30 years	>30 years	CHPS	Health Center	Total
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only					
n	53	44	45	41	143	39	95	88	183
I feel that my sub-district PHN/RCH in-charge helps me with the challenges I									
Strongly agree	11.3	6.8	28.9	14.6	14.0	20.5	14.7	15.9	15.3
Agree	66.0	50.0	57.8	43.9	53.1	61.5	55.8	54.5	55.2
Neutral	11.3	18.2	8.9	22.0	15.4	12.8	15.8	13.6	14.8
Disagree	7.5	9.1	0.0	4.9	7.0	0.0	6.3	4.5	5.5
Strongly disagree	3.8	11.4	4.4	4.9	7.0	2.6	5.3	6.8	6.0
Not applicable because I am the sub-district RCH in-charge	0.0	0.0	0.0	4.9	0.7	2.6	0.0	2.3	1.1
Not applicable because there is no sub-district PHN/RCH in-charge	0.0	4.5	0.0	4.9	2.8	0.0	2.1	2.3	2.2
n	52	43	43	41	139	39	139	39	179
My sub-district PHN/RCH in-charge discusses my performance with me									
Daily	11.5	4.7	2.3	2.4	6.5	2.6	5.4	5.7	5.6
Weekly	3.9	4.7	2.3	7.3	4.3	5.1	1.1	8.0	4.5
Monthly	44.2	39.5	83.7	39.0	49.6	59.0	56.5	46.0	51.4
Quarterly	23.1	18.6	4.7	22.0	18.7	10.3	18.5	16.1	17.3
Less than quarterly	3.8	7.0	0.0	2.4	3.6	2.6	6.5	0.0	3.4
Never	13.5	20.9	7.0	19.5	13.7	20.5	9.8	20.7	15.1
Not applicable because I am the sub-district RCH in-charge	0.0	2.3	0.0	2.4	1.4	0.0	1.1	1.1	1.1
Not applicable because there is no sub-district PHN/RCH in-charge	0.0	2.3	0.0	4.9	2.2	0.0	1.1	2.3	1.7
n	52	43	43	41	139	39	93	86	179
Most of the time, the feedback I receive from my PHN/RCH in-charge is about:									
Meeting clinical targets	49.0	52.4	62.2	36.6	51.1	48.7	53.8	46.5	50.3
How I handle specific cases/patients	25.5	9.5	20.0	31.7	21.6	20.5	22.6	20.9	21.8
Managing my time	3.9	4.8	0.0	2.4	3.6	0.0	2.2	3.5	2.8
My attitude towards work	9.8	7.1	11.1	7.3	8.6	10.3	6.5	11.6	8.9
Punctuality	2.0	0.0	0.0	0.0	0.7	0.0	1.1	0.0	0.6
Not applicable because I am the sub-district RCH in-charge	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not applicable because there is no sub-district PHN/RCH in-charge	0.0	7.1	0.0	4.9	2.2	5.1	3.2	2.3	2.8
None of the above	9.8	19.0	6.7	17.1	12.2	15.4	10.8	15.1	12.9
n	53	40	45	41	140	38	90	89	179
The most important thing I wish my PHN/RCH in-charge did for me is:									
Give respect for what I do	18.9	20.0	40.0	4.9	12.9	10.5	8.9	15.7	12.3
Give more input on clinical targets	7.5	5.0	8.9	9.8	7.9	7.9	6.7	9.0	7.8
Feedback on things I need to improve on	37.7	27.5	53.3	51.2	39.3	55.3	43.3	41.6	42.5
Encouragement when I do things well	34.0	40.0	31.1	19.5	32.1	26.3	37.8	24.7	31.3
Not applicable because I am the sub-district RCH in-charge	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not applicable because there is no sub-district PHN/RCH in-charge	1.9	5.0	0.0	4.9	3.6	0.0	2.2	3.4	2.8
None of the above	0.0	2.5	2.2	9.8	4.3	0.0	1.1	5.6	3.4

Table A 13. Interaction with Sub-District Head (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampram	South Tongu	South Dayi					
	CCH + MOTECHE	CCH Only	CCH + MOTECHE	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	54	42	45	41	142	39	93	89	182
I feel that my sub-district head helps me with the challenges I face in my job.									
Strongly agree	11.1	14.3	20.0	12.2	12.0	23.1	16.1	12.4	14.3
Agree	55.6	40.5	33.3	43.9	54.1	41.0	45.2	42.7	44.0
Neutral	18.5	16.7	20.0	26.8	20.4	20.5	17.2	23.6	20.3
Disagree	11.1	11.9	15.6	9.8	12.7	7.7	14.0	10.1	12.1
Strongly Disagree	3.7	16.7	6.7	4.9	7.7	7.7	7.5	7.9	7.7
Not applicable because I am the sub-district head	0.0	0.0	2.2	0.0	0.7	0.0	0.0	1.1	0.6
Not applicable because my in-charge is the sub district head	0.0	0.0	2.2	2.4	1.4	0.0	0.0	2.2	1.1
n	54	40	45	40	141	37	91	88	179
My sub-district head discusses my performance with me approximately ...									
Daily	1.9	5.0	8.9	5.0	5.7	2.7	5.5	4.6	5.0
Weekly	3.7	7.5	4.4	7.5	5.0	8.1	4.4	6.8	5.6
Monthly	37.0	42.5	53.3	17.5	39.7	32.4	48.4	27.3	38.0
Quarterly	25.9	15.0	20.0	40.0	22.7	32.4	20.9	29.6	25.1
Less than quarterly	11.1	5.0	4.4	2.5	7.8	0.0	7.7	4.6	6.2
Never	20.4	25.0	6.7	25.0	17.7	24.3	13.2	25.0	19.0
Not applicable because I am the sub-district head	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not applicable because my in-charge is the sub district head	0.0	0.0	2.2	2.5	1.4	0.0	0.0	2.3	1.1
n	52	40	45	40	139	37	90	87	177
Most of the time, the feedback I receive from my sub-district head is about:									
Meeting clinical targets	53.8	45.0	51.1	35.0	46.8	48.6	50.0	43.7	46.9
How I handle specific cases/patients	19.2	20.0	24.4	32.5	23.0	24.3	23.3	24.1	23.7
Managing my time	1.9	5.0	2.2	2.5	2.2	5.4	2.2	3.4	2.8
My attitude towards work	5.8	5.0	11.1	2.5	7.2	2.7	10.0	2.3	6.2
Punctuality	3.8	2.5	0.0	0.0	2.2	0.0	1.1	2.3	1.7
Not applicable because I am the sub-district head	0.0	0.0	0.0	2.5	0.7	0.0	0.0	1.1	0.6
Not applicable because my in-charge is the sub district head	0.0	0.0	2.2	5.0	2.2	0.0	0.0	3.4	1.7
None of the above	15.4	22.5	8.9	20.0	15.8	18.9	13.3	19.5	16.4
n	53	39	45	41	140	37	90	88	178
The most important thing I wish my sub-district head did for me is:									
Give respect for what I do	11.3	33.3	8.9	9.8	15.7	13.5	15.6	14.8	15.2
Give more input on clinical targets	22.6	5.1	8.9	14.6	12.1	18.9	7.8	19.3	13.5
Feedback on things I need to improve on	32.1	25.6	40.0	51.2	37.9	35.1	42.2	31.8	37.1
Encouragement when I do things well	32.1	33.3	35.6	17.1	28.6	32.4	33.3	26.1	29.8
Not applicable because I am the sub-district RCH in-charge	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not applicable because there is no sub-district PHN/RCH in-charge	0.0	0.0	2.2	2.4	1.4	0.0	0.0	2.3	1.1
None of the above	1.9	2.6	4.4	4.9	4.3	0.0	1.1	5.7	3.4

Table A 14. Interaction with District PHN (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampam	South Tongu	South Dayi					
	CCH + MOTEC	CCH Only	CCH + MOTEC H	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	53	41	45	42	142	38	93	88	181
I feel that the District PHN helps me with the challenges I face in my job.									
Strongly agree	13.2	14.6	22.2	21.4	16.9	21.1	19.4	15.9	17.7
Agree	54.7	48.8	48.9	47.6	48.6	55.3	51.6	48.9	50.3
Neutral	17.0	22.0	17.8	19.0	19.0	18.4	17.2	20.5	18.8
Disagree	13.2	9.8	8.9	11.9	13.4	2.6	10.8	11.4	11.0
Strongly disagree	1.9	4.9	2.2	0.0	2.1	2.6	1.1	3.4	2.2
n	53	40	46	42	142	38	92	89	181
The District PHN discusses my performance with me approximately									
Daily	0.0	5.0	2.2	2.4	2.8	0.0	4.4	0.0	2.2
Weekly	1.9	5.0	4.3	2.4	3.5	2.6	2.2	4.5	3.3
Monthly	45.3	40.0	73.9	45.2	52.1	50.0	55.4	47.2	51.4
Quarterly	26.4	20.0	10.9	23.8	20.4	18.4	18.5	22.5	20.4
Less than quarterly	9.4	5.0	0.0	4.8	4.2	7.9	7.6	2.3	5.0
Never	17.0	25.0	8.7	21.4	16.9	21.1	12.0	23.6	17.7
n	52	41	45	41	140	38	91	88	179
Most of the time, the feedback I receive from the District PHN is about:									
Meeting clinical targets	57.7	51.2	60.0	29.3	49.3	55.3	56.0	44.3	50.3
How I handle specific cases/patients	23.1	17.1	22.2	43.9	26.4	23.7	19.8	33.0	26.3
Managing my time	1.9	7.3	0.0	2.4	3.6	0.0	4.4	1.1	2.8
My attitude towards work	1.9	2.4	8.9	2.4	4.3	2.6	4.4	3.4	3.9
Punctuality	1.9	12.2	0.0	0.0	4.3	0.0	4.4	2.3	3.4
None of the above	13.5	9.8	8.9	22.0	12.1	18.4	11.0	15.9	13.4
n	53	39	46	41	140	38	90	89	179
The most important thing I wish the District PHN did for me is:									
Give respect for what I do	20.8	17.9	4.3	4.9	12.1	13.2	12.2	12.4	12.3
Give more input on clinical targets	18.9	7.7	10.9	9.8	11.4	15.8	8.9	15.7	12.3
Feedback on things I need to improve on	24.5	43.6	45.7	63.4	44.3	36.8	46.7	39.3	43.0
Encouragement when I do things well	34.0	28.2	37.0	19.5	30.0	31.6	31.1	29.2	30.2
None of the above	1.9	2.6	2.2	2.4	2.1	2.6	1.1	3.4	2.2

Table A 15. CHNs Perceived Future Work (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampram	South Tongu	South Dayi					
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	54	39	46	40	142	36	91	88	179
If it were up to me, I would continue to work for this health facility for quite some time									
Strongly agree	13.0	7.7	13.0	12.5	12.0	11.1	11.0	12.5	11.7
Agree	38.9	69.2	43.5	47.5	45.1	61.1	49.5	47.7	48.6
Neutral	24.1	5.1	28.3	30.0	24.6	13.9	19.8	25.0	22.3
Disagree	18.5	10.3	8.7	5.0	12.0	8.3	16.5	5.7	11.2
Strongly disagree	5.6	7.7	6.5	5.0	6.3	5.6	3.3	9.1	6.1
n	48	28	46	40	127	34	82	80	162
In 5 years, I see myself as a...									
CHN/CHO	0.0	7.1	8.7	7.5	4.7	8.8	4.9	6.3	5.6
Midwife	29.2	32.1	15.2	20.0	22.0	29.4	23.3	23.8	23.5
Public health nurse	62.5	60.7	47.8	62.5	61.4	44.1	62.2	53.8	58.0
Medical Assistant	6.3	0.0	17.4	5.0	7.1	11.8	7.3	8.8	8.0
Other position in public health	2.1	0.0	10.9	5.0	4.7	5.9	2.4	7.5	4.9

Table A 16. CHN Perceived Access to Resources (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampram	South Tongu	South Dayi					
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	52	38	44	40	141	32	90	84	174
I easily have access to resources such as continuing education and professional									
Strongly agree	1.9	7.9	13.6	15.0	7.8	15.6	8.9	9.5	9.2
Agree	40.4	23.7	22.7	30.0	29.8	28.1	28.9	31.0	29.9
Neutral	13.5	15.8	11.4	7.5	12.1	12.5	12.2	11.9	12.1
Disagree	26.9	28.9	25.0	32.5	29.8	21.9	30.0	26.2	28.2
Strongly disagree	17.3	23.7	27.3	15.0	20.6	21.9	20.0	21.4	20.7
n	53	38	45	39	139	35	88	87	175
To be happy working as a CHN, I most need/want:									
More training	62.3	73.7	75.6	76.9	66.9	88.6	72.7	70.1	71.4
More money	9.4	2.6	2.2	7.7	5.8	5.7	4.5	6.9	5.7
Better supervision	3.8	7.9	15.6	5.1	9.4	2.9	8.0	8.0	8.0
Respect from supervisors	22.6	13.2	6.7	10.3	16.5	2.9	12.5	14.9	13.7
Respect from other CHNs	1.9	0.0	0.0	0.0	0.7	0.0	1.1	0.0	0.6
Nothing. I have everything.	0.0	2.6	0.0	0.0	0.7	0.0	1.1	0.0	0.6
n	52	36	45	39	137	34	88	44	172
In order to achieve my future goals, the most important thing I would need is:									
In-service training opportunities	42.3	63.9	26.7	66.7	43.1	67.6	46.6	50.0	48.3
Training materials (books or online) to strengthen my skillsets	21.2	22.2	6.7	12.8	19.0	2.9	17.0	14.3	15.7
A good working relationship with supervisors who can advise you in achieving my goals	34.6	13.9	66.7	20.5	37.2	29.4	36.4	34.5	35.5
I am not sure and I feel stuck in my situation	1.9	0.0	0.0	0.0	0.7	0.0	0.0	1.2	0.6

Table A 17. CHN Actively Seek Opportunities to Strengthen Skills (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/ West	Ningo Prampram	South Tongu	South Dai					
	CCH + MOTEC	CCH Only	CCH + MOTEC	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	54	40	44	40	142	35	92	86	178
Strongly agree	46.3	40.0	36.4	52.5	43.7	45.7	41.3	46.5	43.8
Agree	50.0	55.0	59.1	42.5	52.1	48.6	55.4	47.7	51.7
Neutral	1.9	5.0	2.3	2.5	2.1	5.7	3.3	2.3	2.8
Disagree	1.9	0.0	2.3	2.5	2.1	0.0	0.0	3.5	1.7
Strongly Disagree	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table A 18. CHNs are often Overwhelmed and do not know how to Manage Workload (%)

	Greater Accra		Volta		Age		Health Facility		Total
	Ada East/	Ningo Prampram	South Tongu	South Dayi					
	CCH + MOTECH	CCH Only	CCH + MOTECH	CCH Only	≤30 years	>30 years	CHPS	Health Center	
n	51	37	43	40	138	32	88	83	171
CHNs are often Overwhelmed and do not know how to Manage Workload									
Strongly agree	2.0	2.7	9.3	5.0	4.3	6.3	3.4	6.0	4.7
Agree	43.1	40.5	53.5	35.0	42.0	46.9	47.7	38.6	43.3
Neutral	27.5	21.6	20.9	35.0	27.5	21.9	23.9	28.9	26.3
Disagree	21.6	32.4	9.3	17.5	20.3	18.8	17.0	22.9	19.9
Strongly disagree	5.9	2.7	7.0	7.5	5.8	6.3	8.0	3.6	5.8
n	53	41	45	42	142	38	93	88	181
I know where to get help when I am overwhelmed with my job									
Strongly agree	3.8	14.6	20.0	11.9	11.3	15.8	15.1	9.1	12.2
Agree	69.8	61.0	57.8	52.4	60.6	60.5	65.6	55.7	60.8
Neutral	17.0	9.8	11.1	19.0	15.5	10.5	9.7	19.3	14.4
Disagree	9.4	12.2	6.7	11.9	9.9	10.5	6.5	13.6	9.9
Strongly disagree	0.0	2.4	4.4	4.8	2.8	3.2	2.3	2.3	2.8
n	52	41	45	42	140	39	92	88	180
When I experience a difficult situation or problem at work, I go MOST FREQUENTLY to									
CHPS In-charge	15.5	36.6	60.0	28.6	37.9	17.9	45.7	21.6	33.9
Sub-district level staff	34.6	31.7	13.3	2.4	18.6	30.8	28.3	13.6	21.1
District PHN	15.4	2.4	13.3	23.8	10.7	25.6	12.0	15.9	13.9
Other CHNs	25.0	22.0	8.9	33.3	24.3	15.4	9.8	35.2	22.2
Family	0.0	2.4	2.2	2.4	0.7	5.1	1.1	2.3	1.7
Friends	0.0	2.4	0.0	2.4	1.4	0.0	2.2	0.0	1.1
I don't have anyone to go to	1.9	0.0	2.2	4.8	2.1	2.6	1.1	3.4	2.2
I don't feel I need to go to anyone	0.0	2.4	0.0	0.0	0.7	0.0	0.0	1.1	0.6
Other	9.6	0.0	0.0	2.4	3.6	2.6	0.0	6.8	3.3