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QUALITY OF HEALTH SERVICES AT THE SUB-DISTRICT AND COMMUNITY LEVELS

ENDLINE STUDY REPORT JULY 2019



July 30, 2019

This publication was produced for review by the United States Agency for International Development. It was prepared by Management Systems International, a Tetra Tech Company, and Mathematica.

QUALITY OF HEALTH SERVICES AT THE SUB-DISTRICT AND COMMUNITY LEVELS ENDLINE STUDY REPORT JULY 2019

Contracted under AID-641-Q-14-00001 / AID-641-TO-17-00002

USAID/Ghana Evaluate for Health Project

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This report is made possible by the support of the American people through the United States Agency for International Development (USAID). Electronic copies of this report can be found on USAID's online Development Experience Clearinghouse: <https://dec.usaid.gov/dec/home/Default.aspx>

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¹ Tables like this table, that are new in this report and were not included in the midline report, have a decimal and a second number. This is explained more completely in the Report Tables and Figures section at the end of Chapter II.

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ACKNOWLEDGMENTS

The investigators would like to thank the USAID/Ghana Health, Population, and Nutrition Office (HPNO) and its implementing partners for their insights and feedback on the design and findings of this report. We thank in particular [REDACTED], our Contracting Officer's Representative, and [REDACTED], USAID/Ghana HPNO Monitoring and Evaluation Coordinator, for their input throughout the endline study.

We thank our colleagues at the Ghana Health Service (GHS) who provided input on the design of the study and data collection instruments, and facilitated our data collection throughout the country. We are especially grateful to the Director of the Policy, Planning, Monitoring and Evaluation Division (PPMED) and the GHS directors at the national, regional and district levels for facilitating our entry into the health facilities in the endline sample and to the health officers and clients interviewed.

DevtPlan was responsible for collecting the survey and qualitative data. We thank them for their organization of the field data collection and the timely submission of the survey quantitative and qualitative data.

We recall with deep gratitude the insights and guidance provided to the investigators by Dr. [REDACTED], Evaluate for Health Project Director, from the baseline design and implementation until his untimely departure in August 2018. May his soul rest in eternal peace.

ACRONYMS

ANC	Antenatal Care
C4H	Communicate for Health
CDCS	Country Development Cooperation Strategy
CHAP	Community Health Action Plan
CHC	Community Health Committee
CHN	Community Health Nurse
CHO	Community Health Officer
CHPS	Community-Based Health and Planning Services
CHV	Community Health Volunteers
CMAM	Community Management of Acute Malnutrition
CWC	Child Welfare Clinic
DA	District Assembly
DDHS	District Director of Health Services
DHIMS2	District Health Information Management System (Second Edition)
DHMT	District Health Management Team
DHS	Demographic and Health Survey
E4H	USAID/Ghana Evaluate for Health Project
FP	Family Planning
GHS	Ghana Health Service
GSS	Ghana Statistical Service
GoG	Government of Ghana
IP	Implementing Partner
IPC	Infection Prevention and Control
IYCF	Infant and Young Child Feeding
LEAP	Livelihood Empowerment Against Poverty
MCSP	Maternal and Child Survival Program
M&E	Monitoring and Evaluation
MNCH	Maternal, Newborn and Child Health
MOH	Ministry of Health
MSI	Management Systems International
NHIS	National Health Insurance Scheme
OPD	Outpatient Department
OTSS	Outreach Training and Supportive Supervision
QA	Quality Assurance
QI	Quality Improvement
RDT	Rapid Diagnostic Test
RING	Resiliency in Northern Ghana
RRIRV	Report Requisition Issue and Receipt Voucher
SC	Supply Chain
SDHO	Sub-district Health Officer (Members of SDHT)

SDHT	Sub-district Health Team
SPRING	Strengthening Partnerships, Results and Innovations in Nutrition Globally
T3	Test, Treat, and Track Initiative
TBA	Traditional Birth Attendant
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

EXECUTIVE SUMMARY

Introduction

In its effort to attain universal health coverage for all its citizens, Ghana has made substantial investments in public health service delivery and has achieved improved health outcomes in recent years. However, the country continues to confront the need for expanded access to quality health services and strengthened national and community-based health systems. To respond to these challenges, USAID/Ghana has invested in the health sector with the goal of achieving equitable improvements in health status in Ghana. These investments primarily sought to increase access to integrated health services, expand the availability of community-based resources, strengthen and increase the responsiveness of the health system, and improve health sector governance and accountability.

This report presents endline findings from a longitudinal study of health services at the sub-district and community levels in Ghana, conducted as part of USAID's Evaluate for Health (Evaluate) project. The Evaluate project, launched in September 2014 and implemented by Management Systems International (MSI), is designed to provide overall monitoring and evaluation support for USAID's health portfolio in Ghana. Data collection for this endline study, conducted from January to February 2019, follows a baseline study with data collected from February to April 2015 and a midline study with data collected from February to March 2017. The endline study's main objective is to assess changes in key health indicators over the four years from baseline to endline (2015-2019) to provide an overall assessment of changes in health outcomes in the context of USAID's investments in Ghana's health sector over this period.

This Executive Summary lists the research questions that drove the endline study, describes its data collection process, summarizes key findings and indicates potential uses for the study's findings.

A. Research Questions

MSI and its subcontractor, Mathematica Policy Research, identified the study research questions through discussions with USAID/Ghana's Health, Population and Nutrition Office (HPNO) and its primary implementing partners (IPs) before the baseline in 2015. The final list of research questions reflects those determined to be most relevant to USAID's investments and that could not be answered by existing data. The final research questions are organized into four thematic areas:

1. Quality and Continuum of Health Care and Services

- What is the state of the quality of care across Ghana in Community-Based Health and Planning Services (CHPS) zones and health centers?
- Is there a continuum of care throughout the health hierarchy?
- What is the state of the quality of services?
- Do facilities have access to needed medical supplies?
- Do facilities have access to essential equipment?
- How satisfied are clients with the quality of care and services provided?

2. Culture of Quality Assurance and Quality Improvement

- Are data used for making decisions related to health care and services?
- Does the use of data for decision-making lead to care or service improvements?

3. Community and Governmental Support for Community-Based Health and Planning Services (CHPS)

- How engaged are communities in CHPS? Do they exhibit ownership and empowerment?
- How do district assemblies support CHPS?

4. Health Insurance

- Is National Health Insurance coverage increasing?
- Does National Health Insurance coverage change how and where people receive care?

B. Evaluation Design

This evaluation of the performance of USAID’s health sector investments uses a pre-post design to identify changes in key health indicators over time. The endline findings in this report are compared with baseline values to measure changes over the four-year period of implementation, 2015 to 2019. This study does include midline data for 17 indicators added to the design at midline for specific analyses.

C. Data Collection

The endline study relied on both quantitative and qualitative data collected by DevtPlan Consult, a Ghanaian data collection firm. Quantitative data collection occurred through a survey of community- and sub-district-level health facilities (CHPS zones and health centers) in all the 10 regions of Ghana. The endline survey targeted the same facilities that were sampled at baseline. This sample was representative of all CHPS zones and health centers in Ghana to provide national-level estimates. However, the study oversampled in five focal regions in which USAID invests most heavily — Central, Greater Accra, Northern, Volta and Western Regions — to provide precise estimates for this group. Like the baseline and midline surveys, the endline survey collected basic descriptive data about the sampled facilities, together with data on key indicators relevant to the research questions.

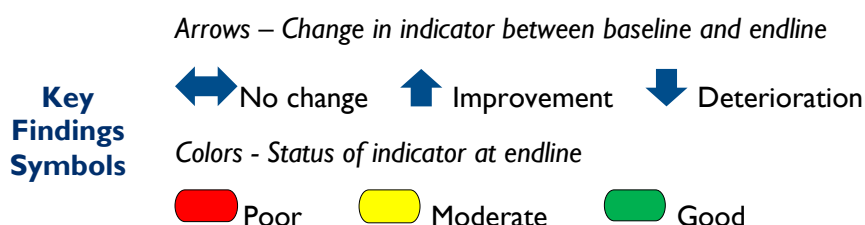
The response rate to the facility endline survey was 100 percent among targeted facilities. The final sample size included 607 facilities, made up of 453 CHPS, 153 health centers, and one polyclinic facility, of which about two-thirds were in the focal regions.

To complement the facility survey, the study collected qualitative data in the five USAID focal regions through key informant interviews and focus group discussions on three levels: district (district directors of health services [DDHSs] and District Assembly [DA] members); sub-district (sub-district health team [SDHT] leaders and members); and community (CHPS zone clients, community leaders and community health committee [CHC] members). In total, the study team completed 165 qualitative interviews (148 key informant interviews and 17 focus groups) across the five focal regions. The report includes the data collection instruments and full data tables in the appendices.

D. Key Findings



The study triangulated information from the quantitative facility survey and qualitative interviews and focus groups to identify aspects of the health system that were working well at endline, key changes between baseline and endline, and important remaining gaps in each of the study’s four thematic areas. The key endline findings, organized by thematic area, follow.

We have marked the key findings on each research questions with arrows that describe the trend and endline levels of the study indicators. The legend below describes the interpretation of these arrows.



I. Quality and Continuum of Care and Services




KEY FINDINGS - REFERRALS

-  Despite improvements since baseline, at endline most clients referred from CHPS zones to other facilities did not return to CHPS zones with written feedback notes on care received in other facilities.
-  About half of CHPS zones did not keep written referral records.

A key component of the overall quality of care and services is the continuum of care throughout the health hierarchy from community to CHPS zone to health center to district hospital. This study assesses the continuum of care in terms of referrals and referral records. At endline, the percentage of clients referred to other facilities was low, at 7 percent of CHPS zone clients and 17 percent of health center clients, on average. Similar to the baseline, referrals at endline were most frequently for malaria, pregnancy-related complications, anemia, hypertension, and accidents and injuries.

Although the percentage of clients referred from CHPS zones returning with referral feedback notes increased substantially² to 37.4 percent at endline as compared to 21.5 percent at baseline (focal regions), the number returning without notes remained high (two-thirds of referred clients in the average CHPS zone) and about half of CHPS zones did not maintain written records of referrals. Qualitative data collection at endline revealed increased use of technology, such as the WhatsApp platform, to share information about referrals across facilities. While this platform improves direct communication between facilities about referrals, it does not ensure written documentation of care that could contribute to better managed post-referral care.

KEY FINDINGS - SERVICE PROVISION

-  Both CHPS zones and health centers improved service provision in several key areas between the baseline and endline, notably in comprehensive family planning, the number of facilities conducting deliveries and home visits. Other improvements include significant³ increases in the number of home visits conducted, and increased use of malaria RDTs.
-  However, some important gaps in service provision remained, such as malaria treatment. While provision of appropriate malaria treatment improved, such treatment was not yet universal.
-  Tracking of key child health and nutrition data declined, with many facilities not recording underweight status and most not recording height.

Both CHPS zones and health centers improved service provision in four key areas between the baseline and endline.

1. **Malaria testing:** testing using RDTs increased substantially from 50.1 percent at midline to 76.7 percent at endline among health centers in focal regions (though gaps remain).
2. **Comprehensive family planning services:** provision of contraceptives increased among CHPS zones to complement ongoing family planning counselling. At endline nearly all CHPS zones and health centers offered both family planning counseling and contraceptives. Nonetheless, secondary data suggest that, nationwide, most women do not use any type of family planning method. Specifically, per the 2017-18 Ghana Multiple Indicator Cluster Survey (MICS), 73 percent of women between the ages of 15 and 49 who were married or in union did not use any family planning method (MICS 2018).

² We use the terms “substantial” or “substantially” to refer to changes that are large in magnitude. Changes that we describe as “substantial” are statistically significant, but changes that are statistically significant may not be substantial. In this case, the percentage of clients referred out who returned with feedback notes increased from 22 percent at baseline to 37 percent at endline. This difference was large in magnitude and statistically significant at the 1 percent level.

³ We use the term “significant” to refer to differences that are statistically significant at the 10-percent level or better.

3. **CHPS zone deliveries:** The proportion of CHPS zones conducting deliveries increased significantly from 25 percent at baseline to 36 percent at endline. This increase could be related to recent policy changes that assign midwives to more CHPS zones and allow some trained Community Health Officers (CHO) to conduct uncomplicated deliveries at these lower-level facilities. Recent MICS data showed that nationally, 78 percent of women gave birth in a health facility in recent years (MICS 2018).⁴
4. **Home visits:** The average number of routine home visits more than tripled among health centers nationwide, increasing from 48.9 at baseline to 174.7 at endline in the previous two months before the survey. The percentage of facilities conducting visits changed little from baseline to endline; the increases in the number of home visits is driven by facilities conducting more visits rather than by more facilities conducting visits.

However, six important gaps in service provision remain at endline, including:

1. **Malaria treatment:** at endline, only about half of CHPS zones and about two-thirds health centers reported following Ghana Health Service Test, Treat, and Track (GHS T3) protocol for malaria treatment in the previous two months.
2. **Maintenance of key child anthropometric information:** nearly all CHPS zones maintained child weight and age data in nutrition registers, but only about 62 percent maintained underweight or weight-for-age data. Further, only about 7 percent of CHPS zones maintained child height data, a substantial decline since baseline. The proportion of health centers that maintained child height and underweight data was about ten percentage points higher than CHPS zones at endline, but still far from universal. Recent data showed rates of stunting, wasting, and underweight at 18, 7, and 13 percent, respectively, among children under five (GSS 2018).
3. **Staffing of all types:** Qualitative interview data suggested that CHPS zones and health centers face serious staffing shortages- especially among midwives, physician assistants, and security personnel.
4. **Physical infrastructure:** Qualitative interview data indicated that CHPS compounds would benefit from additional rooms to serve different types of clients (e.g. adolescents), renovations for old and deteriorated buildings, toilet facilities, and staff accommodations.
5. **Transportation:** At endline a lack of transportation for outreach, supplies and transporting clients to facilities continues to be a critical challenge to service provision.
6. **Support for the active surveillance of infectious diseases:** communities reported lacking motivated volunteers to search for and identify cases of infectious disease in their communities and in some cases, the equipment required to investigate infectious disease outbreaks was in short supply.

KEY FINDINGS - STAFF TRAINING






There was a large decline between baseline and endline in the percentage of facilities in which staff had received training combined with supportive supervision in the last 12 months. Facility survey data revealed decreases in training on topics related to malaria, malaria data tracking, maternal and child health, nutrition, and management-related topics. The decline in staff being trained in these topics at endline in the last year is likely due to (1) a shift after midline to training frequency that followed the GHS guidelines of training every three years and (2) a Systems for Health programming shift in the USAID focal regions from training to supportive supervision

Facility survey data revealed widespread decreases in recent staff training and complementary supportive supervision related to caregiving and management between baseline and endline in focal regions and nationwide. Indicators of training within the last year decreased steeply among CHPS zones and health centers for topics related to malaria, nutrition, maternal and child health, data tracking, and facility management; in most cases these decreases occurred between midline and endline. For example, the proportion of CHPS zones with at least one staff member trained in each of three key aspects of malaria

⁴ The statistic refers to the most recent live birth among women between the ages of 15 to 49 who had a live birth in the last two years.

care (malaria case management, malaria RDTs, and malaria in pregnancy) declined by nearly half between baseline and endline and by nearly a third among health centers. These declines are likely due to (1) a shift from frequent training in the period leading up to the baseline and through the midline, to training that followed the GHS guidelines of training every three years, starting after the midline and (2) a Systems for Health programming shift as of 2017 in the USAID focal regions from training plus supportive supervision to supportive supervision alone. At endline, almost half of CHPS zones and more than half of health centers nationwide indicated that they had unmet priority training needs.



KEY FINDINGS - AVAILABILITY AND RESPECT OF PROTOCOLS

-  Among CHPS zones, the availability of written treatment protocols remained limited at endline.
-  Among health centers, the availability of written treatment protocols improved for some, but gaps remained.
-  CHPS zones and health centers both substantially increased compliance with standard guidelines for sanitation and infection control.

The study examined the availability of key guidelines for treatment of clients and the extent to which facilities followed prescribed guidelines for sanitation and preventing infections. Important gaps remained in the availability of written treatment protocols, especially at CHPS zones. For example, written protocols for managing acute undernutrition and maternal and newborn care not available in almost two-thirds of CHPS zones, with limited changes since baseline.

Nevertheless, both CHPS zones and health centers substantially increased compliance with standard measures related to having proper equipment for sanitation, sterilization, waste disposal, and ways of dealing with contagious clients (e.g. hand washing, disinfectant, gloves, etc.)⁵.

KEY FINDINGS - SUPPLY CHAIN MANAGEMENT

-  Supply chain management significantly improved in some aspects, such as increased use of control cards and an increase in facilities with a dedicated person responsible for ordering supplies.
-  Maintaining adequate stocks of medicines, supplies, and equipment remained a significant obstacle to quality of care and service at endline.

The endline survey suggests that supply chain management significantly improved in both CHPS zones and health centers between baseline and endline. Notable changes included increased availability and use of control cards for a wide range of commodities, increased percentage of facilities with updated control cards in the 30 days before the survey, and an increase in the proportion of facilities with a dedicated person responsible for ordering supplies. In focal regions, averaging across commodities, the average percentage of commodities for which facilities had control cards available rose from 42 to 68 percent among CHPS zone and from 65 to 86 percent among health centers.⁶

Despite the increase in use of control cards, the frequency with which facilities could not supply clients' needs because of stock-outs increased, with 29 percent of health facilities in the focal regions not being able to supply a client's need due to a stock-out once or more per week, compared to the 5.7 percent reported at baseline. Nonetheless, stock-outs became less common for certain commodities (for example, malaria RDTs, injectable contraceptives, and most immunizations).

A key challenge identified to maintaining adequate stocks was financial constraints on the part of facilities, due in large part to delayed reimbursement from the National Health Insurance Scheme (NHIS). Other challenges include insufficient availability of medicines and supplies from the regional medical stores, and the move to the Last Mile Distribution system in 2017, which shifted centralized supply distribution to the regional medical stores but created logistical challenges in transporting medicines and supplies to facilities.

⁵ Systems for Health supportive supervision included a focus on infection prevention and control (IPC) which may have contributed to improvement in focal regions.

⁶ This is calculated based on the subset of commodities for which the baseline and endline surveys included questions about availability of control cards. This excludes three commodities that were not included at baseline for CHPS and five that were not included at baseline for health centers..

Baseline gaps in availability of essential equipment needed for delivery, nutrition assessment, and counseling generally persisted at endline, though availability of certain equipment, including equipment for handling emergency deliveries, improved.

KEY FINDINGS - COMMUNICATIONS TECHNOLOGY



Access to cell phones, computers and tablets increased across CHPS zones in focal regions and all regions between baseline and endline, but most CHPS zones still had no phone, computer, or tablet access.



Access to cell phones, computers, and tablets also increased among health centers, but gaps remained in cell phone and computer coverage.

Access to cell phones and computers (or tablets) increased across CHPS zones and health centers in focal regions and all regions between baseline and endline, but most CHPS zones still lacked such access, and gaps remained for health centers as well. The reported increases in access to computers or tablets might have been driven in part by the rollout of the District Health Information Management System (DHIMS2) e-tracker, which occurred in Upper East and Volta Regions by the time of the endline.

KEY FINDINGS – CLIENT OPINION OF CHPS ZONES



Clients and community leaders overall reported very positive opinions of CHPS zones and health centers, although they noted challenges in terms of supplies, equipment, facilities and staff.

As at baseline and midline, most clients and community leaders interviewed at endline had a very positive opinion of CHPS zones. Clients were pleased with positive staff attitudes and the respect CHOs showed them, the quick service delivery they received, and the proximity, and the quality of treatment provided at their CHPS zone. Clients and community leaders also flagged the ability to receive treatment on credit at some CHPS zones as an additional positive attribute. A noticeable change clients reported in qualitative interviews was the increase in the number of skilled deliveries conducted in CHPS zones, which is consistent with the survey data. Clients considered the increased availability of female midwives at CHPS compounds a considerable improvement. Clients at health centers were also satisfied with the quality of care and services they received, and specifically noted infrastructure improvements in the last two years.

However, respondents in all regions noted that care could still be improved. For both CHPS zones and health centers, an important area for improvement identified by clients was ensuring availability of supplies and medication, along with the need for increasing access to essential equipment. Clients also mentioned the need to increase the number of staff at facilities, specifically midwives, physician assistants and security staff and to improve infrastructure. All respondent types noted that some CHPS zones are in need of renovation due to small, old, and dilapidated structures, and that accommodation for CHPS zone and health center staff is often inadequate. Challenges remained with the availability of electricity and pipe-borne water in some CHPS compounds.

KEY FINDINGS – HEALTH PROMOTION




Awareness of the “GoodLife, Live It Well” campaign remained high, and clients’ recall of messages and reports of behavior change suggested receptivity to the messages.

GHS relaunched a national health promotion campaign, “GoodLife, Live It Well” in July 2016, using television, radio, social media and print materials to promote positive health behaviors in family planning, MNCH, malaria prevention and treatment and water, sanitation and hygiene. The endline survey showed that about 90% of CHPS zones and health centers surveyed reported using GoodLife, Live It Well campaign materials during health promotion activities. About two out of five clients interviewed in the qualitative research reported changing behaviors since the campaign was introduced. The most often-cited changes were increased handwashing, family planning, and sleeping under insecticide-treated bed nets. Although this cannot be considered definitive evidence of impact given the possibility that clients reported desirable responses or were referring to other health promotion campaign materials, it does suggest that the campaign affected knowledge and attitudes to some degree.

2. Culture of Quality Assurance and Quality Improvement


KEY FINDINGS - QUALITY ASSURANCE AND QUALITY IMPROVEMENT

 Large improvements occurred in formal quality assurance/quality improvement (QA/QI) action plans and activities between baseline and endline.

Health centers are expected to have a team focused on QA/QI activities that meets on a regular basis to discuss quality improvement efforts (CHPS zones are typically too small to support a team, and are normally part of the sub-district QA/QI team; however, they still have QA/QI plans). Overall, the endline findings showed substantial improvements in formal QA/QI activities. The endline suggested a significant increase in the percentage of health centers that reported having an active QA/QI team, as well as an active QA/QI team that met at least once in the three months before the survey.


Endline data from qualitative interviews suggested that the increase in the implementation of QA/QI action plans and activities, and the spread of QI to some CHPS zones have been aided by increased availability of all types of health personnel and equipment, as well as training to enhance knowledge of how to implement QA/QI at health facilities.

KEY FINDINGS - DHIMS2 DATA QUALITY

 District- and sub-district-level stakeholders reported that the quality of DHIMS2 data was good and had improved over the past two years. Most facilities collected and validated data, with nine out of ten facilities nationwide validating DHIMS2 reports with source documents.


District- and sub-district-level stakeholders reported that DHIMS2 data quality was good and has improved over the past two years, largely due to various trainings and data validation by facilities before submission. At endline, 89 percent of CHPS and 94 percent of health centers nationwide reported that they validated data against source documents before submission. However, interviewees noted that the lack of access to computers and reliable internet connections continued to hamper timely data collection, storage, compilation and transfer.

KEY FINDINGS - e-TRACKER

 Sub-district health officers (SDHOs) and District Directors of Health Services (DDHSs) in districts where e-tracker was rolled out found the electronic data capture systems gave them improved access to data for planning and decision-making which, in turn, helped to improve quality of care. The main challenge were internet connectivity and the instability of the e-tracker system which restricted access to updated data.

GHS rolled out a region-wide electronic client transaction data capture system known as the e-Tracker in three regions in 2018, with the objective of eventually transferring data collection from paper registers to electronic means. USAID and Samsung supported GHS to roll out the e-Tracker in all CHPS zones and health centers in the Upper East, Volta, and Eastern Regions. The main challenges reported by e-Tracker end-users during the rollout in Upper East and Volta regions included internet connectivity and periodic system crashes of the application. Qualitative interviews confirmed, however, that health workers are optimistic about the long-term benefits of the system.

KEY FINDINGS - USE OF DHIMS2 DATA

 DDHSs and SDHOs reported using DHIMS2 data for planning and decision-making. DDHSs reported that their analysis capacities had improved over the past two years.

All DDHSs interviewed reported using DHIMS2 data to track the performance of facilities and to inform their decision-making, notably as concerns posting of health worker staff, immunization coverage, planning community outreach, distribution of equipment, and financial disbursements. Increased use of DHIMS2 data over the last two years may be due in part to improved data analysis skills attained through training and more frequent PPME-district, regional and national level reviews of performance. At the sub-district level, SDHOs reported using data more frequently than in the past for decision-making about

immunizations and planning *durbars*. CHPS zone staff reported using data collected for DHIMS2 for monitoring stocks, planning work, budgeting, projecting needs and triggering investigations of disease outbreaks. Survey data confirmed that in all regions, CHPS zones were using data for decision-making more often at endline than at baseline. Results for health centers in all regions were more varied, with data used more often at endline than at baseline for planning community outreach, improving supply chain logistics, and developing action plans. Health centers in focal regions were more likely to use data to help allocate resources at endline than at baseline. CHPS zones were also more likely to display graphs or tables at endline than they were at baseline. However, the percentage of health centers displaying updated data or graphs within the past month decreased significantly, from 38.9 percent at baseline to 2.7 percent at endline, in focal regions.

3. Community and Governmental Support for CHPS

KEY FINDINGS – CHC AND RELATIONS WITH CHPS STAFF



There was a substantial increase in the proportion of CHPS zones with a CHC since baseline; at endline, more than 97 percent of CHPS zones nationwide had a CHC. Most CHCs were reported to be largely functioning as intended.



At endline, CHCs continued to face several challenges in supporting CHPS zones, the main one being lack of funding.



CHOs' assessments of CHCs' effectiveness improved since baseline.



Community members reported good relations with CHPS staff at endline.

CHCs, composed of volunteers selected from the communities within each CHPS zone, are designed to serve as the link between health facilities and communities, with a focus on overseeing the health system at the community level and supporting Community Health Volunteers (CHVs). Between baseline and endline, the proportion of CHPS zones with a CHC increased from 55 to 95 percent in focal regions and from 63 to 97 percent nationwide. Qualitative data indicated that most CHCs were functioning per official guidelines, including meeting regularly and working to improve health in their communities.

However, CHCs continued to face challenges that hampered their effectiveness, including the lack of a regular funding stream for activities they would like to undertake to help their community's health, lack of transportation for meetings, inadequate information sharing, inexistent transport means for clients, and requirements to prioritize their livelihoods over their CHC responsibilities. Nonetheless, CHCs reported a number of ways they have helped their CHPS zone, such as organizing *durbars*, and leading community sanitation efforts. They have also fostered positive relationships between health workers and community members. At endline, most CHOs agreed that the effectiveness of their CHC had improved considerably since baseline.

KEY FINDINGS - COMMUNITY HEALTH VOLUNTEERS



CHVs were essential to providing the services expected of CHPS zones, but lack of payment, transportation and training is a barrier to recruiting and retaining CHVs.

CHPS zones are designed to be supported by CHVs. The key functions of CHVs in CHPS zones include conducting and supporting home visits, supporting CHOs in delivering basic care, conducting disease surveillance, supporting outreach and communication activities, and providing some basic community-based care. CHVs are not paid, but may receive incentives such as training, recognition of their role, praise, and thanks.

At endline, almost all CHPS zones continued to have CHVs, but the average number of CHVs per CHPS zone decreased from seven to five in focal regions and six to five in all regions. CHOs and CHC members reported that it can be difficult to find people who are willing to work for free and have the abilities needed to serve as a CHV. Once identified, they are not always regularly available and it may be difficult for CHPS zones and CHCs to retain them.

KEY FINDINGS - DISTRICT ASSEMBLY SUPPORT



DA members supported CHPS zones primarily by providing funding for infrastructure; however, securing sufficient funds remained an important challenge.



DDHSs and DAs had good relationships with USAID and many reported positive experiences with HPNO projects including Systems for Health and RING. DAs expressed a desire to be better integrated into or at least informed about work USAID does in their districts.

DAs are responsible for the infrastructure components of the health system in their district, including building, renovating and equipping CHPS compounds and providing accommodations for CHPS staff. However, qualitative interviews revealed that DAs faced a number of challenges in providing support—the main one being funding. As a result, most CHC members interviewed did not think the DA provided much support to their CHC or CHPS.

Nearly all DDHSs and DA members interviewed in focal regions reported having a good relationship with USAID and confirmed that their districts had received support from USAID for their health services. The Systems for Health project was mentioned as a positive example in all five regions, and RING was mentioned in the Northern Region. Different opinions emerged regarding how USAID worked with district level structures. DDHSs noted that they prefer USAID work directly with the district health system, while the DAs prefer that USAID and other organizations work through their system, so that they are aware of the work being done and can support it more effectively. RING was praised for working with DAs in this way.

4. Health Insurance

KEY FINDINGS - NHIS



Membership in the national health insurance scheme (NHIS) at endline was widespread, even if it decreased slightly since baseline. Substantial regional variation remained.



Slow payment of NHIS claims to facilities continued to be a challenge and was an important driver of stock-outs.



Higher levels of NHIS coverage were handicapped by logistical challenges, although community outreach and mobile phone renewals helped to offset these challenges. Other barriers included the cost of renewal, lack of sufficient benefits from the scheme, and perceived lack of need for insurance.



Insurance determined what services and medicines were covered; this varied per type of health facility; clients preferred to seek care at facilities where services and medicines they needed were covered.

DHIMS2 data showed a small but statistically significant decrease in the percent of clients who were insured who sought health care at the outpatient department of any health facility in the five focal regions. In January 2019, 73 percent of clients were insured while in 2015, 77 percent were insured. However, coverage varied from 89 percent in the Northern Region to 52 in Greater Accra.

At endline, the percentage of CHPS zones and health centers in focal regions that reported submitting at least one NHIS claim in the two months before the survey was the same as at baseline. Across all regions there was a large decrease for CHPS zones (to about two-thirds), but little change for health centers (more than 90 percent). However, only about half of CHPS zones and three-quarters of health centers nationwide had received reimbursements for one or more insurance claim within the last year at endline. It was much less common to have received reimbursement within 6 months of a claim. DDHSs, SDHOs, and CHOs across the five focal regions stressed the negative ramifications of NHIS' delayed reimbursement of claims and indicated that stock-outs of medicines were directly linked to non-payment of claims.

Clients and health care staff reported that the limited number of renewal centers and very long queues—requiring up to two to three days to register—at the NHIS centers were hindrances to health insurance registration and renewal. Internet connectivity problems at the centers seemed to add to the lengthy delays. New strategies cited to increase registration and renewal of insurance coverage included using field teams to renew and register members in communities and the introduction of NHIS card renewal via mobile phone, launched in December 2018, but health care staff felt that connectivity issues and client education were

needed to optimize these options. Financial constraints and lack of perceived need for insurance were other barriers cited to increasing coverage.

CHPS zones were limited in the types of services they can offer which were covered by NHIS. When possible, many clients sought care at higher level facilities so that their services and medicines will be covered.

E. Use of Endline Findings

The endline findings in this report showed positive changes in key indicators relevant to USAID Ghana's health portfolio four years after the 2015 baseline, notably as concerns service provision as concerns family planning, assisted deliveries, use of RDTs and home visits, along with improved IPC, QA/QI and use of DHIMS2 data. Although these findings cannot fully be attributed to the impact of USAID interventions, they do inform understanding of changes in the Ghanaian health system coinciding with implementation of USAID projects. The endline levels of key indicators, together with findings from qualitative data, also highlighted important remaining gaps in the coverage and quality of health care in CHPS zones and health centers, especially in terms of staffing, infrastructure, transport and CHV retention. A key further weakness identified in the overall health system was the lack of NHIS reimbursements to facilities which impeded their ability to provide needed medicines and supplies and influenced clients to seek care at higher level facilities rather than CHPS zones. The endline study is intended to contribute to programming decisions by GHS and other donors to address remaining gaps in subdistrict facility-based health care in Ghana.

I. INTRODUCTION

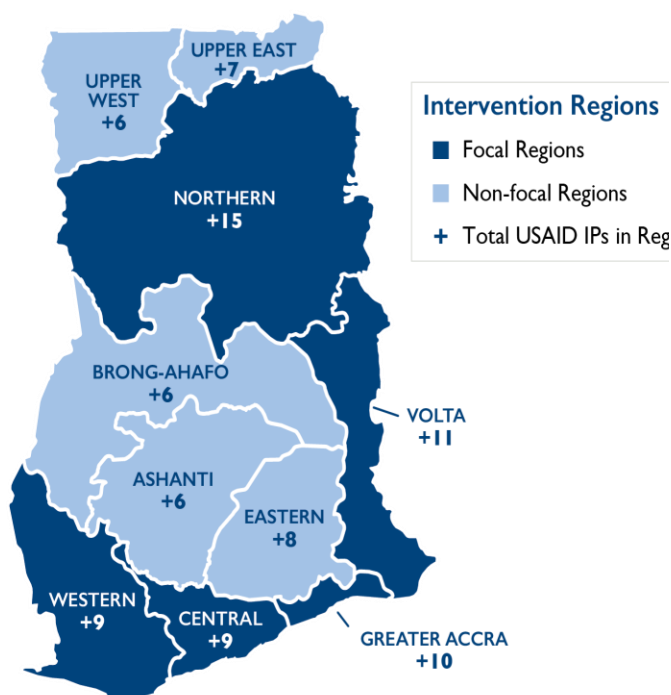
In recent years Ghana has invested substantially in public health and achieved advances in health outcomes. Notably, it has reduced early childhood mortality by more than one half, childhood malnutrition rates by nearly one half, and maternal mortality by nearly one quarter (Ghana Statistical Service et al. 2018 and UNICEF 2019)⁷. However, there is still a need to expand access to quality services and strengthen national and community-based health services (National Community-Based Health Planning and Services Forum 2016).

To assist the country in meeting these challenges, the U.S. Agency for International Development/Ghana (USAID/Ghana) developed a 2013–2017 Country Development and Cooperation Strategy (CDCS), extended through 2019, that seeks to achieve the following improvements in the Ghanaian health system: (1) increased access to integrated health services; (2) expanded availability of community-based resources; (3) strengthened and responsive health systems; and (4) improved health sector governance and accountability. These improvements are intended to contribute to the CDCS development objective to achieve equitable improvements in health status in Ghana.

This report presents endline findings from a longitudinal study conducted as part of USAID’s Evaluate for Health (Evaluate) project. The Evaluate project, launched in September 2014 and implemented by Management Systems International (MSI), is designed to provide overall monitoring and evaluation support for USAID’s health portfolio in Ghana. Data collection for the Evaluate endline study, which was conducted from January to February 2019, follows up on data collection conducted for the baseline study,⁸ which was conducted from February to April 2015 and for the midline study, which was conducted from February to March 2017. The endline study’s main objective is to assess changes in key health indicators over the four years from baseline to endline (2015-2019) to provide an overall assessment of changes in health outcomes in the context of USAID’s investments in Ghana’s health sector over this period. The key health outcomes evaluated in this study include the quality of care and services provided, the use of data for decision-making, community and government support for CHPS zones (Community-Based Health and Planning Services, which are community-level primary health care providers), and the role of health insurance in how and where people receive care.

MSI and its subcontractor, Mathematica, designed and conducted the endline evaluation, which relied on primary quantitative and qualitative data. The study collected quantitative data through a survey of the same health facilities sampled in the baseline and surveyed at baseline and midline — community-based health and planning services (CHPS) zones at the community level and health centers at the sub-district level—across all 10 regions of Ghana. USAID was interested in measuring changes in quantitative indicators in five regions in which it invests most heavily—the Central, Greater Accra, Northern, Volta

FIGURE I. FOCAL AND NON-FOCAL REGIONS FOR USAID’S HEALTH INVESTMENTS IN GHANA



⁷ Childhood mortality decreased from 111 deaths before the age of 5 per 1,000 live births between 2003 and 2017 (Ghana Statistical Service et al. 2018). Childhood malnutrition fell from 35 percent in 2003 to 19 percent in 2014 (UNICEF 2019). Maternal mortality fell from 451 maternal deaths per 100,000 women in 2007 to 343 in 2017 (Ghana Statistical Service et al. 2018).

⁸ http://pdf.usaid.gov/pdf_docs/PA00KWIF.pdf

and Western regions (see Figure 1 and Appendix C—Table B for full list of implementing partners [IPs] per region), referred to in this report as the focal regions. However, the endline evaluation also measured changes in all 10 of Ghana’s regions together, because some of USAID’s investments (particularly those related to malaria, maternal and child health, nutrition and supply chain management) are not restricted to the focal regions and because the Ghana Health Service (GHS) wanted to measure changes over time at the national level. The study collected qualitative data for the endline evaluation from community-level stakeholders and clients, CHPS health officers, sub-district health team leaders and district-level decision-makers in the five focal regions. Most stakeholders interviewed for the endline had not been part of previous rounds of data collection.

Sections I.A, I.B, and I.C of this introductory chapter provide context for this endline evaluation by summarizing USAID’s health portfolio in Ghana, describing the work of the GHS, and listing the key research questions that were used to identify indicators for the evaluation. Section I.D briefly describes the performance evaluation design used to analyze changes over time in these indicators. This chapter concludes with a road map for understanding the content of the rest of the report.

A. Overview of USAID’s Health Portfolio

USAID’s health portfolio in Ghana aims to improve various aspects of the Ghanaian health system through investments in 21 projects or initiatives over the period of this longitudinal study, 2015-2019. Figure 2 lists these projects or initiatives and indicates the health areas that each addressed. For the baseline, midline and endline studies, the study team consulted with implementing partners of the major USAID-funded health projects: (1) Systems for Health (Systems); (2) Strengthening Partnerships, Results and Innovations in Nutrition Globally (SPRING); (3) the Maternal and Child Survival Program (MCSP); (4) Resiliency in Northern Ghana (RING); (5) MalariaCare; (6) Communicate for Health (C4H); (7) WASH for Health (W4H); and (8) Global Health Supply Chain and Procurement Services Management (GHSC-PSM). The first five projects started in 2013/14 and the last three projects will end in 2019/20. See Annex B for descriptions and timeline of these eight USAID-funded projects.

FIGURE 2. USAID PROJECTS AND INITIATIVES, BY FOCUS AREA

	Implementing Partners (IPs)	BCC	CHPS	Family Planning	HIV/AIDS	Health Financing	Health Information System	Infection Prevention & Control	Malaria	MNCH	M&E	Nutrition	Pre Service Education	Quality Improvement	Supply Chain	WASH
Key Endline Study IPs	1 RING (Global Communities)															
	2 Systems for Health (URC)															
	3 SPRING (JSI)															
	4 MalariaCare (PATH)															
	5 MCSP (JHPIEGO)															
	6 WASH for Health (Global)															
	7 Communicate for Health (FHI360)															
	8 GHSC-PSM (CHEMONICS)															
Other IPs	9 Africa IRS (Abt)															
	10 Ghana Information for Improves Health Performance (GIIHP) – Boston															
	11 Ghana Social Marketing Program (PSI)															
	12 HealthKeepers Network															
	13 HFG (Abt)															
	14 People for Health (SEND)															
	15 PreMaND (NHRC-Navrongo)															
	16 RISK (WAPCAS)															
	17 Saving Maternity Homes (Banyan Global)															
	18 SHOPS (Abt)															
	19 United States Pharmacopeia (USP)															
	20 Strengthening the Care Continuum (JSI)															
	21 Vector Works/PMI (JHU)															

Source: Implementing Partners Annual Reports FY2016. Intervention acronyms: CHPS, Community-Based Health and Planning Services; FP, Family Planning; HIS, Health Information Services; IPC, Infection Prevention and Control; MNCH, Maternal, Newborn and Child Health; M&E, Monitoring and Evaluation; QI, Quality Improvement; SC, Supply Chain; WASH, Water, Sanitation and Hygiene.

B. Ghana Health Service

To implement its health projects, USAID works closely with Ghana's Ministry of Health (MOH) and its service provision agency, the Ghana Health Service (GHS). The MOH formulates policy, monitors and evaluates performance, and mobilizes resources to develop the health sector. GHS is responsible for maintaining high levels of performance in the provision of preventive and clinical care services as well as health promotion at the community, sub-district, district and regional levels. It is in this context that USAID identified opportunities to support Ghana's efforts to improve health outcomes in the country.

Ghana's national health policy, "Creating Wealth through Health" (MOH 2007), is executed through a series of medium-term development plans (MTDPs), the most recent of which covers the period 2014 to 2017 and identifies poor access to health services and the low quality of services as the most severe problems in the sector. To address these critical issues, GHS, in cooperation with the development partners, is implementing a strategy that emphasizes community involvement and the creation of CHPS zones to provide local-level health services and health promotion, including reproductive, maternal and child health services; treatment of diarrhea, malaria, acute respiratory infection and childhood illness; comprehensive family planning; childhood immunizations and health outreach. CHPS zones are staffed with community health officers (CHOs), who are usually trained community health nurses (CHNs) assigned to the zone. Recently, midwives have been added to some CHPS zones to provide delivery services. Community health volunteers (CHVs) support CHOs and are involved in educating the community on basic health issues and assisting with referral services and community social mobilization. CHPS services are delivered mainly through home visits, although treatment is provided for clients who come to the CHPS compound, if there is one. The strategy relies on communities, government and private stakeholders to provide financial or in-kind resources for CHPS infrastructure and to provide oversight for service delivery and welfare of the CHOs and any other healthcare workers assigned to the CHPS compound. As of the end of 2016, there were 4,700 CHPS compounds across the 10 regions of Ghana (Ghana Web, 2016). Whereas CHPS zones serve communities, health centers are larger, operating at the sub-district level. Health centers are more formal facilities with a permanent physical location, a larger staff of medical professionals, and which offer more health services. Chapter II, section A provides a more detailed description of the structure of Ghana's health sector, CHPS zones, and health centers.

After the baseline round, GHS adopted two key documents related to CHPS service delivery: a revised national CHPS policy, followed by the CHPS National Implementation Guidelines. The national CHPS policy document was proposed and discussed extensively beginning in November 2014 when the GoG declared CHPS a national priority. The MOH officially adopted the policy and guidelines in August 2016, accompanied by renewed investment by GoG and development partners in making CHPS zones functional through investments in infrastructure (e.g., construction of CHPS compounds), equipment (including transportation) and capacity building among health workers at CHPS and in the sub-districts. The guidelines also resulted in the development of specific protocols (e.g., antenatal care and acute malnutrition) to use at the national, regional, district, sub-district and community levels. Challenges remain, however, in ensuring the widespread availability and application of the revised guidelines and protocols, especially at the CHPS level.

The new guidelines were formally adopted two and a half years before the endline fieldwork, likely influencing operations at CHPS zones after the baseline study. The new CHPS guidelines cover the following areas:

- Basic required package of services (39 total, including maternal, neonatal and child health; reproductive health; treatment of minor ailments; health education and counseling; and follow-up)
- Health financing—role of local government, National Health Insurance Scheme reimbursement, and development partner contributions
- Leadership and governance—role of the District Director of Health Services and District Assembly (DA)
- Visits and meetings guidelines
- Guidelines for referrals to and from facilities

- Community engagement and community health action plan
- Facility and resource management
- Supportive supervision
- Performance measurement and evaluation

C. Research Questions

The research questions that the evaluation seeks to inform were identified through discussions with project stakeholders (USAID's Health, Nutrition and Population Office and its primary implementing partners- see above) before the baseline in 2015. These discussions drew on a conceptual framework developed by USAID that illustrates the key pathways through which USAID's investments are expected to result in changes in health outcomes (see Appendix A). Two main criteria determined the final list of research questions: first, which questions were the most relevant to USAID's investments and of greatest interest to GHS, either for planning or evaluation purposes; and second, which questions could not be answered using existing data sources, such as the Ghana Demographic and Health Survey (DHS). Because of the wealth of data available on population-level questions, the final list of evaluation research questions focuses on questions that require answers on the facility level, using a quantitative survey, and from key community, sub-district and district stakeholders, using qualitative interviews.

The study organizes the final research questions into four thematic areas:

1. Quality and Continuum of Health Care and Services

- What is the state of the quality of care across Ghana in CHPS zones and health centers?
- Is there a continuum of care throughout the health hierarchy from community to CHPS zone to health center to district hospital?
- What is the state of the quality of services?
 - Are appropriate and complete suites of services offered?
 - Do staff have access to implementation guidelines?
 - Are staff trained?
- Do facilities have access to needed supplies?
 - Is access to supplies timely, or are there stock-outs?
 - Is the access to supplies through the supply chain sustainable?
- Do facilities have access to essential equipment?
- How satisfied are clients with the quality of care and services provided?

2. Culture of Quality Assurance and Quality Improvement

- Are data used for making decisions related to health care and services?
 - What types of data are collected?
 - Are the collected data of good quality?
 - Are data disaggregated at usable levels (geographic and gender)?
- Does the use of data for decision-making lead to care or service improvements?

3. Community and Governmental Support for CHPS

- How engaged are communities in CHPS? Do they exhibit ownership and empowerment?
 - Is there a community-to-care linkage?
 - Is there a community health committee (CHC)?
 - Are users educated about their health rights and empowered to press for them?
- How do district assemblies support CHPS?

4. Health Insurance

- Is National Health Insurance coverage increasing?
- Does National Health Insurance coverage change how and where people receive care?

D. Evaluation Design

The evaluation of the performance of USAID’s health sector investments used a pre-post design to assess changes in indicators over time. The endline findings in this report provide baseline and endline values of selected key indicators, as well as changes in those indicators over the five-year period between baseline and endline (most project activities were implemented between 2015 and mid-2019). The pre-post design reflects USAID’s desire to focus resources on an evaluation that can inform a diversity of projects nationwide, with more rigorous evaluation designs (such as random assignment) reserved for more targeted interventions. The endline study describes quantitative outcomes at the national level (all regions) and for the five focal regions as a group. Reporting the levels of the outcomes for the focal regions as a group enables measurement of changes for the focal regions over time and illuminates how those translate into changes in national indicators. For certain USAID interventions—notably those related to the MalariaCare and MCSP projects—national-level changes are more relevant because these projects are not restricted to the focal regions.

An important caveat of the pre-post evaluation design is the inability to attribute any documented changes specifically to the USAID interventions given the number of confounding factors and variables at play in the regions, such as trends over time or interventions by the GoG or other agencies. Nonetheless, it is useful to document trends in outcomes of importance to the health sector and in which USAID has invested, and use qualitative information to assess the extent to which the USAID interventions might have contributed to the observed changes. Additionally, these documented trends in outcomes may assist in generating new hypotheses for various additional health-related assessments or studies.

E. Road Map of the Report

Chapter II covers the data sources used in this endline evaluation, including the quantitative and qualitative components, and the basic characteristics of the public health facilities in the endline sample. Chapters III through VI present findings related to the four thematic areas addressed by the research questions: (1) the quality of care and services, (2) the culture of QA and QI, (3) community and governmental support for CHPS and (4) health insurance. Finally, Chapter VII summarizes and discusses the implications of the findings.

II. DATA SOURCES AND ANALYSIS APPROACH

This chapter starts with a brief description of the structure of the health system in Ghana, to provide additional context for the evaluation findings. It then describes the data gathered for the endline evaluation (for further details on the sampling, the ethical approval process, data collection and analysis approach, see Appendix B). As mentioned in Chapter I, the study collected longitudinal quantitative data from a sample of health facilities in all 10 regions of Ghana and qualitative data from health sector stakeholders in the 5 focal regions. DevtPlan Consult, a local data collection firm, conducted all data collection activities in January and February 2019, following interviewer training by MSI and Mathematica in January 2019. The chapter ends with a brief summary of the characteristics of the health facilities that were the focus of data collection.

A. Structure and Functions of Ghanaian District Health System

The structure of the GHS was used to identify the appropriate health facilities for the quantitative survey. At endline, the overall structure of the GHS and its service provision, in line with government legislation (1996 GHS and Teaching Hospitals ACT 525), had not changed from the baseline. Administratively, the public health system continues to operate at national, regional and district levels with service provision organized along these levels. The district level remains the lowest administrative unit of the local government structure and shares the same boundaries as the health service delivery system—the Office of the District Chief Executive and the District Assembly (DA) exercising administrative oversight.

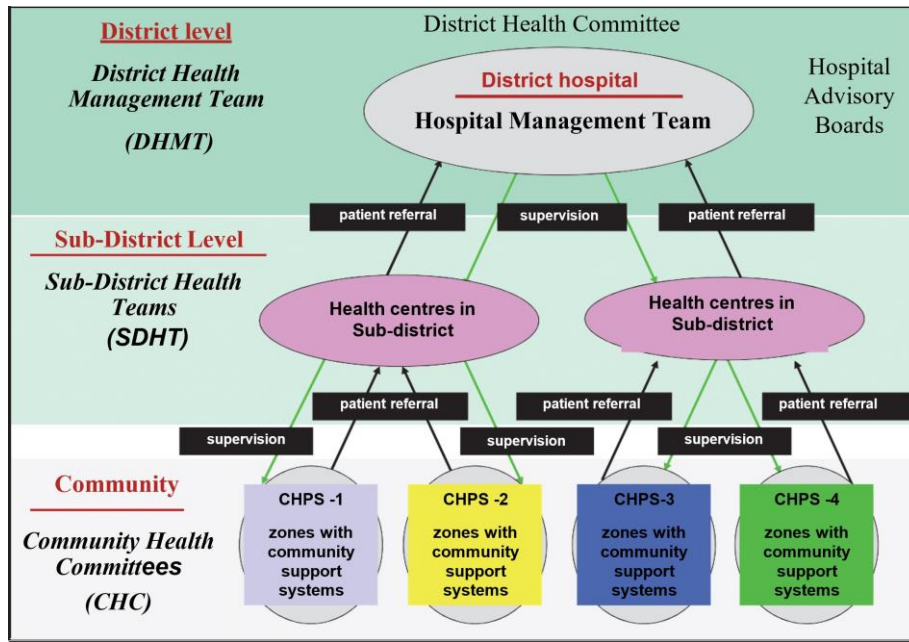
The district-level health delivery system is further organized into three tiers of service delivery systems, in which static and outreach systems provide most services to the general population. These include district hospitals (mostly at the district capital), health centers in the sub-districts and CHPS zones in communities. The baseline, midline and endline studies focused on service provision elements at the sub-district and community levels.

As illustrated in Figure 3, within each district, health service delivery and the local government structures and services are defined by the same borders and are organized in a three-tier hierarchy that includes the community level (with CHPS), the sub-district level (with health centers) and the district level (with district hospitals).⁹

- **At the community level**, households are linked to a specific CHPS zone, a geographical area that covers about 750 households (a population of about 5,000). CHPS zones deliver basic preventive and curative primary health care services to households. They provide treatment for minor ailments such as vomiting and diarrhea, first aid and maternal services. CHPS zones have developed at different rates throughout the country. Some already offer nutritional rehabilitation, adolescent health and development, prevention of mother-to-child transmission of HIV, early-infant diagnosis, and midwifery services for childbirth labor and delivery. A CHPS zone can include a structure or compound in which CHOs provide services, but not all CHPS zones have compounds. When that is the case, services are provided at other venues, including outdoors. CHPS zones typically include a CHO—a trained CHN who might be assigned to a community within the zone. There is often also another CHN or enrolled nurse at the CHPS zone, along with trained community health volunteers (CHVs), who are non-salaried community members who assist the CHOs. Recently, midwives have started to be assigned to some CHPS zones as well. CHPS zones are typically managed by community health committees (CHCs) composed of community leaders drawn from the CHPS zone who volunteer to provide community-level guidance to their CHPS, mobilize the planning and delivery of health activities and oversee the welfare of the CHOs in their communities.
- **At the sub-district level**, health centers provide preventive, curative and outreach services to the communities in their catchment areas. They also provide reproductive health, delivery and minor surgical services such as suturing. They are the first point of referral for CHPS zones. In general, a medical or physician assistant leads the health centers and they are staffed with program heads in the areas of midwifery, laboratory services, public health, environment and nutrition. Each health center serves a population of 20,000 to 30,000. Depending on the size of a sub-district, there could be up to five health centers, or none at all.
- **At the district level**, district hospitals serve a large population of 100,000 to 200,000 and provide more advanced care, surgical services and public health services. Health centers can refer severe or complicated cases to the relevant district hospital.

⁹ The health system also includes polyclinics, which serve urban populations much as health centers serve rural populations. However, there are only a few of these facilities and, as we note later, our facility survey sample did not include them.

FIGURE 3. PRIMARY HEALTH CARE ORGANIZATION IN GHANA



Source: CHPS National Implementation Guidelines (2016).

B. Quantitative Data Collection

Discussions during the baseline study design with USAID, GHS and other stakeholders identified community- and sub-district-level health facilities (CHPS zones and health centers) as the appropriate sites for the facility survey, given that these lower-level health facilities are the primary locations at which Ghanaians receive basic health services. These services are the most relevant to address the study’s research questions. The endline survey targeted the same facilities that were sampled at baseline.

USAID’s interest in examining levels of and changes in key outcomes for the five focal regions and at the national level influenced the study’s sampling approach. To describe key outcomes associated with USAID’s investments in Ghana’s health care system, the quantitative survey required a representative sample of CHPS zones and health centers in all 10 regions. In addition, the sample had to provide sufficient statistical power to detect meaningful changes in outcomes, especially for the five focal regions, while supporting a practical and feasible data collection strategy. The study used a two-stage sampling scheme to select the facility sample by first randomly selecting districts in each region, then randomly selecting sub-districts in each sampled district, and including in the survey *all* health centers and CHPS zones within each sampled sub-district at baseline. The study used proportional sampling within each type of region, and oversampling from the five focal regions, guaranteeing a sufficient sample representative of the focal regions alone and, with reweighting, a sample representative of all 10 regions.^{10,11} (Appendix B describes the sampling approach in more detail.)

MSI and Mathematica designed the baseline, midline, and endline survey instruments with substantial input from the local Evaluate staff, USAID, IPs, and GHS. All three survey rounds collected basic descriptive data about the sampled facilities and a range of indicators relevant to the research questions, focusing on the quality of health care and services, the culture of QA and QI, community support for CHPS and health insurance. Table 1 summarizes the sections and key topics covered by the endline facility survey; Appendix F

¹⁰ The survey sample consisted of an average of 8.4 districts per region in the focal regions (39 percent of districts in each focal region) and 5.0 districts per region in the nonfocal regions (25 percent of districts in each nonfocal region). Districts contain about 4.0 sub-districts on average. A random sample of three sub-districts was selected from each selected district. The facility sample represented about 23 percent of all such facilities in Ghana.

¹¹ USAID and IPs would ideally have liked the study findings to be more disaggregated, including the regional and district levels. However, the sample size required to produce reliable estimates at these levels would have been very large and resource-intensive. Therefore, the study focused on providing precise estimates at the national level or for the five focal regions as a group.

provides a text version of the survey as it was programmed into the computer-assisted personal interviewing tablets for data collection.¹²

Although the original design planned to use an identical survey instrument at baseline, midline, and endline, the research team decided jointly to add new questions to the midline survey. The midline report included results utilizing these new questions, but did not include baseline-midline differences because the new questions were not part of the baseline survey. At endline, we present the results of these questions at endline and again cannot include baseline-endline differences. However, to allow readers to assess trends in the results associated with these questions, Appendix E presents midline-endline results and differences for these questions. The research team also decided to add new questions to the endline survey. This report includes the results of these new questions, but does not include baseline-endline differences because the new questions were not part of the baseline survey.

TABLE I. KEY TOPICS COVERED IN THE ENDLINE FACILITY SURVEY, BY SECTION

Section	Key topics covered
Identifying information	Name of facility, region, district, sub-district, global positioning coordinates and location description, Type of facility, Respondent's name, job title, and length of tenure
Facility descriptive information	Number of CHVs, community health meetings (<i>durbars</i>)—number, topic, organization; number of clients; presence of working computer, cell phone and camera; access to texting, multimedia sharing and Internet
Quality and continuum of health care and services	Referrals to and from facility—number and reason; availability of written care protocols; sanitation, sterilization, disposal and contagion control measures; water source type and presence of functioning toilet or latrine; malaria testing and treatment protocols; training—topic, training type, provider, and type and number of staff trained; supportive supervision; access to essential medications, equipment and supplies; stock-outs; childbirth delivery (regular and emergency), antenatal care, family planning counseling and contraceptives, and malaria in pregnancy; home visits—number and type, health promotion—GoodLife, Live It Well Campaign
Culture of QA and QI	Data collection—type and frequency; referral records; childbirth delivery registers, antenatal services registers, neonatal and maternal mortality records, and nutrition registers or record books; data entered into registers; extent to which data are current; malaria tracking and data capture, and reporting; training in these areas; QA and QI team, activities, action plans, progress — reported, tracked or monitored, displayed and up to date; data validation; uses of data; inventory control tracking, planning, and ordering
Community support for CHPS	CHCs—existence, type of work and quality of work; recruitment of CHVs, services they provide and support they receive; community health action plans
Health Insurance	National Health Insurance Scheme (NHIS)—Health facilities submitting claims, number of clients who are members, knowledge about coverage under the NHIS.

The response rate to the facility endline survey was 100 percent among targeted facilities. The final sample size included 607 facilities, comprising 453 CHPS, 153 health centers, and one polyclinic facility, of which about two-thirds were in the focal regions.¹³

In all instances, interviewers interviewed either the person overseeing the operation of the health facility at the time of the endline survey or a trained staff member. For CHPS zones, in all regions, the most common type of respondent was a nurse (CHN or enrolled nurse) (53 percent) or a CHO (30 percent); for health centers it was the medical or physician assistant in charge of the facility (38 percent) or a midwife (36 percent) (Table I.1). The majority (81 percent) of the respondents had worked in their role at the CHPS for at least one year, and thus should have good knowledge of what was taking place in the facility. At sampled health centers, 85 percent of respondents had worked in their role at the health center for at least one year (see Appendix C, Table A for results for focal regions).

¹² USAID and the IPs are interested in tracking a wide range of indicators. This report focuses on key indicators, with the full set presented in Appendix D.

¹³ The response rate for the baseline was 98 percent, with a final sample size of 597 facilities. All analysis comparing baseline and endline values was restricted to the 593 CHPS zones and health centers interviewed at baseline and endline to avoid changes in the sample size driving the estimated changes over time. The analysis sample excludes the facility that converted to a polyclinic at endline because the study is focused exclusively on CHPS and health centers.

**TABLE I.1.14 RESPONDENT TYPE BY CHPS ZONE AND HEALTH CENTER
(PERCENTAGE OF FACILITIES)**

Type of Respondents (Job Title)	CHPS Zones ^a	Health Centers ^a
Community health nurse (CHN) or enrolled nurse	53.2	19.3
Community Health Officer (CHO)	30.0	2.2
Midwife or public health nurse midwife	17.2	35.6
Health care assistant	0.7	0.5
Medical or physician assistant	0.3	37.7
Other	6.2	16.9
Respondent has worked in their role at the facility for at least one year	80.7	84.5

^a Because multiple responses were possible, percentages sum to more than 100.

After receiving consent for the interview, interviewers asked respondents to collect up to 23 types of records, registers and reports for reference during the interview (Appendix F includes the full list on page 7 of the survey). Health centers typically had more of the requested documents than CHPS zones, and CHPS compounds had more records than CHPS zones without compounds. For CHPS zones without compounds (24 percent of CHPS zones), records were more likely to be improvised registers and forms than what was observed in health centers, where most record keeping used official registers. Interviewers were instructed to request documents to verify data for questions whenever possible; when documents did not exist, facility staff gave their best estimates. Interviewers generally did not record whether responses to specific questions were based on documents or were self-reported, except for a small number of indicators. For these indicators, interviewers recorded whether they verified the data. The tables in Appendix D disaggregate the data accordingly when possible. Data presented in the body of this report combine numbers reported by respondents and observed in record books. When feasible, the study team triangulated responses from different perspectives (community, sub-district and district level; and/or qualitative and quantitative) to obtain a more complete picture.

C. Qualitative Data Collection

The study includes qualitative research to capture stakeholders' perspectives on health service provision. The study team collected qualitative data in the five focal regions, focusing on one district in each region. The study team purposively selected these five districts during the baseline with input from USAID and its IPs. The same districts were used for endline data collection. Selection criteria included districts in which IPs had begun work early in their projects' implementation periods or districts that were somewhat representative of the region as a whole. Within each of the five selected districts, the Evaluate team selected two sub-districts sampled for the survey in which to collect qualitative data. Criteria for selecting the sub-districts were similar to those used for selecting districts, but ease of access was an additional criterion. Within each selected sub-district, the team selected two communities, using the same criteria as were used for sub-districts. Once again, interviewers for the endline data collection returned to the same communities selected for the baseline.

The main modes of qualitative data collection were key informant interviews and group interviews with seven types of participants (see summary in Table 2):

- **District level.** Two types of decision-makers were interviewed in each selected district. One was the **district director of health services (DDHS)**, who is the head of the district health management team (DHMT) and the official responsible for tracking health issues for GHS in each district. The DDHSs provided important perspectives on the process of making and implementing district-level decisions about health care delivery and changes in the past two to four years. The second type of decision-makers interviewed was **District Assembly (DA)** members, who are elected and play an integral role in the socioeconomic development of their communities. Interviewers attempted to interview the district coordinating director and the chair of Social

¹⁴ Tables like this table, that are new in this report and were not included in the midline report, have a decimal and a second number. This is explained more completely in the Report Tables and Figures section at the end of Chapter II.

Services Subcommittee, as these DA members are expected to have knowledge about and provide support to the health services in their districts.

- **Sub-district level.** In each of the selected sub-districts, interviews were conducted with the **sub-district health team leader** (SDHT leader). SDHT leaders coordinate the management of the sub-district health team and are expected to know about the health services in their sub-district. They also collect health data from CHPS zones and incorporate the information into the District Health Information Management System (DHIMS 2) national database.¹⁵ The SDHT leader could be a health center in-charge and is often a public health nurse or disease control officer. A second interview in each sub-district was conducted with another **sub-district health officer** (SDHO) such as the health information officer. These interviews sought to improve our understanding of community engagement in health care, QI in the CHPS zones and health centers, and data in CHPS zones and health centers, particularly with regard to record keeping, reporting and evidence-based decision-making.
- **Community level.** To gain the community-level perspective on the quality and delivery of health services, individual and group interviews were conducted with four types of local-level participants in each selected community: (1) **CHPS zone clients** to obtain their perspectives on health care delivery and quality (about one-quarter had also been clients of health centers); (2) a **community leader** including assembly members, chiefs, religious leaders, a queen mother, and others who play important roles in their villages or towns, for insights on facility care and community support; (3) a **CHO** who staffs a CHPS zone serving the community, to improve our understanding of the facilitators to, barriers to and changes in providing quality health care at the community level; and (4) members of a **CHC** for their views on CHC support for community-based health activities in CHPS zones.

Participation in the individual and group interviews was high. Interviewers completed more than 94 percent of the interviews targeted. In total, data collection staff conducted 165 qualitative interviews (148 key informant and 17 group interviews) across the five focal regions (Table 2). Data collection staff could not conduct three group interviews with CHCs as no CHCs existed in the communities chosen at the time of the endline, or seven interviews with sub-district health officers in sub-districts that did not have health information or disease control officers. These issues occurred among the Western, Northern, Greater Accra and Volta regions.

TABLE 2. RESPONDENTS, LOCATIONS, AND SAMPLE SIZE FOR QUALITATIVE DATA

Respondents	Geographic area	# of interviews or FG per geographic area	# of geographic areas	Total interviews targeted	Total interviews completed
DA members	District	2	5	10	10
District director of health services	District	1	5	5	5
Sub-district health officers	Sub-district	2	10	20	13
Health care clients	Community	4	20	80	80
Community leaders	Community	1	10	20	20
Community Health Officers	Community	1	10	20	20
CHC members (group interviews)	Community	1	20	20	17
Total key informant interviews				155	145
Total group interviews				20	17
Total interviews				175	165

¹⁵ DHIMS2 is a comprehensive health information management system, now in its second edition, that collects data across all facilities and aggregates performance information to monitor health outcomes and improve service delivery. GHS instituted the electronic database for reporting and analyzing routine health service data at every level of the GHS. CHPS zones send their data to the sub-district or the district level to have them entered into this nationwide database.

A full table of the summarizes of the topics covered in interviews with different respondent types is available in Annex C, Table 3. The goal of this data collection was to inform outcomes regarding quality of care and services, the culture of QA and QI, community and governmental support for CHPS and health insurance (Appendix F contains the qualitative data collection protocols).

All qualitative interviewers spoke both English and Twi, a dialect of the Akan language understood by a majority of Ghanaians, which ensured linguistic coverage for most interviewees. Among other languages spoken by the interviewers, two interviewers also spoke Dagbani, a Ghanaian language that is widely known as a second language in northern Ghana. As a result, the multi-lingual interviewers did not encounter any language barriers making them unable to interview a targeted respondent. Given time constraints and the familiarity of the interviewers with the interview topics, it was agreed that a formal written transcription of the full set of community-level protocols was not practical. However, an audio recording of key words was prepared by a native Twi speaker, and was reviewed and used for reference by the interviewers.

To benefit from cultural, linguistic and budgetary advantages of using local data collectors, The study team selected a skilled team of local qualitative interviewers. Most of the data collectors who participated in data collection at endline had also participated in the baseline and midline studies, and all had health sector experience or knowledge. To ensure that the interviewers had a clear understanding of the focus of the qualitative protocols, they underwent an intensive interactive training on the protocols, including mock interviews in the classroom and pretest interviews in the field. The study team also participated in direct field observations of the interviewers at the start of fieldwork. To ensure continuous learning in the field, the qualitative team debriefed each evening, and their team leader remained in close contact with the study team throughout the fieldwork to discuss updates and answer any questions they might have. The qualitative team also took analytical as well as descriptive notes daily throughout the data collection period. Interviewers also reviewed and edited their typed interview transcripts and notes at the end of the field period.

This process generated a rich qualitative data source that provides important insights into the health care services provided in the focal regions. The large number of respondents that included a variety of stakeholders ensured that the study captured a range of perspectives that were triangulated within and across stakeholders. When responses were inconsistent, similar and disparate responses were compared to understand the full scope of possible perceptions and experiences.

D. Analysis Approach

The study team combined quantitative and qualitative data to assess changes in indicators over time and to understand the context for those changes.

Quantitative data. The quantitative data analysis accounted for the sampling design by using sampling weights to account for different sampling probabilities when reporting means. These weights, which were largely driven by different proportions of districts sampled in the focal and nonfocal regions,¹⁶ ensure that the results are representative of all CHPS zones or health centers in the focal and nonfocal regions, as well as for all regions combined. To analyze the baseline and endline data, the study team used the Stata statistical software package (version 15 (StataCorp)) using the appropriate “svy” set of commands to obtain the correct standard errors for the estimated differences, taking the sampling approach into account (See Appendix B).

Report tables and figures. The tables presented in the report show various indicators separately for CHPS zones and health centers. Unless otherwise noted, results are presented as the percentage of facilities in which the specified indicator is observed. For each type of facility, the tables typically show the average value of a given indicator at baseline and endline, separately for the five focal regions (a first set of columns) and for all regions together (a second set of columns). Report tables also present the difference between baseline and endline results (by facility type and region group) and the statistical significance of those differences (***) statistically significant at the 1 percent level; ** statistically significant at the 5 percent level; and * statistically significant at the 10 percent level). The report tables and figures show key indicators.

¹⁶ Some variation also occurred in the number of sub-districts in each district, and some rounding approximations.

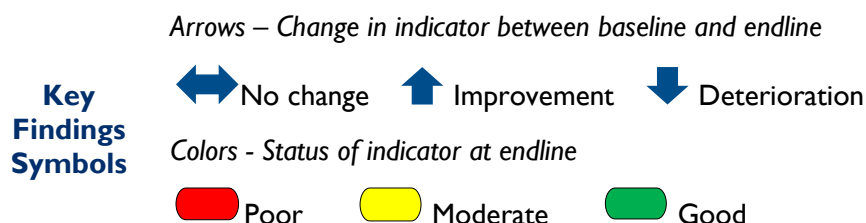
Appendix D shows a more complete set of indicators and shows results for focal regions, non-focal regions, and all regions, for CHPS zones and health centers.

Table numbering from the midline report has been preserved in the endline report to allow the reader to reference the same results across reports. (Table numbering in the baseline report differs slightly from table numbering in the midline and endline reports.) Tables that have been newly inserted in the endline report have a decimal point and a second number. For example, a newly inserted table between original midline tables 23 and 24 would be numbered 23.1. Most tables and figures report findings for both CHPS zones and health centers; those that present information only for CHPS zones end with the suffix “A,” and those that present information only for health centers end with the suffix “B.” Figures that are based on a table have the same number as the table on which they are based. If multiple figures are drawn from the same table, these are identified with lower-case roman numerals. For example, three figures drawn from Table 10 would be Figures 10.i, 10.ii, and 10.iii.

Similar to the main analysis that draws on baseline and endline results, Appendix E presents analysis comparing midline and endline means for the subset of results based on questions that were added to the midline survey. In the absence of baseline results, it is not possible to present baseline-endline differences for these variables; however, Appendix E presents midline-endline differences for these variables based on the data that are available.¹⁷

Qualitative data. For the qualitative data, the interviewing team and study team used NVivo to code the qualitative transcripts using codes the study team designed to match analytic categories based on the research questions of interest. The study team analyzed the coded data for each relevant concept by triangulating information from multiple sources and identifying additional major themes that emerged from the data. This analysis enabled the team to develop a key set of qualitative findings that took into account similarities and differences in perspectives across different participant types, providing a comprehensive picture of concepts of interest (See Appendix B).

Presenting key findings. At the beginning of each chapter and at the beginning of each section within Chapter III, we present key findings in text boxes. We have marked the key findings with arrows that describe the trend and endline levels of key indicators. The legend below describes the interpretation of these arrows.



III. QUALITY AND CONTINUUM OF CARE AND SERVICES

Quality and continuum of health care services in rural settings are major determinants of health outcomes and can influence the extent to which community members use or seek health care services. To assess the quality and continuum of care and services, this chapter first examines the integration of care by assessing the existence, functionality and dynamics of a referral system between health facilities. Then it describes the availability of key health services; assesses and contextualizes the training and supportive supervision provided to health care staff, and examines standards of care, measured by the availability and use of treatment protocols and sanitation measures in the facilities. Lastly, this chapter looks at the availability of supplies and equipment and explores clients’ satisfaction with care received at these facilities.

¹⁷ The midline-endline analysis in Appendix E uses the subset of facilities that completed both the midline and endline surveys. Endline means in Appendix E may differ slightly from endline means presented in the main analysis because the midline-endline analysis sample (facilities that completed midline and endline surveys) differs slightly from the baseline-endline analysis sample (facilities that completed midline and endline surveys).

A. Service Provision at Health Facilities

This section describes the scale and scope of health service provision at CHPS zones and health centers, to set the stage for the discussion of quality of care and services below. CHPS zones operate at the sub-district level and, for many, are the closest point of care. CHPS zones should provide a minimum package of services, including maternal and reproductive health services, neonatal and child health services, management of minor ailments, health education, and patient follow-up (National CHPS Policy, Policy Directive I, Ministry of Health (MOH) 2016). Health centers have traditionally been considered the first point of contact between the formal health system and the client. Health centers provide basic curative and preventive medicine for adults and children as well as reproductive health services (Ghana Health Service (GHS) 2017). However, because health centers are likely to offer more services and have more specialized staff members, services provided are likely to differ by facility type. Additionally, the scale of service provision may differ between CHPS zones and health centers. CHPS zones typically cover a population of approximately 5,000 people (MOH 2016), whereas health centers cover a population of approximately 20,000 (GHS 2017). Section I.B of this report also provided a description of CHPS zones and health centers.

1. CHPS Zones

The facility survey collected data on the number of clients who received services at each sampled CHPS zone in the two months before the survey. Table 4 shows that the nationwide average number of clients for a CHPS zone was highest for services for children, with a mean of 321; however, the number varied substantially across CHPS. Survey data also show that outpatient departments were the next most highly used services, with a nationwide average of 164 clients in the two months before the survey. CHPS zones in the five focal regions, on average, served more clients than those in the nonfocal regions for most services and departments listed.

2. Health Centers

Nationally, health centers on average served most clients in their outpatient departments, with a mean of 1,086 clients in the two-month period before the survey. However, similar to CHPS zones, facilities varied in the number of clients served. The second most common reason to visit a health center nationally was seeking services for children, with a mean of 705 clients in the two months before the survey.

TABLE 3. AVERAGE NUMBER (MEAN) OF CLIENTS IN PREVIOUS TWO MONTHS

Type of Service	CHPS Zones		Health Centers	
	Focal regions	All regions	Focal regions	All regions
Outpatient care	180	164	936	1086
Midwife consultation	46	35	241	210
Family planning	49	47	161	149
Pediatric care	375	321	751	705
Prevention of mother-to-child transmission of HIV and early infant diagnosis unit services	17	10	54	44
At adolescent health and development center services	9	10	29	47
At nutritional rehabilitation center services	8	18	8	70

Source: Health, Population and Nutrition Office Health Systems endline survey data.

B. Integration of Care: Referrals and Follow-Up Care

KEY FINDINGS - REFERRALS



Despite improvements since baseline, at endline most clients referred from CHPS zones to other facilities did not return to the CHPS zones with written feedback notes on care received in other facilities.



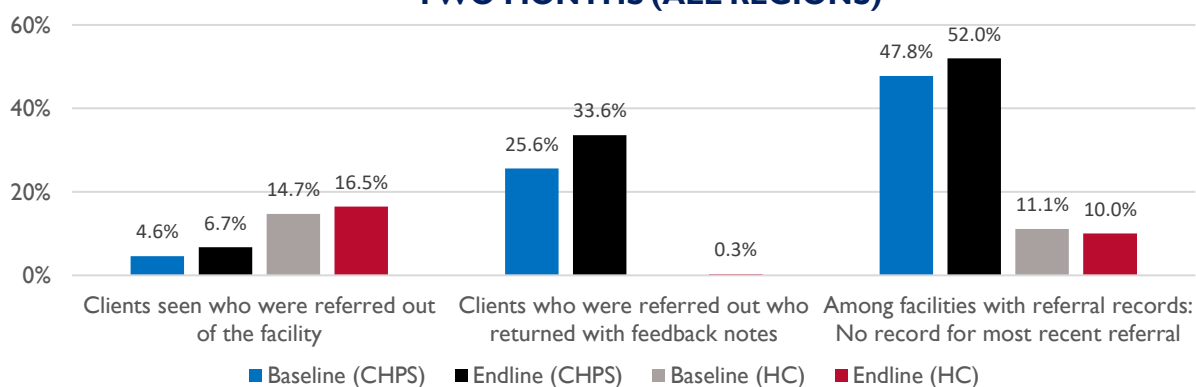
About half of CHPS zones do not keep written referral records.

This section presents evidence to address the research question related to the continuum of care across various levels of the health system. An effective referral system helps clients avoid unnecessary trips to higher-level facilities that may be located further from their homes, while still having access to specialized care at these facilities if needed. CHPS zones and health centers are expected to follow standardized procedures for providing referrals and follow-up care to clients. In particular, these facilities are supposed to refer clients to other health facilities depending on the condition of the client, proximity to the referral destination and type of care the client requires. Clients are expected to return to the referring facility with documentation of care received at the facility to which they were referred so that they can receive appropriate follow-up care. This section presents the results of survey data on the number of referrals facilities make and receive, the reasons for referrals, and to what extent facilities document the referrals they make and receive documentation from patients they have referred. Insights from qualitative interviews on how the referral system works complement the survey data.

1. Scale of referrals

To assess the scale of referrals among CHPS zones and health centers, the facility survey captured the number of clients referred in the sampled CHPS zones and health centers.¹⁸ The overall share of clients referred out of CHPS zones and health centers at endline was small. Only 8 percent of clients in CHPS zones in the focal regions and 7 percent nationwide were referred out, while 14 percent of health center clients in the focal regions and 17 percent nationwide were referred out (Appendix D, Table 5).¹⁹ These numbers were higher than at baseline, but the changes were small in percentage point terms and only some were statistically significant. For health centers the survey also captured the percentage of clients referred into the facility: this amounted to less than 1 percent of clients both in focal regions and nationwide.²⁰

FIGURE 5. AVERAGE PERCENT OF REFERRALS IN THE LAST TWO MONTHS (ALL REGIONS)



2. Reasons for referrals

CHPS zones and health centers refer clients to other facilities for a variety of health issues. In focal regions and nationwide, in CHPS zones that provided any referrals in the two months before the endline survey, the most commonly specified health issues for referrals were, in order of frequency, malaria or severe malaria,

¹⁸ The number of clients referred was measured by asking respondents to the facility survey to use referral records when they were available or to estimate when they were not (we did not distinguish between responses based on records and estimates). As discussed later in this chapter, referral records were available in about half of the CHPS zones and the vast majority of health centers; therefore, there might be more measurement error in the numbers for CHPS zones, which are more likely to be based on estimates.

¹⁹ For this table and all subsequent tables, the following definitions should be used for stars indicating statistical significance for changes over time: *** statistically significant at the 1 percent level; ** statistically significant at the 5 percent level; * statistically significant at the 10 percent level.

²⁰ The percentage of clients who were referred into health centers (0.3 percent nationwide) is not directly comparable to the percentage who were referred out of CHPS zones (6.7 percent nationwide), because these percentages depend on the number of clients seen at each facility, which is generally much higher in health centers.

pregnancy-related complications, anemia, hypertension, and accidents and injuries (Figure 5.2A²¹).²² The main reasons for referrals from CHPS zones and the order of their frequency remained unchanged from baseline to endline with the exception of one reason that was reported significantly²³ less often at endline – diarrhea (Figure 5.1A and Table 5.1A in Appendix D). And while the order didn't change for the others, the frequency with which some health issues were mentioned as reasons for referrals from CHPS zones increased from baseline to endline. Specifically, among CHPS zones in focal regions, more clients were referred out at endline than baseline for pregnancy-related complications and hypertension, and among CHPS zones nationwide, more patients were referred out for malaria or severe malaria at endline than baseline (see Figure 5.1A and Appendix D).

At health centers, the top five reasons for referrals remained the same from baseline to endline for both groups of regions (Figure 5.1B). The top five reasons for referrals from health centers at endline were also the same as the top reasons for referrals from CHPS zones at endline, although in a different order of frequency. The order of frequency shifted from baseline to endline for health centers because of significant increases in reporting pregnancy-related complications and accidents and injuries as reasons for referrals at endline than baseline, for both groups of regions. During qualitative interviews, staff mentioned reasons for referrals other than clients' health conditions. These included the lack of supplies needed to treat a client due to stock-outs, and National Health Insurance Scheme (NHIS) regulations determining coverage for medications at different facilities.

3. Management and documentation of referrals

To facilitate the flow of information about a client's treatment between different facilities—which is key to the continuum of care—CHPS zones and health centers traditionally use paper referral forms to send clients' information with them to a referral facility. The referral forms include information about the client as well as the treatment the referring facility has already started. Referred clients are then supposed to bring back written feedback from the referral facility so the original health provider knows what happened and can

FIGURE 5.1A. COMMON REASONS FOR REFERRALS OUT OF THE CHPS IN THE PREVIOUS TWO MONTHS (ALL REGIONS)

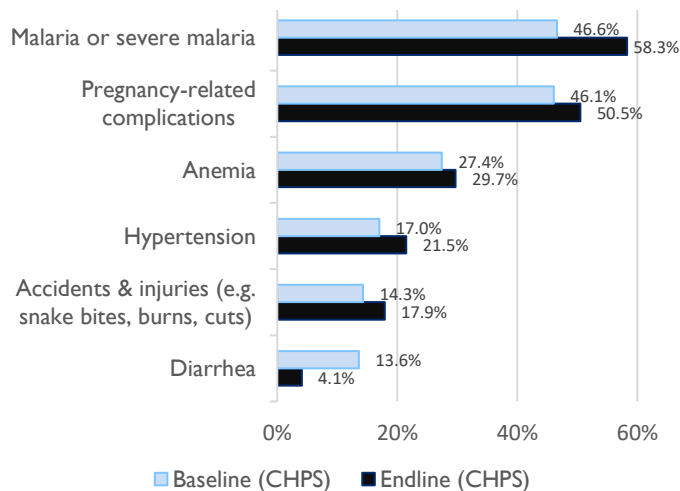
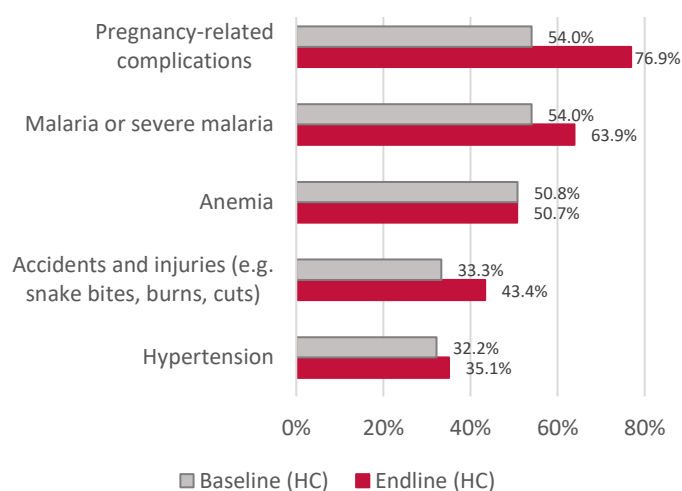


FIGURE 5.1B. COMMON REASONS FOR REFERRALS OUT OF THE HCS IN THE PREVIOUS TWO MONTHS (ALL REGIONS)

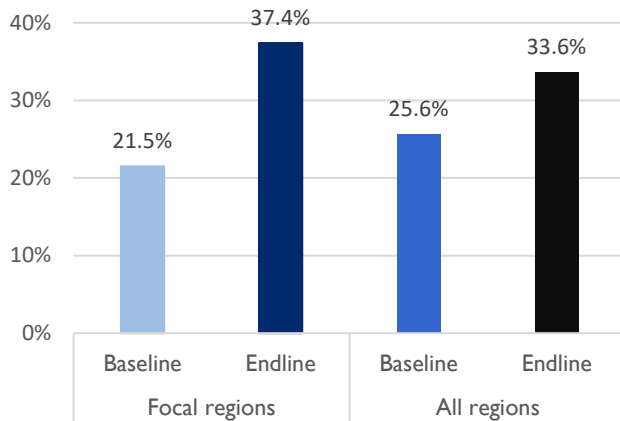


²¹ Figures are numbered for the tables from which their data are drawn. For example, Figure 5.1A presents information drawn from Table 5.1A, which appears in its entirety in Appendix D. When tables or figures are presented separately for CHPS zones and health centers, the suffix A corresponds to the CHPS table or figure and the suffix B corresponds to the health center table or figure.

²² Due to the seasonality of some illnesses, the timing of this survey could affect the responses received. However, the baseline and endline surveys were conducted at the same time of year, so this information is comparable across the two rounds.

²³ We use the terms "significant" and "significantly" to refer to differences that are statistically significant at the 10-percent level or better.

FIGURE 5C. REFERRALS OUT OF CHPS ZONES WHO RETURN WITH FEEDBACK



continue treating or monitoring the client’s health. In CHPS zones, the referral note includes a portion that the health facility referred is supposed to fill out and which the client should return to the CHO when they report back on their treatment and condition.

The quantitative data from CHPS zones suggest that, at endline, 37 percent of clients in focal regions and 34 percent in all regions who were referred to another health facility returned to the original CHPS zones with completed referral feedback notes (Figure 5A). These endline levels reflect a large improvement between the baseline and endline of 16 percentage points in focal regions; the change nationwide was smaller because there was little change in nonfocal

regions. This improvement in focal regions could be related to Systems for Health’s integrated coaching visits to hundreds of CHPS in all of the focal regions in the last two years, emphasizing that referrals should be made and documented for cases beyond CHPSs’ expertise. Several other USAID-funded health projects also stressed this protocol.

However, despite these improvements, more than half of all clients referred out did not return with completed referral feedback notes at endline. We cannot tell from the available data the extent to which this was due to referral forms not being available or filled out correctly; alternatively, it might have been because clients did not follow through on referrals or did not return the completed forms.

The lack of referral feedback could also be because the written referral system is often not used, as suggested by survey and qualitative results. According to the facilities surveyed, at endline, among CHPS zones that had referred clients in the previous two months, about 46 percent of those facilities in focal regions and 51 percent in all regions had no written referral records (Table 5).²⁴ Although there was no statistically significant change in this percentage between baseline and endline in focal regions, there was a significant increase of about 10 percentage points in all regions in CHPS zones without referral records, indicating a deterioration in referral record-keeping. Among CHPS zones with referral records, about 48 percent of CHPS zones in focal regions and 52 percent in all regions had no referral record for the most recent referral, and there was no statistically significant change between baseline and endline for either group of regions.²⁵ There was no significant change in the proportion of health centers without referral records in general, or without referrals records for their most recent referral, across both groups of regions. However, these percentages were much lower than for CHPS zones—for example, only about 11 percent of health centers in focal regions and 10 percent in all regions had no referral records at endline.

4. Communication about referrals

Although the written referral system is often not used, qualitative data from the midline and endline studies reveal other ways facilities communicate to manage referrals, which have become more common over time. Some facilities now regularly use phone calls and the WhatsApp platform to communicate among themselves regarding referrals. Those using these technologies report that they facilitate more effective communications and follow-up services for referrals. A number of CHOs, CHNs, and SDHOs reported they make it a point to inform referral facilities about the clients whom they have referred to make it easier to track if they really go to the referral facility. Referrals and follow-up care information from the referral facilities is reported to

²⁴ We asked respondents to the facility survey whether they had referral records. We did not ask about specific types of referral records.

²⁵ This was measured by asking respondents to the facility survey whether the most recent referral was recorded. In many cases, this could be verified by checking the name of the client against the referral records. However, there could still be some measurement error in this indicator if respondents do not accurately recall the most recent referral.

be tracked, and the information is often brought back to the CHPS compounds by the client. A DDHS summed up the new type of information sharing like this.

We are tracking referrals because of the WhatsApp page. When you refer, we see, and maybe 5 minutes or 10 minutes later we will ask you what means of transport? When you don't come, we call. We do geospatial analysis of the volume of where our referrals are coming from, the number, what happened to the referrals, where they had the Cesarean Section, whether the baby had Aphasia, you know, I can tell you whether the mother transfused or not. And then we use that to guide our supportive supervision. So, we analyze our referrals and then provide a feedback to them. It's just that because a lot of the feedback is given online [on WhatsApp], sometimes when you don't send the paper feedback, they [referring facilities] won't complain, but we have to send the paper feedback.—DDHS, Volta Region

However, although expanded access to communication technology has facilitated communication among health facilities, according to many CHOs, communication among facilities is not consistent and there remain many instances where the referral feedback is not given or is poorly done. There are some cases where clients are referred, but it is not documented by the referring facility nor the facility that receives the client. In addition, when communications are solely by phone or WhatsApp, they are not documented for others to follow-up on or for long term reference. According to some CHOs, this inconsistent tracking and feedback poses negative effects on the quality of care both at the facility level and for the health of clients. One CHO described the challenges that can arise when there is a failure of communication as follows.

It affects the quality of care because it does not bring continuity of work. Mm, if you refer the person and the person had been taken care of, discharged to the house, you can go to home visiting. You can go and visit the person at home and see how the person is faring. But if you did not get any feedback, maybe the drugs being given to the person, the person does not remember how to take the drugs. When you visit the person in the house you will know... he/she will give you the drugs, "madam, this is the drugs. I've forgot how to take it." So you can teach the person how to do it. But if ... you did not get any feedback that the person is still at the hospital or discharged you cannot go and visit him/her at the house to know what is going on. The continuity of work will be lost.—CHO, Central Region

Client care may also suffer if clients fail to follow through on the referral their provider recommended. The majority of CHC members, CHOs and DDHSs reported that most clients do follow through. Those who do not have various reasons such as limited finances, lack of health insurance, or lack of transportation. Although many facilities are not able to provide transportation to facilitate referrals, leaving this burden on the client, some have ambulances and tricycle motorkings (Picture 1).



Picture 1: Motorking used as a community ambulance in Northern Region.

Based on the qualitative interviews, another reason identified for not following through on a referral is the belief that the ailment has spiritual causes and that institutional medical care is not what is needed. These reasons can be compounded for women who have a further barrier—lack of decision-making power. Very often a male head of household has a final say in whether a woman can seek care at a referral facility. If the head of the family does not think the referral is important or attributes the cause of the health issue to a spiritual cause, the family will seek treatment outside of institutional medicine. As one DDHS described this common situation, some women have delayed treatment or do not follow referrals at all, and a CHC member is one of many who concurred that spiritual beliefs can affect these decisions.

[There is a] delay in decision making; not all women are empowered. They have to wait for a decision maker in the house to come, [and they might] think it's a spiritual issue.—DDHS, Volta

Another reason is their [clients'] belief in prophets. For some people when they are referred by the doctor, they think of rather going to seek healthcare from a prophet because of their faith.—CHC, Western Region

C. Availability of Services

KEY FINDINGS – AVAILABILITY OF SERVICES



Both CHPS zones and health centers improved service provision in several key areas between the baseline and endline, notably in comprehensive family planning, the number of facilities conducting deliveries and home visits. Other improvements include significant²⁶ increases in the number of home visits conducted, and increased use of malaria RDTs.



However, some important gaps in service provision remain, such as malaria treatment. Provision of appropriate malaria treatment improved, but is not yet universal.



Tracking of key child health and nutrition data declined, with many facilities not recording underweight status and most not recording height.

This chapter describes the changes between baseline and endline in the availability of key services in CHPS zones and health centers in the following health areas, which are relevant to USAID interventions: (1) malaria, (2) family planning and contraception, (3) maternal health, (4) nutrition, (5) community-based services, and (6) disease control.

I. Malaria

In accordance with World Health Organization (WHO) guidelines, GHS promotes the Test, Treat and Track (T3) initiative for malaria care (PMI FY 2015 Ghana Malaria Operational Plan). The T3 initiative states that every case with a provisional diagnosis of malaria based on client symptoms should be tested for confirmation (typically using a simple blood test known as a rapid diagnostic test, or RDT), every confirmed case should be treated and the treatment recorded in a register, and malaria should be regularly tracked through a reliable surveillance system.²⁷ At endline, about two thirds (65.9 percent) of CHPS zones and three quarters (76.8 percent) of health centers in focal regions reported that they tested and recorded the test results for all cases with a provisional diagnosis of malaria (Table 6, Appendix E), suggesting that there were still important gaps in following the WHO guidelines.^{28,29} This was an increase from 50.7 percent of CHPS and 50.1 percent of health centers at midline (this indicator was not collected at baseline). Among the facilities that did not test and record test results for all clients with a provisional diagnosis of malaria, the most common reasons for not testing and recording results in both focal regions and across all regions were (1) insufficient supply of RDTs (cited by nearly four in five CHPS zones and one in two health centers in focal regions that did not test and record test results for all provisionally diagnosed clients) and (2) other reasons (reported by one in three CHPS zones and two in three health centers in focal regions, most of which were described as “emergency cases,” or cases severe enough that immediate treatment was deemed necessary) (Appendix E, Table 6).

At endline, about four in five CHPS zones and nearly all health centers in focal regions and across all regions reported they had at least one staff member providing treatment for malaria; these rates are similar to those observed at baseline (Tables 6A and 6B in Appendix D³⁰). The midline and endline surveys also included questions on whether facilities followed the GHS protocol for malaria treatment in the two previous months. The GHS protocol requires the facility to test all cases with a provisional diagnosis of malaria, record results, and provide and record treatment to all clients with a positive result. In focal regions, the percentage following the protocol increased significantly from 45 to 64 percent among CHPS zones and

²⁶ We use the term “significant” to refer to differences that are statistically significant at the 10-percent level or better.

²⁷ According to the WHO, a malaria surveillance system consists of “tools, procedures, people and structures that generate information on malaria cases and deaths, which can be used for planning, monitoring and evaluating malaria control programmes.” (WHO 2012)

²⁸ Based on these data, we cannot disaggregate the number of clients with a provisional diagnosis of malaria who were not tested and the number who were tested but did not have their results recorded.

²⁹ Because these and several other malaria-related indicators were not measured at baseline or were not measured in the same way, we cannot estimate changes between the two time periods.

³⁰ Table 6 presents endline results only because all but one indicator in the table draw from survey questions that were added at midline. The corresponding tables in Appendices D and E present baseline and midline results that are available for these indicators.

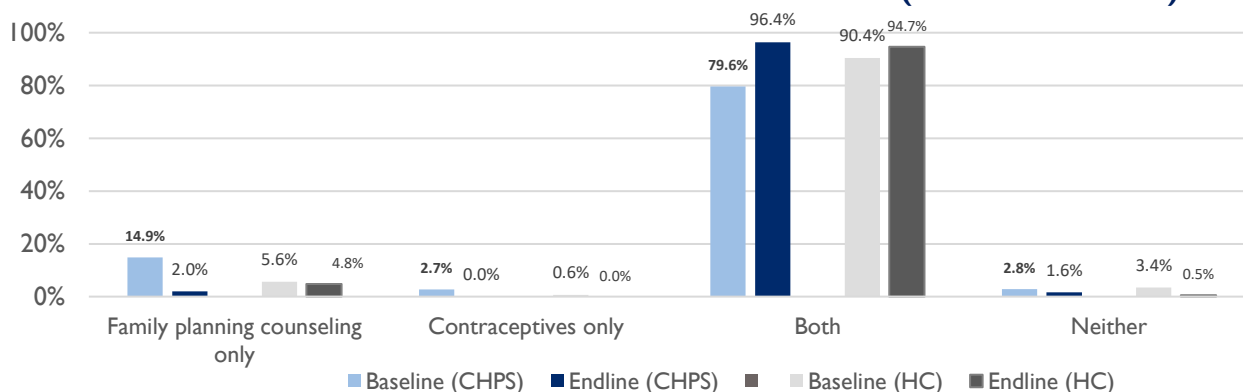
from 45 to 73 percent among health centers. The adherence rate was lower on average across all regions (Table 6 in Appendix E).

2. Family Planning and Contraception

Providing family planning counseling and contraceptives is another essential health service. At baseline, about 80 percent of CHPS zones and 90 percent of health centers in focal regions were providing family planning counseling services and contraceptives to their clients (Figure 7 and Table 7³¹). At endline, these percentages had improved even further, to 96 percent of both CHPS zones and health centers. The survey data indicate that these changes were driven mainly by the addition of contraceptive provision at facilities that offered only family planning counseling at baseline.

Some critical barriers to the availability of family planning services still exist, as reported in qualitative interviews. These include inadequate or inappropriate infrastructure (for example, lack of private rooms for counseling and service delivery such as provision of IUDs), equipment such as exam tables, the availability of staff with the right training, and the availability of medication. For example, a CHO explained that lack of space and privacy makes it impossible for her CHPS compound to provide family planning services.

FIGURE 7. AVAILABILITY OF FAMILY PLANNING COUNSELING AND CONTRACEPTIVES AMONG CHPS AND HC (FOCAL REGIONS)



In the endline (but not the baseline) survey, the study team also examined the availability of specific methods of contraception among facilities with control or tally cards (cards used to keep track of the availability of specific commodities) for these methods. Among CHPS zones and health centers with control cards for long-acting methods of contraception, nearly all reported being able to provide such methods on the day of the endline survey. Just over half of CHPS zones and four in five health centers with control cards for various contraceptive methods reported being able to provide at least four methods of contraception on the day of the interview, both in focal regions and nationwide.

TABLE 7. AVAILABILITY OF FAMILY PLANNING COUNSELING AND CONTRACEPTIVES

NOTE: MIDLINE AND ENDLINE ONLY³²

Percentage of CHPS	Focal regions			All regions		
	Midline	Endline	Difference	Midline	Endline	Difference
Facility can provide long-acting methods of contraception on day of interview, among those with control cards for those methods. ^{a,†}	100.0	100.0	0.0	100.0	99.4	-0.6
Facility can provide at least four modern methods of family planning on day of interview, among facilities with control cards for those methods. ^{b,†}	75.0	58.3	-16.7**	73.5	59.6	-13.9

³¹ Table 7 presents endline results only because all the indicators in the table draw from survey questions that were added at midline. Full midline and endline results are in Table 7 in Appendix E.

³² These data points were added at midline, so data was only collected at midline and endline.

Percentage of Health Centers	Focal regions			All regions		
	Midline	Endline	Difference	Midline	Endline	Difference
Facility can provide long-acting methods of contraception on day of interview, among those with control cards for those methods. ^{a†}	98.8	98.5	-0.4	99.4	99.2	-0.2
Facility can provide at least four modern methods of family planning on day of interview, among facilities with control cards for those methods. ^{b†}	69.1	86.9	17.8**	71.8	81.0	9.2

Source: Health, Population, and Nutrition Office Portfolio Health Systems midline and endline survey data

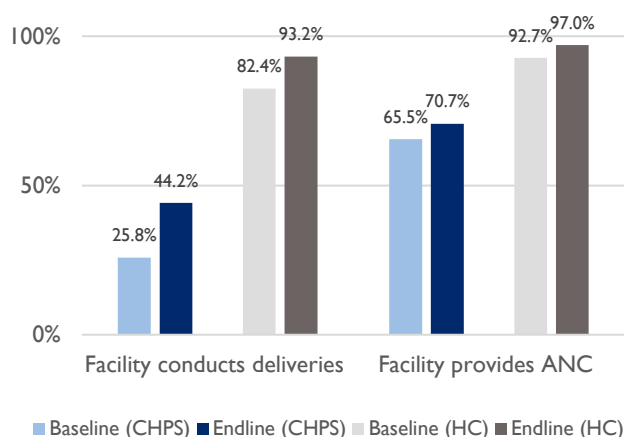
Note: Percentages are weighted to adjust for sampling probabilities. *** Statistically significant at the 1 percent level; ** statistically significant at the 5 percent level; * statistically significant at the 10 percent level.

Sample sizes are reported as ranges when variables have different response rates and when variables apply to different subsets of respondents. ^aLong-acting methods of contraception include hormonal implants and intrauterine devices (IUDs). ^bModern methods of family planning include hormonal implants, IUDs, oral contraceptives (combined or progesterone-only pills), injectable contraceptives, and condoms..

3. Maternal Health

Health centers are expected to provide basic delivery services (Ghana Health Service, Regional and District Administration 2015), but CHPS zones that do not have qualified personnel to conduct deliveries (e.g., midwives) are instructed to refer all deliveries to higher-level health facilities, such as health centers or hospitals. However, when a qualified midwife is posted to a CHPS zone, deliveries can be undertaken under the midwife’s care. Nurses in CHPS zones can also conduct emergency deliveries if a woman is unable to reach a higher-level health facility in time for her delivery (usually when presenting with the baby’s head already in the birth canal) (CHPS National Implementation Guidelines 2016).

FIGURE 8. AVAILABILITY OF DELIVERY AND ANTENATAL CARE SERVICES, AMONG CHPS AND HC (FOCAL REGION)



The facility survey provided evidence of a large increase in the proportion of CHPS zones conducting deliveries between baseline and endline: about a 18 percentage point increase in focal regions and about an 11 percentage point increase in all regions (Figure 8 and Table 8). The percentage of health centers that conducted deliveries increased by about 10 percentage points between the baseline and endline surveys, both in focal regions and all regions. A factor behind the increase in CHPS zones conducting deliveries could be recent policy changes that assign midwives to more CHPS zones and allow some trained CHOs to conduct deliveries at these lower-level facilities. At the same time, traditional birth attendants have been more likely to coordinate with nurses and to refer their clients to facilities for delivery in recent years.

CHOs and clients also mentioned a noticeable change in the number of deliveries conducted at CHPS zones. Other clients and CHOs indicated that availability of female midwives at CHPS compounds was a considerable improvement over male attendants.

At first the birth attendant was a male, and people did not like it, so they used to go to town to deliver. But since this midwife was brought here, everyone comes here to deliver. You know it is better for a woman to see you naked than a man.—Client, Western Region

This study also examined the average number of deliveries in those facilities that reported performing deliveries both at baseline and endline.³³ In these facilities, the average number of deliveries per facility in the two months before the survey increased significantly for both types of facilities, in both focal regions and all regions. In percentage terms, these increases ranged from about 70 percent at CHPS zones in focal regions (from 6.2 to 10.4 deliveries, on average) to 20 percent at health centers nationwide (from 28 to 36.4 deliveries, on average) (Table 8).

In delivery care, there were no significant changes in the proportion of deliveries in which a mother received at least two doses of sulfadoxine-pyrimethamine to prevent complications from malaria exposure, across both facility types and both groups of regions (Table 8). However, in the last two months in facilities conducting deliveries On average, CHPS zones and health centers reported that nearly all attended births were registered at the facility. Just under one third of CHPS zones and just over one third of health centers in focal regions reported registering home deliveries. The proportion of CHPS zones in both sets of regions reporting that they registered any home deliveries dropped significantly from midline to endline (see Appendix E, Table 8),³⁴ but it is not possible to distinguish between a reduction in home births or a drop in registration of home births.

Between baseline and endline, there were some small increases (about 5 percent) in the percentage of CHPS zones and health centers offering antenatal care (ANC). In general, fewer CHPS zones (about two-thirds) than health centers (approximately 97 percent) offered ANC at endline. As was the case at baseline, the availability of ANC registers, in which CHOs should record all ANC services, was nearly universal across all facilities providing ANC at endline. (Appendix D, Table 8).

Qualitative interviews with SDHOs suggested that some health centers also provide additional services including HIV/AIDS voluntary counseling and testing, and comprehensive abortion care and post-abortion care.

TABLE 8. AVAILABILITY OF DELIVERY AND ANTENATAL CARE SERVICES

	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Percentage of CHPS Zones						
Facility conducts deliveries	25.8	44.2	18.4***	24.7	35.6	10.9***
Facility provides ANC	65.5	70.7	5.2**	61.3	66.3	5.0**
Delivery care in the previous two months, among facilities conducting deliveries:						
Average (mean) number of deliveries in the facility	6.2	10.4	4.3***	6.9	9.4	2.5***
Average percent of deliveries in which mother received at least two doses of sulfadoxine-pyrimethamine ³⁵	83.2	89.5	6.3	85.2	91.7	6.5
Average percentage of births in the facility that were emergency deliveries	2.6	2.1	-0.5	2.2	1.3	-0.9
Percentage of Health Centers						
Facility conducts deliveries.	82.4	93.2	10.8***	84.8	94.1	9.3***
Facility provides ANC	92.7	97.0	4.3**	92.4	97.8	5.4**
Delivery care in the previous two months, among facilities conducting deliveries:						
Average (mean) number of deliveries in the facility	28.0	36.4	8.4***	26.3	31.8	5.4***

³³ This approach avoids having changes driven by changes in the samples from baseline to endline. For example, if facilities that started to offer deliveries between the baseline and endline had fewer deliveries because clients were not yet aware that they offered these services, adding these facilities to the endline sample would artificially decrease the average number of deliveries.

³⁴ Specifically, the proportion of CHPS zones that registered any home births fell by 19 percentage points from a midline level of 50 percent to an endline level of 31 percent in the focal regions and 42.1 percent to 27.9 percent in all regions. This change was significant at the 5 percent level.

³⁵ Previously the national Malaria control program, NMCP, looked at least 2 doses of SP because the standard was 3 doses of SP during pregnancy. However, standards have changed to 5 doses, hence NMCP looks at a minimum of 3 doses. Our data for this indicator only measures whether the client received 2 doses.

	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Average percentage of deliveries in which mother received at least two doses of sulfadoxine-pyrimethamine	80.5	82.1	1.6	78.7	84.0	5.3
Average percentage of births in the facility that were emergency deliveries	2.2	2.8	0.6	3.5	2.3	-1.2

Source: Health, Population and Nutrition Office Portfolio Health Systems baseline and endline survey data.

n.a. = not applicable (question not asked at baseline, or not comparable).

[†]See Appendix E for midline and endline results for this indicator, which was added at midline.

4. Nutrition

Facilities are expected to offer nutrition counseling and services for young children and to monitor children's growth using nutrition registers or record books.

Overall, the availability and updating of nutrition registers improved from baseline to endline, with the proportions of CHPS zones with nutrition registers surpassing 90 percent of CHPS zones in focal and all regions (Figure 9 and Table 9). Of those, more than 90 percent had been updated recently.

All facilities are expected to record key anthropometric information from the

children to whom they provide services in a facility nutrition register. Among facilities with nutrition registers at baseline and endline, recording of child weight and age continued to be almost universal, as it was at baseline. However, there were decreases of up to 22 percentage points in the proportion of CHPS zones and health centers that recorded child height, in the focal regions and all regions (Table 9). The decreases in the recording of child height are problematic because it is a required component in identifying stunted children, defined as children with low height-for-age. At the same time, the recording of weight-for-age percentiles or z-scores also decreased, although children's weight and age continued to be measured and recorded almost universally. This suggests that staff were not taking the next step required to identify underweight children by checking child weight against the growth standards for their age. Recording of infant and young child feeding (IYCF) counseling data, measured at midline and endline only, occurred in fewer than half of the CHPS zones and health centers at endline. In general, reporting on some of these nutrition indicators is still a challenge—particularly in CHPS zones.

In the Northern and Upper East regions, facilities have been receiving additional guidance and training on providing nutrition-related counseling materials through USAID investments. USAID/SPRING and RING projects, for example, have supported nutrition training, including IYCF and anemia prevention and control training to health workers in their respective zones of influence. Overall, availability of the materials at endline was fairly high: only 7 percent of CHPS zones in focal regions and 20 percent in all regions reported that they did not have nutritional counseling materials, while the proportions for health centers in focal regions and all regions were 15 and 6 percent, respectively (Table 9). (The sample size for this small group of regions was too small to precisely estimate changes in this indicator relative to the baseline.)

FIGURE 9. AVAILABILITY OF REGISTERS IN CHPS AND HCS (ALL REGIONS)

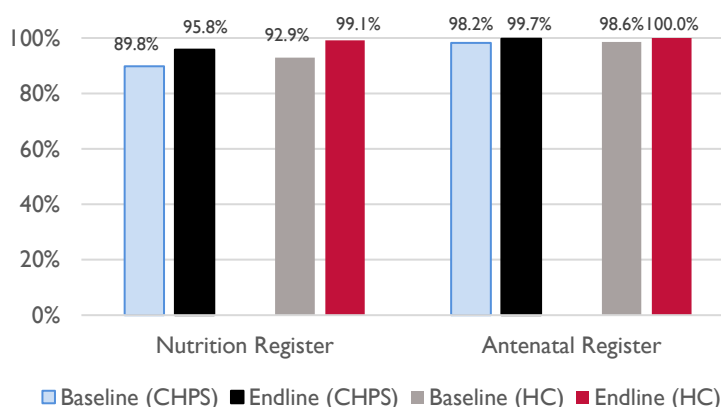


TABLE 9. AVAILABILITY AND USE OF NUTRITION REGISTERS (% OF FACILITIES)

Percentage of CHPS Zones	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
No available register of nutrition register	8.6	5.6	-3.0*	10.2	4.2	-6.0***
Specific types of data entered in the register, among facilities with data observed:						
Child's weight data	98.1	97.9	-0.3	98.8	98.3	-0.5

Percentage of CHPS Zones	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Child's age data	98.6	95.9	-2.7	99.0	96.7	-2.2**
Child's height data	18.6	11.5	-7.1	19.8	6.8	-13.0***
Underweight, or weight-for-age data	74.5	61.9	-12.6**	81.7	61.5	-20.2***

Percentage of Health Centers	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
No nutrition register	2.0	1.8	-0.2	7.1	0.9	-6.2*
Specific types of data entered in the register, among facilities with data observed:						
Child's weight data	96.7	99.0	2.3	98.4	99.5	1.1
Child's age data	99.0	97.1	-1.9	99.5	96.6	-2.9*
Child's height data	36.3	14.7	-21.6***	30.6	17.3	-13.4***
Underweight, or weight-for-age data	80.8	58.7	-22.0***	83.5	71.3	-12.2***

Source: Health, Population, and Nutrition Office Health Systems baseline and endline survey data

^a Asked only for facilities in the Northern, Upper East, and Upper West regions.

n.a. = not applicable (question not asked at baseline, or not comparable).

[†]See Appendix E for midline and endline results for this indicator, which was added at midline.

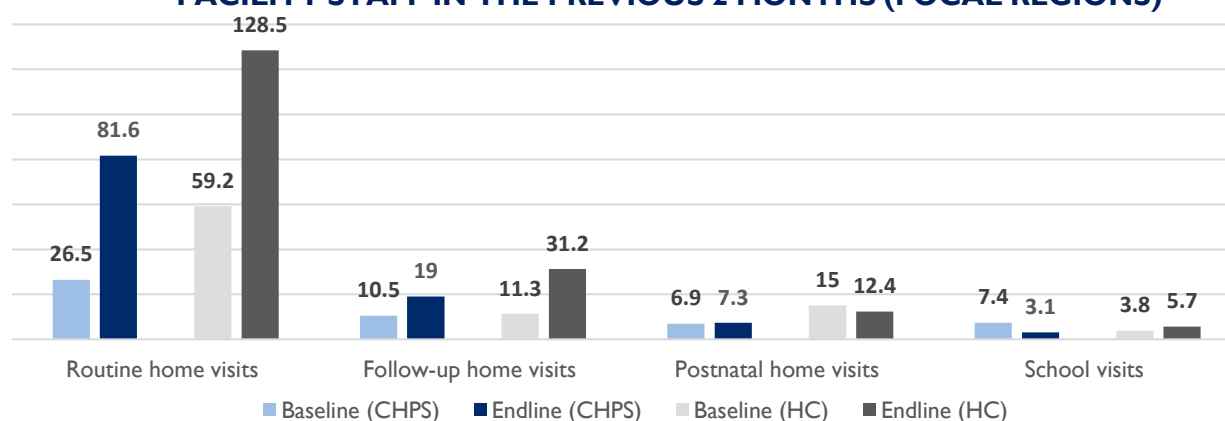
5. Community-Based Services

Both CHPS and health centers provide care and services in compounds or buildings, but also during home visits in the communities in their zones. This section looks at changes since the baseline in home visits and community health meetings.

Home visits

Facility staff, especially CHOs, conduct home visits during which they can provide a wide range of services including immunization, antenatal and postnatal care, health education, family planning, and referrals for severe disease conditions. At endline, staff at all CHPS zones and health centers had conducted at least one home visit in the two months before the survey (this includes routine home visits, follow-up visits and special care visits), representing a slight increase over baseline rates (Table 10.1).

FIGURE 10.1. AVERAGE NUMBER OF HOME & SCHOOL VISITS BY FACILITY STAFF IN THE PREVIOUS 2 MONTHS (FOCAL REGIONS)



Although there was little change in the proportion of facilities with staff conducting home visits between baseline and endline, survey results revealed large increases in the *number* of home visits. Among CHPS zones, the average number of routine visits tripled in focal regions and quadrupled in all regions (Table 10.1). Among health centers, the number of routine visits doubled in focal regions and tripled in all regions. These increases could be due to increased application of the National CHPS Implementation Guidelines related to systematic scheduling of home visits. The average number of follow-up visits—which are not routine and are thus a measure of the

responsiveness of health workers—also increased substantially³⁶ between baseline and endline. These averages roughly doubled among CHPS facilities to an average of about 20 visits in the two months before the survey and nearly tripled among health centers to more than 30 visits nationwide during the same time period.

The endline survey also measured the frequency of other types of visits. Visits for clients needing special visits (e.g. clients that have not come back for a visit after delivery, or follow-up on HIV/AIDS or TB cases), measured only for CHPS zones, were relatively rare at baseline, but the average number doubled at endline from 5 to 10 in focal and all regions. Changes in the average number of postnatal home visits and school visits (e.g. health promotion activities or general health checks) did not change substantially across different types of facilities and groups of regions (Table 10.1).

TABLE 10.1. AVAILABILITY OF COMMUNITY-BASED SERVICES: HOME VISITS (% OF FACILITIES)

Percentage of CHPS	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Home Visits						
Facility staff conducted at least one follow-up home visit in the previous 2 months	78.9	70.9	-8.0	77.5	75.6	-1.9
Facility staff conducted at least 10 follow-up home visits in the previous 2 months	32.1	39.6	7.4	31.9	47.5	15.6***
Facility staff conducted at least 24 follow-up home visits in the previous 2 months	11.0	15.5	4.5*	11.3	21.4	10.1***

Percentage of HCs	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Home visits						
Facility staff conducted at least one follow-up home visit in the previous 2 months	78.2	72.1	-6.1	79.1	79.6	0.5
Facility staff conducted at least 10 follow-up home visits in the previous 2 months	44.3	38.1	-6.2	45.4	56.4	10.9**
Facility staff conducted at least 24 follow-up home visits in the previous 2 months	14.5	13.9	-0.6	16.9	30.5	13.7***

Source: Health, Population and Nutrition Office Portfolio Health Systems baseline and endline survey data.

Consistent with the findings from the facility survey, some clients who were interviewed for the qualitative data collection noted that they observed improvements in the frequency of community-based services being provided by CHPS staff. Specifically, they noted that CHPS staff's home visits and follow-ups for clients who do not follow their treatment, as well as for bedridden or aged clients, have improved in the last two years.

I see there has been an improvement because my mother is unable to come here on her own, so they do come home to take care of her, so I see improvement. In the past, they wouldn't bother if you cannot come here yourself, but this time around when you are unable to come they come to your home to provide you their services.—Client, Central Region

Community Health Meetings

Another aspect of community-based care in CHPS zones is regular meetings held by the CHPS staff in their communities to discuss important health topics such as maternal and child health, malaria, and family planning, as well as administrative topics such as health insurance. These community health meetings, also known as *durbars*, are typically organized by the CHO, with help from the CHC and CHVs, and are meant to be held on a regular basis (Revised CHPS Implementation Plan 2014). At endline, 84 and 87 percent of CHPS zones in focal regions and all regions had held at least one community health meeting in the quarter before the survey (mean=1.6).³⁷ Among CHPS zones that had conducted a community health meeting in the previous quarter, the proportion of facilities reporting that the CHC was key in planning and organizing the

³⁶ As mentioned in the executive summary, we use the terms “substantial” or “substantially” to refer to changes that are large in magnitude. Changes that we describe as “substantial” are statistically significant, but changes that are statistically significant may not be substantial. In this case, the number of follow-up visits nearly doubled for CHPS zones and nearly tripled for health centers.

³⁷ This question was not asked in a comparable way at baseline.

last community health meeting increased significantly, more than tripling in focal regions and all regions, to about six in ten CHPS zones at endline. Nationwide, there was also a large and statistically significant increase in the percentage of CHPS zones where CHVs and other community leaders organized *durbars* (Table 10.2A).

TABLE 10.2A. AVAILABILITY OF COMMUNITY-BASED SERVICES AMONG CHPS: COMMUNITY HEALTH MEETINGS (% OF FACILITIES)

Percentage of CHPS zones	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Community Health Meetings						
Persons planning and organizing the last community health meeting, among facilities holding a community health meeting in the previous quarter: ^a						
Community health officer (CHO)	58.8	69.0	10.2	60.9	55.6	-5.4
Community health volunteers (CHVs)	19.9	27.2	7.4	16.1	30.4	14.3***
Community leaders not part of community health committee (CHC)	21.0	22.3	1.3	13.4	24.8	11.4***
CHC	16.9	58.8	41.9***	13.8	61.2	47.4***
Someone else	41.9	32.7	-9.2	44.4	29.2	-15.3***

Source: Health, Population and Nutrition Office Health Systems baseline and endline survey data.

n.a. = not applicable (question not asked at baseline, or not comparable).

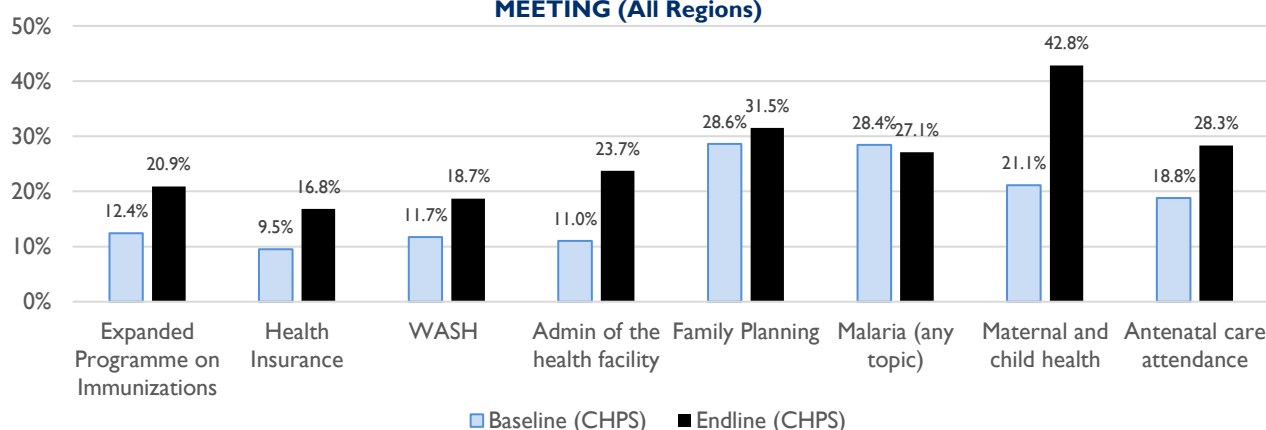
[†]See Appendix E for midline and endline results for this indicator, which was added at midline.

^a These indicators are defined as the percentage of facilities in which the most recent community health meeting was planned and organized by the CHO (or the other person or group identified in this panel of the table), among all facilities that had community health meetings in the previous quarter.

^b Because multiple responses were possible, percentages sum to more than 100. For topics discussed, this table includes the top eight topics mentioned. The full list is included in Appendix D.

These community health meetings are expected to focus on key health topics particularly relevant to a community. To explore the topics discussed, facility respondents were asked about community health meetings that took place in the two months before the survey interview. Several health topics were addressed by a significantly larger proportion of CHPS zones during community health meetings at endline relative to baseline, in focal regions and all regions. For example, there was a large increase in the proportions of CHPS zones that held meetings on maternal and child health between baseline and endline (Figure 10.2).³⁸

FIGURE 10.2. KEY TOPICS OF DISCUSSION DURING LAST COMMUNITY HEALTH MEETING (All Regions)



6. Disease Control

There are two types of disease surveillance, active and passive. Active surveillance involves prospective steps to search for and identify cases of a disease within communities. Passive surveillance is gathering data from health

³⁸ Figure 10.2 focuses on the most common topics discussed at endline; see Appendix D for results for all topics. These findings show positive and significant changes between baseline and endline in the prevalence of discussion of other topics such as administration of the health facility, health insurance, and HIV/AIDS. These increases did not come at the expense of significant decreases in other topics—the only topic to be significantly less likely to be discussed was cholera

facilities, departments, or registers to see what diseases have been diagnosed based on clients who have come in for care. While active disease surveillance by volunteers in communities is the best way to quickly identify disease outbreaks and bring them to the attention of the district to ensure a timely response, only some SDHOs, CHO and community members indicated that there was any form of active disease control and surveillance going on in their communities. Other SDHOs and CHOs noted that much of the disease surveillance is currently passive surveillance, especially at the CHPS zone level, where symptoms of 43 separate diseases, such as cholera, meningococcal meningitis and yellow fever are noted. A number of CHOs reported that disease surveillance is usually conducted based on the frequency of specified ailments being diagnosed at the health facility. The main reason active surveillance is not done more often, they report, is that health officers are not able to motivate volunteers to do these surveillance activities in the communities. Therefore, every week they use their consulting room registers to identify diseases in their community.

We are not able to do active surveillance because we are not able to motivate them. I mean, you can't ask somebody to possibly stop his or her work, to daily get up going from house to house to check if everybody is well, if anybody is presenting any disease—abnormal [epidemic-prone] one of course, that the person can report to the facility. Yeah, it's really giving us a challenge. So now we no longer do active surveillance. We're now on passive. And the passive is the one that the client will come to the facility by him or herself. That we'd take the records.—SDHO, Central Region

According to SDHOs and CHOs, all epidemic-prone diseases, like cholera, need prompt attention in terms of reporting and carrying out investigations to determine what disease is present, how far it has spread, the sources, and other information, when there is an outbreak in any community. Disease outbreaks and investigations are usually handled by or reported to the sub-district disease control officer, who has the expertise to handle investigations based on set protocols. However, even though there are processes in place to conduct a disease investigation, several SDHOs indicated they don't always have the equipment necessary to do these investigations, lacking protective clothing, especially for a cholera outbreak (for example, wellington boots, overalls, nose mask, a head cover, and the like).

D. Staff Training

KEY FINDINGS – STAFF TRAINING



There was a large decline between baseline and endline in the percentage of facilities in which staff had received training and complementary supportive supervision in the last 12 months. Facility survey data revealed decreases in training on topics related to malaria, malaria data tracking, maternal and child health, nutrition, and management-related topics. The decline in staff being trained in these topics at endline in the last year is likely due to (1) a shift after midline to training frequency that followed the GHS guidelines of training every three years and (2) a Systems for Health programming shift in the USAID focal regions from training to supportive supervision.

Another important aspect of quality at facilities is the skill of the staff. Because this study does not have direct measures of staff skills at baseline and midline, training received by staff was used as a proxy, to look at skills related to both caregiving and data tracking, management and logistics. Because training accompanied by supportive supervision—which entails a supervisor serving as a mentor or coach to help staff improve quality—is likely to be more effective than training alone, they were examined together. The study refers to this as quality training. This section also discusses the challenges associated with staff training. The endline results, however, are contextualized given the decision in 2017 to shift Systems for Health programming from training or training plus supportive supervision to regular on-site supportive supervision.

I. Training for Caregiving

GHS collaborates with development partners and DAs to organize capacity building training for GHS staff in CHPSs and health centers. These trainings aim to update staff knowledge, attitudes, and skills for improved healthcare delivery in their respective districts. Several USAID projects were mentioned by DAs and DDHSs as active in providing training for GHS staff. Systems for Health was mentioned in all five focal regions. As a DDHS in the Central Region noted,

Supported by Systems for Health, USAID has supported us in most of our reproductive health training and the family planning, lifesaving skills, newborn care—a whole lot in the reproductive and child health, comprehensive abortion care, newborn care, adolescent health, and development training, then shared learning. Shared learning is when we meet, and we discuss our work, and we learn from each other, it is like a peer review meetings, and it is all sponsored by USAID.—DDHS, Central Region

A DDHS in Greater Accra attributed a great deal of their capacity building to Systems for Health.

And Systems for Health has helped to build our capacity. They've done trainings for us, over the years, training in different aspects of our service delivery. In fact, I will say that they've been our main backbone yeah, training in different aspects of the work that we do.—DDHS, Greater Accra Region

The RING project was also noted in the Northern Region as a major project providing health training. The RING project worked through the DAs in the Northern Region, where DAs have used funding from this project to support the training of GHS staff and providing resources and logistics such as computers and motorbikes to build capacities of healthcare providers. As one DA noted,

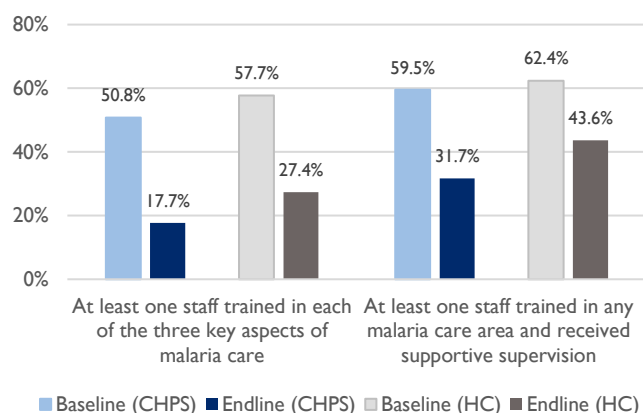
We are building the capacity of the health institution in the district. First the sub-district...of their personnel, the resources. We give them computers, we give them motorbikes, we give them support to train their people, do mother to mother support groups, father to father support groups; these are all training and capacity building of the health department of the assembly, so this is where we focus our energies on.—DA, Northern Region

Staff in CHPS zones and health centers are supposed to receive training from GHS to provide key caregiving services, including caregiving related to malaria, nutrition, and maternal and child health. Here we look into each area in turn.

Malaria training

Training on malaria at CHPS zones focuses on three key aspects: malaria case management, rapid diagnostic tests (RDTs), and malaria in pregnancy. The survey examined whether facility staff had received training in each of these areas in the 12 months before the survey.³⁹ (This measure of recent training is distinct from measuring the proportion of facilities with staff that have ever been trained.) In focal regions and all regions, there were large decreases between baseline and endline in the proportion of CHPS zones in which staff had received each type of training (Table 11, Appendix D). In focal regions, decreases in training in the last 12 months were largest for malaria case management (51 percentage points), with other large declines in training on malaria in pregnancy (35 percentage points) and malaria RDTs (32 percentage points). Decreases were similar in all regions. The proportion of CHPS zones with CHVs trained on some aspect of malaria in the previous 12 months also decreased between baseline and endline (by 15 percentage points in focal regions and 28 percentage points in all regions).⁴⁰ For example, dropped from 55.5 percent at baseline to 27.9 percent at endline. Figure 11 shows that the proportion of focal region CHPS zones with at least one staff member trained in each of the three key aspects of malaria care also decreased from baseline to endline as did the proportion of focal region health centers. Health centers exhibited similarly steep decreases in malaria training, with larger drops in focal regions than all regions in all three key areas of training as the CHPS (Figure 11.1). In addition, for health centers also experienced decrease in training in malaria microscopy from

FIGURE 11. MALARIA TRAINING SUPPORT AT CHPS AND HC (FOCAL REGIONS)



³⁹ Responses regarding training frequency were not verified from record books although respondents were encouraged to use reports and documents to answer these questions.

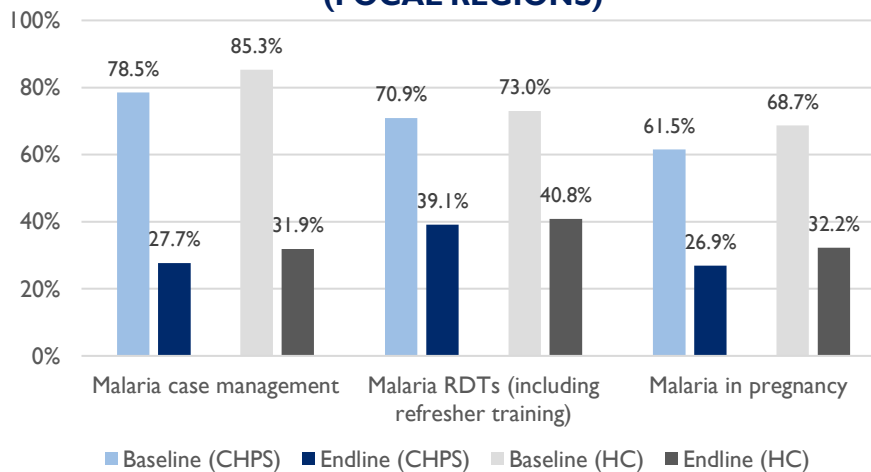
⁴⁰ It should be noted that USAID project training in malaria focused on facility staff and, as such, did not involve CHVs.

26.8 percent at baseline to 15.7 percent at endline.

The decrease in training rates appears to have taken place in the last two years, as training rates for these three aspects of malaria either increased or remained similar between baseline and midline. The decline in staff trained in malaria within the last year may be due to a shift from frequent trainings in the period leading up to the baseline and through the midline, to training that followed the GHS guidelines of training every three years, starting after the midline. Because the survey instrument only measured training conducted in the 12 months before the survey, at endline, some facilities would have reported no training in the last 12 months despite being up-to-date with guidelines recommending training every three years. Many of the other malaria-related training indicators below also display decreases over time, which could be driven by the same shift in project implementation. Further, as for other types of training in focal regions, Systems for Health programming moved from a focus on training or training plus supportive supervision, to a focus on more regular on-site supportive supervision to validate respect of protocols and provide coaching as needed to correct practices that did not conform to protocol.

The study also analyzed supervisory visits for four dimensions of malaria care in the midline and endline surveys: malaria case management, malaria RDTs, malaria data collating and reporting, and malaria supply chain management. As shown in Table 11, in focal regions, only 17 percent of CHPS zones reported receiving at least two supervisory visits on malaria supply chain management, with roughly a quarter of facilities receiving at least two supervisory visits for the other three malaria-related topics; proportions were slightly higher in all regions. These proportions were not measured at baseline, but were significantly lower at endline than at midline (see Table 11 in Appendix E).

FIGURE 11.1. FACILITY WITH AT LEAST 1 STAFF TRAINED IN PREVIOUS 12 MONTHS (FOCAL REGIONS)



Among CHPS zones nationwide, the percentage of facilities that had at least one staff member trained in any malaria-related topic and who received supportive supervision in the previous 12 months decreased by 34 percentage points between baseline and endline (Figure 11). Likewise, the percentage of health centers nationwide that reported staff with training in any malaria-related topic who received supportive supervision decreased by 23 percentage points.

The study also looked at the proportion of facilities that received *training plus* in malaria. For a facility to meet this definition, it must have at least one staff member trained in three key aspects of malaria care mentioned above, complemented with supportive supervision visits on two of them (malaria case management and RDTs)⁴¹ in the past 12 months. Overall, only about 19 and 17 percent of all CHPS zones had received *training plus* in malaria at endline across focal and all regions respectively (this indicator was not measured at baseline). Similarly, only 24 and 31 percent of health centers in focal regions and all regions had received *training plus* in malaria (Table 11). The proportion of CHPS and health centers that received training plus was lower at endline than at midline in focal and all regions (see Table 11 in Appendix E). Among facilities with staff with the training component, at least 90 percent of facilities (in both sets of regions and both facility types) had staff that also received supportive supervision to complete training plus.

⁴¹ This covers two of the three key aspects of malaria care mentioned earlier, namely malaria case management and RDTs. We did not collect information on supervisory visits for the third key aspect, malaria in pregnancy.

TABLE 11. STAFF TRAINING FOR MALARIA CAREGIVING
NOTE: MIDLINE AND ENDLINE ONLY⁴²

Percentage of CHPS Zones	Focal regions			All regions		
	Midline	Endline	Difference	Midline	Endline	Difference
Facilities receiving at least 2 clinical supervisory visits in the previous 12 months on: ^a						
Malaria case management	46.5	28.8	-17.7***	52.7	31.2	-21.6***
Malaria RDTs (including refresher training)	39.5	28.8	-10.7*	48.0	30.8	-17.2***
Malaria data collating and reporting	44.8	27.2	-17.6***	51.7	29.5	-22.3***
Malaria supply chain management	36.4	16.7	-19.7***	38.8	19.3	-19.4***
Facility with at least one staff member receiving “training plus” in malaria treatment ^b	39.7	19.3	-20.4***	47.1	16.7	-30.4***

Percentage of Health Centers	Focal regions			All regions		
	Midline	Endline	Difference	Midline	Endline	Difference
Facilities receiving at least 2 clinical supervisory visits in the previous 12 months on: ^a						
Malaria case management	61.7	41.0	-20.7***	72.3	51.9	-20.4***
Malaria RDTs (including refresher training)	55.3	42.1	-13.2**	69.2	45.4	-23.8***
Malaria data collating and reporting	61.5	40.9	-20.6***	71.9	41.7	-30.2***
Malaria supply chain management	55.1	19.5	-35.5***	58.5	26.3	-32.2***
Facility with at least one staff member receiving “training plus” in malaria treatment ^b	48.6	26.0	-22.6***	68.1	31.4	-36.8***

Source: Health, Population, and Nutrition Office Portfolio Health Systems midline and endline survey data

Note: Percentages are weighted to adjust for sampling probabilities. *** Statistically significant at the 1 percent level; ** statistically significant at the 5 percent level; * statistically significant at the 10 percent level.

Sample sizes are reported as ranges when variables have different response rates and when variables apply to different subsets of respondents.

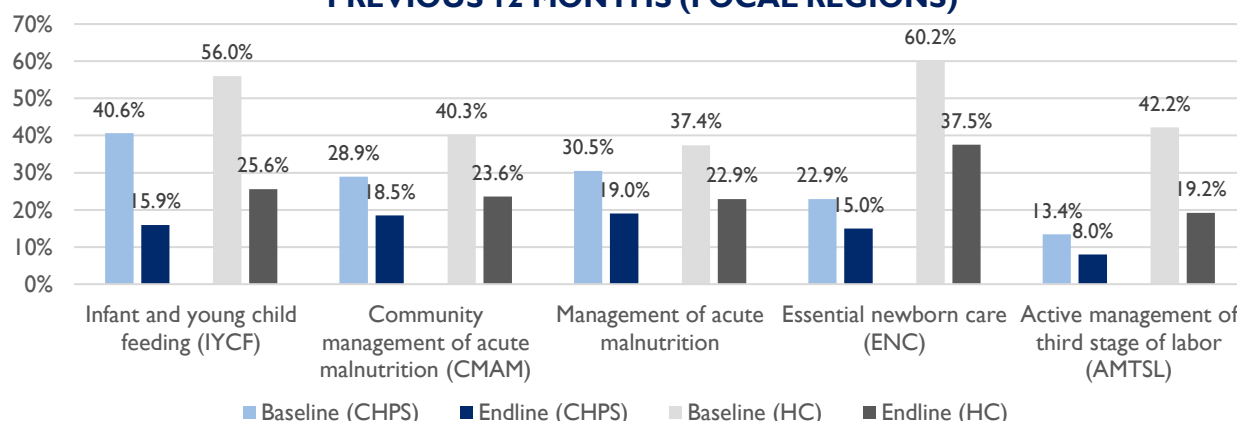
^a Because multiple responses were possible, percentages may not sum to 100.

^b Training in all three key aspects of malaria care (malaria in pregnancy, malaria case management, and RDTs) and supportive supervision in malaria case management and RDTs.

Nutrition and maternal and child health caregiving training

The study also examined staff training on caregiving related to a variety of nutrition and maternal and child health services. Between baseline and endline, there were decreases in the proportion of facilities in which staff had received training in the previous 12 months on several related topics in both CHPS zones and health centers, although the magnitude of these decreases varied (Table 12 and Figures 12A and 12B, Appendix D).

FIGURE 12.A. FACILITY WITH AT LEAST ONE TRAINED STAFF IN PREVIOUS 12 MONTHS (FOCAL REGIONS)



Training fell especially sharply for infant and young child feeding (IYCF), which fell from 41 to 16 percent of CHPS zones and from 56 to 26 percent of health centers in focal regions between baseline and endline. Similar to the trends observed in malaria training, the decrease in training rates between baseline and endline

⁴² These data points were added at midline, so data was only collected at midline and endline.

appears to have taken place in the two years between midline and endline. Specifically, the training rates for many of these topics increased from baseline to midline but then fell below baseline rates at endline.

TABLE 12. STAFF TRAINING FOR NUTRITION AND OTHER KEY CAREGIVING SERVICES (% OF FACILITIES), NOTE: MIDLINE AND ENDLINE ONLY⁴³

Percentage of CHPS Zones	Focal regions			All regions		
	Midline	Endline	Difference	Midline	Endline	Difference
Facility had at least one trained staff member receive supportive supervision in the previous 12 months: ^a						
Anemia prevention control	18.3	7.5	-10.8***	20.0	7.2	-12.9***
Maternal, Neonatal and Child Health (MNCH) life saving skills	11.4	9.6	-1.8	17.8	8.0	-9.8***
Integrated Management of Neonatal Childhood Illness (IMNCI)	22.8	6.1	-16.7***	22.8	5.3	-17.6***
Facility with at least one staff member receiving "training plus" in nutrition ^b	67.3	50.2	-17.1	75.0	50.8	-24.2

Percentage of Health Centers	Focal regions			All regions		
	Midline	Endline	Difference	Midline	Endline	Difference
Facility had at least one trained staff member receive supportive supervision in the previous 12 months: ^a						
Anemia prevention control	20.9	11.1	-9.8*	28.2	15.5	-12.7**
Maternal, Neonatal and Child Health (MNCH) life saving skills	30.2	14.4	-15.8***	41.4	18.2	-23.2***
Integrated Management of Neonatal Childhood Illness (IMNCI)	35.2	7.4	-27.8***	34.7	10.0	-24.7***

Source: Health, Population, and Nutrition Office Portfolio Health Systems midline and endline survey data

Note: Percentages are weighted to adjust for sampling probabilities. *** Statistically significant at the 1 percent level; ** statistically significant at the 5 percent level; * statistically significant at the 10 percent level.

Sample sizes are reported as ranges when variables have different response rates and when variables apply to different subsets of respondents.

^a Because multiple responses were possible, percentages may not sum to 100.

^b Training complemented by supportive supervision in critical skill areas in nutrition (infant and young child feeding, management of acute malnutrition, and community management of acute malnutrition).

Among facilities that had recently received training on MNCH and nutrition topics, there were also large declines in the proportion of facilities that also received supportive supervision (see Figures 12B). By endline, only about 5 to 12 percent of CHPS zones reported that at least one trained staff member had received supportive supervision in the previous 12 months in key nutrition-related training topics. Health centers also reported significant declines, but had higher levels overall, ranging from 12 to 29 percent of facilities at endline, depending on the topic.⁴⁴

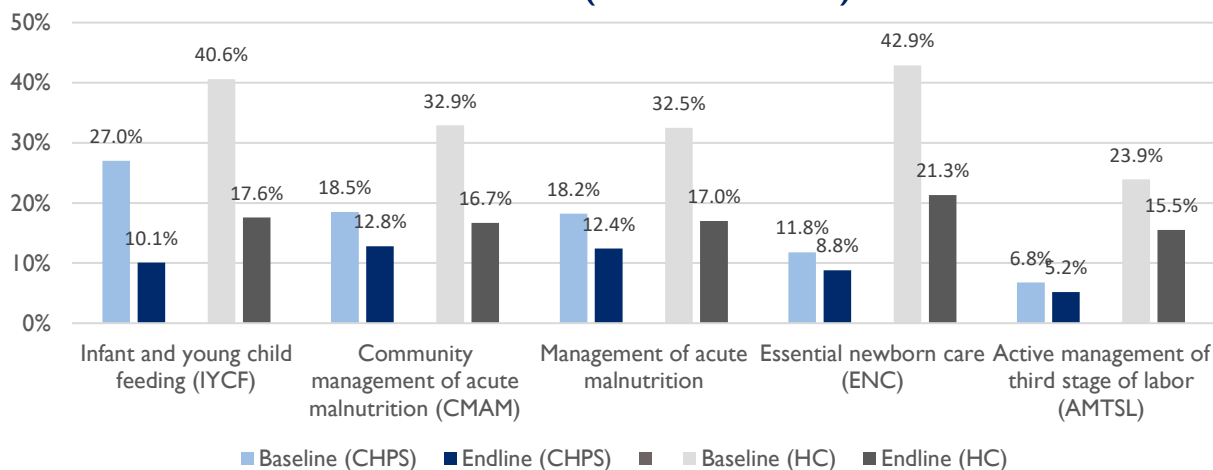
Similar to the earlier analysis of training plus for a set of malaria trainings, the study also examined the prevalence of quality training as measured by training plus supportive supervision for these other caregiving topics at endline (we did not measure this at baseline). For the purposes of this study, *training plus* in nutrition is defined as having staff recently trained in all key aspects of nutrition (IYCF, management of acute malnutrition, and community management of acute malnutrition (CMAM)) complemented with supportive supervision (mentoring or coaching from a supervisor) in each aspect. At endline, among CHPS zones in focal regions and all regions that had at least one staff member with recent training in each of the three key aspects of nutrition, 71 percent of CHPS zones in focal regions and all regions had staff that received training plus in nutrition, as did 74 and 75 percent of health centers. Among facilities in which at least one staff member had received training in three key aspects of maternal and newborn and child health (MNCH) (active management of third stage of labor, essential newborn care and anemia prevention control), few

⁴³ These data points were added at midline, so data was only collected at midline and endline.

⁴⁴ Recently, efforts to improve the quality of health care staff shifted away from training and toward supportive supervision. The facility survey data do not permit analysis of supportive supervision separately from training because the survey only included questions on supportive supervision for staff that had already received related training.

facilities reported having staff with training plus in MNCH: only 1 percent of those CHPS zones in focal regions and all regions, and 4 and 5 percent of those health centers.⁴⁵

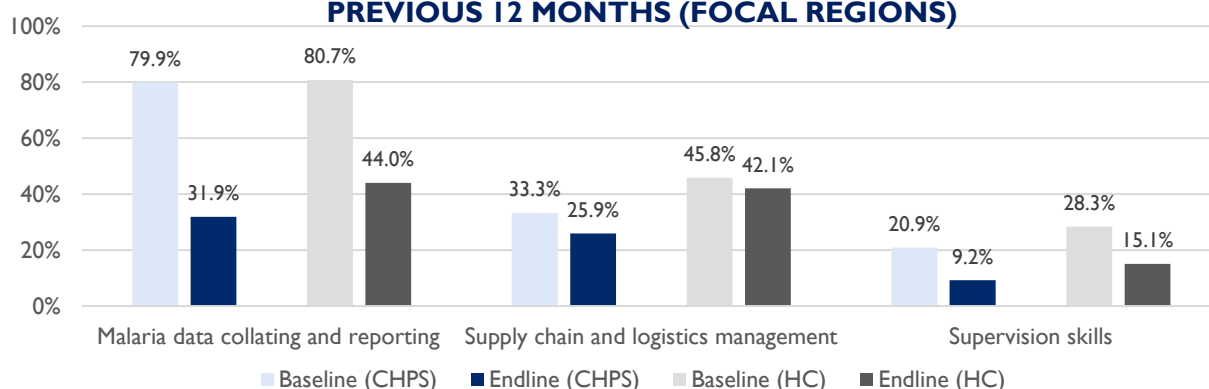
FIGURE 12.B. FACILITY WITH AT LEAST ONE TRAINED STAFF WHO ALSO RECEIVED SUPPORTIVE SUPERVISION IN PREVIOUS 12 MONTHS (FOCAL REGIONS)



2. Training for Data Tracking, Management and Logistics

In addition to providing health services, CHPS and health center staff are expected to track and manage data and perform key logistical and managerial tasks. Collating and reporting data related to malaria is a focus for GHS and USAID-funded projects and training is important to facilitate this. The proportion of CHPS zones with a nurse or CHO who received training on malaria data collating and reporting in the previous 12 months decreased by more than half between baseline and endline, from roughly 70 to 31 percent of facilities in focal regions and nationwide (Appendix D, Table 13). There were similar decreases in the proportion of CHPS zones with *any* staff member trained in malaria data collating and reporting in the previous 12 months. Training rates for malaria data collating and reporting also fell sharply in health centers, with greater declines in focal regions than in all regions. Although these indicators had declined somewhat between baseline and midline, the decreases were much sharper by endline and mirror the large decreases in malaria caregiving topics.

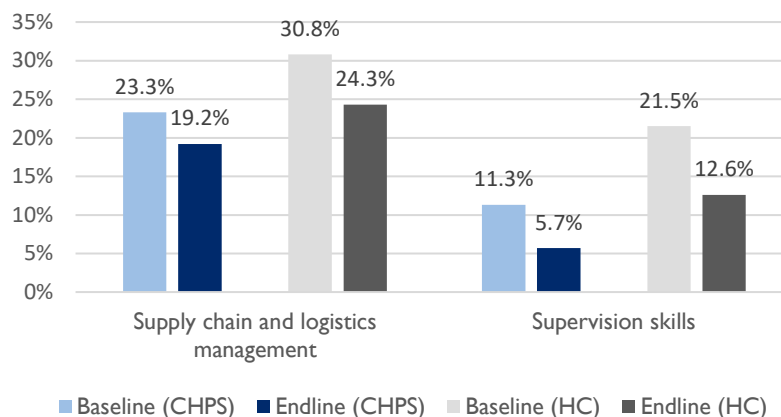
FIGURE 13.A. FACILITY WITH AT LEAST ONE TRAINED STAFF IN PREVIOUS 12 MONTHS (FOCAL REGIONS)



⁴⁵ If a facility does not have staff qualified to provide MNCH services, we might not expect any staff at that facility to receive training in certain MNCH topics. Therefore, we also examined training in MNCH topics *among facilities that provided deliveries*, which are more likely to have staff qualified to provide MNCH services. As expected, the proportion of facilities that received training in different aspects of MNCH increases with this sample restriction, though only modestly among health centers. In particular, the percentage of facilities reporting training in specific MNCH-related topics at endline increased by between 4 and 12 percentage points in CHPS zones and by between 1 and 3 percentage points in health centers relative to the full sample, with the increases varying by training topic and group of regions. Similarly, the percentage of facilities reporting training plus in specific MNCH-related topics increased by between 3 and 14 percentage points in CHPS zones and by between 0 and 4 percentage points in health centers (data not shown).

Training in other management topics such as supply chain and logistics management and supervision skills is also important to improve the quality of care. Participation in this type of training declined between baseline and endline for CHPS zones and health centers, with larger decreases for CHPS zones. At endline, only about two in 10 CHPS zones nationwide had staff who were recently trained on supply chain and logistics management, and only about one in 10 had staff who were recently trained on supervision skills. The proportions of CHPS zones and health centers reporting that staff received supportive supervision in addition to recent training on these management topics also declined by endline among CHPS zones and health centers, although these declines were not significant for health centers. Again, most of the declines in these indicators on recent training in management topics occurred between midline and endline.

FIGURE 13.B. FACILITY WITH AT LEAST ONE TRAINED STAFF WHO ALSO RECEIVED SUPPORTIVE SUPERVISION IN PREVIOUS 12 MONTHS (FOCAL REGIONS)

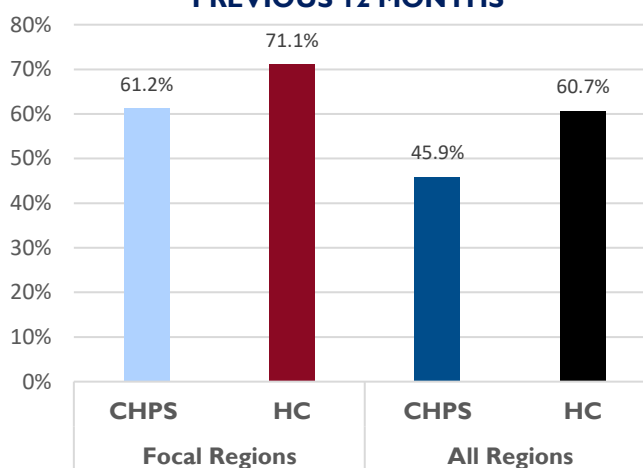


3. Training Challenges

The endline survey included a new question asking if facilities had unmet training needs; a large number of CHPS zones and health centers said yes. Rates of unmet training needs were higher in focal regions than in all regions, and higher among health centers than CHPS zones (Figure 13.C). Survey results also show that it was rare for staff to have received training across the breadth of service areas: no facilities reported having staff with “training plus,” defined as having received training and supportive supervision in the key areas for each of malaria treatment, nutrition, supply chain management, and MNCH at endline.

Trainings for GHS staff can be conducted off-site, and many are held at the regional health directorates, while others are held at district health directorates. Overall DDHSs reported they thought staff were receiving a lot of good training, building and updating their capacities. However, providing training also comes with challenges. Several DDHSs noted that trainings for facility staff need to be scheduled better, so as not to burden facilities and districts by having all staff members attending trainings at the same time, or attending several trainings consecutively, possibly compromising care. As one noted,

FIGURE 13.C. FACILITY HAD UNMET PRIORITY TRAINING NEEDS IN PREVIOUS 12 MONTHS



The only thing is that training is not coordinated in the Ghana Health Service. So you can be there and then malaria training. The following two weeks Systems for Health training. The following two weeks, another. So you see that, if you look at it, it distracts the calendar or itinerary of CHOs, because of every two weeks, three-day training, one week training, especially the first year of Systems for Health. ...It was just so poorly coordinated and so frequent that the majority of the time the staffs were not at post because they are running after a different training or another. We should find a way of putting training in blocks you know, coordinating it well. ... Last year there was LLIN [Long Lasting Insecticide Treated Net], there was Yellow Fever, and there was Measles, rubella among other training. The staff, before they even finish implementing strategies from training, there is another one coming.— DDHS, Volta Region

E. Treatment Protocols and Sanitation and Infection Prevention

KEY FINDINGS – SANITATION AND INFACTION PREVENTION



Among CHPS zones, the availability of written treatment protocols was limited at endline.



Among health centers, the availability of written treatment protocols improved for some, but gaps remain.



CHPS zones and health centers both substantially increased compliance with standard guidelines for sanitation and infection control.

This section examines the availability of treatment protocols for client care and the extent to which facilities follow prescribed guidelines for sanitation and preventing infections. Both types of guidelines are key to good client care.

I. Availability of Treatment Protocols

Staff in CHPS zones and health centers are expected to follow basic written protocols and guidelines when treating clients, for example for maternal and newborn care, child malnutrition, infection prevention, and other basic services. Most SDHOs and CHOs reported that they had many of the needed treatment protocols at their CHPS and health centers. In the qualitative interviews, SDHOs and CHOs reported that these treatment guidelines should be posted in the facilities, usually in consulting rooms for easy reference when a health worker is dealing with a client. However, most SDHOs and CHOs also indicated that there are some missing treatment protocols at the CHPS and health centers. A DDHS concurred, noting,

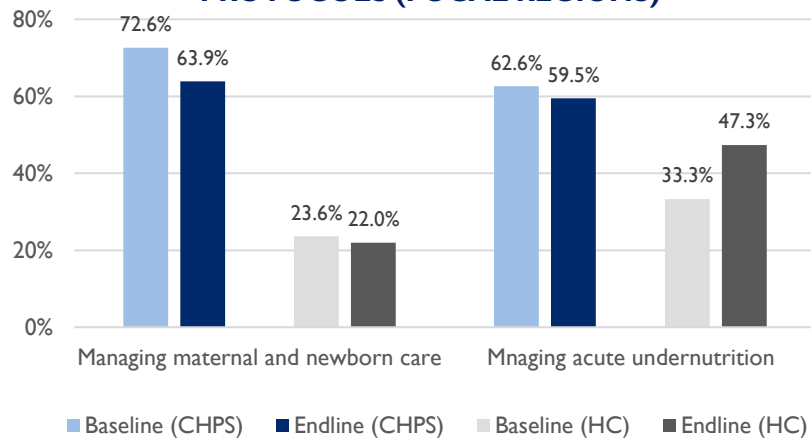
They have protocols, but not all of them. ... some of them [facilities] have protocols on the wall, in fact, ... because of the USAID project healthy babies' breath. ... they even made them write some of the protocols and then the steps on manila cards and then it's pasted in some of the facilities. When you go you would see that over there. Sometimes, you have a protocol it's even locked in a file.... depending on its nature. If it's a big one that can be pasted, it's adequately pasted.— DDHS, Volta Region

The quantitative results show evidence of modest improvements in the availability of treatment protocols for managing maternal and newborn care in CHPS zones and health centers between baseline and endline. However, the availability of treatment protocols for managing acute undernutrition improved only slightly in CHPS zones and declined in health centers—particularly in focal regions (Table I4, Appendix D).

Overall, most CHPS zones still did not have these written treatment protocols available at the time of the endline survey. For example, in focal regions, 64 percent of CHPS zones reported not having written MNCH protocols and 60 percent reported not having written acute

undernutrition protocols (Table I4, Appendix D). The availability of these protocols at endline was higher for health centers, though still not universal. Specifically, about a quarter of health centers in focal regions reported not having written MNCH protocols and nearly one half reported not having written acute undernutrition protocols at endline. In addition, more health facilities at endline (47.3 percent) reported having no written protocols for managing acute undernutrition compared to baseline (33.3 percent) in the focal regions.

FIGURE I4. FACILITY WITH NO WRITTEN PROTOCOLS (FOCAL REGIONS)



Adhering to appropriate treatment guidelines is essential for quality care. Several CHOs, SDHOs and DDHSs expressed their beliefs that even though health facilities did not have all the written protocols they

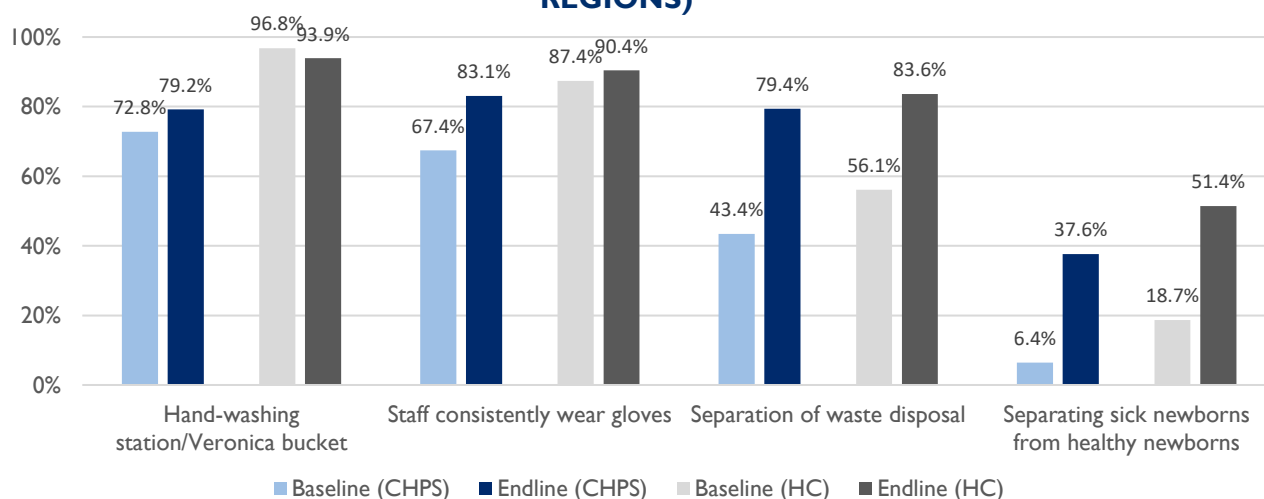
should, there were various systems in place to determine if up-to-date guidelines were being used by health workers in the operation of their work, including through monitoring and supervision processes, in which checklists and observations are used, among other techniques. Checklists were reportedly used by DDHSs when visiting facilities for monitoring and supervision to note whether staff have written protocols, whether they are displayed, and whether they are using them. Monitoring can be done through observation of health workers with clients, but also through registers and how they are filled out. Validating data in registers during visits was another form of monitoring. As one CHO noted,

For example, before they'll see somebody under severe malnourished or under nourished, moderate or severe, they have an indicator for it. When they use the measuring tape on the mid arm circumference, the figure that they come out with, they write it in the register. So, when you also pick the register [select it for validation] and you look at the figure, if you're not really sure and the client visits the facility, you can also use the measuring tape to confirm it to see if what they have done is the right thing.— CHO, Northern Region

2. Sanitation and Infection Prevention Measures

Although important gaps in basic water, sanitation and hygiene (WASH) infrastructure persisted at CHPS zones, we found evidence of major progress between midline and endline. (These indicators were not included in the baseline survey; Table 15 shows endline values and the midline-endline changes are shown in Appendix E.)⁴⁶ The rates of access to piped water or borehole water grew from roughly one third to one half from midline to endline. Moreover, whereas only about four in five CHPS facilities had access to toilets or latrines at midline, practically all did at endline.

FIGURE 15.b. FACILITIES WITH SANITATION MEASURE (FOCAL REGIONS)



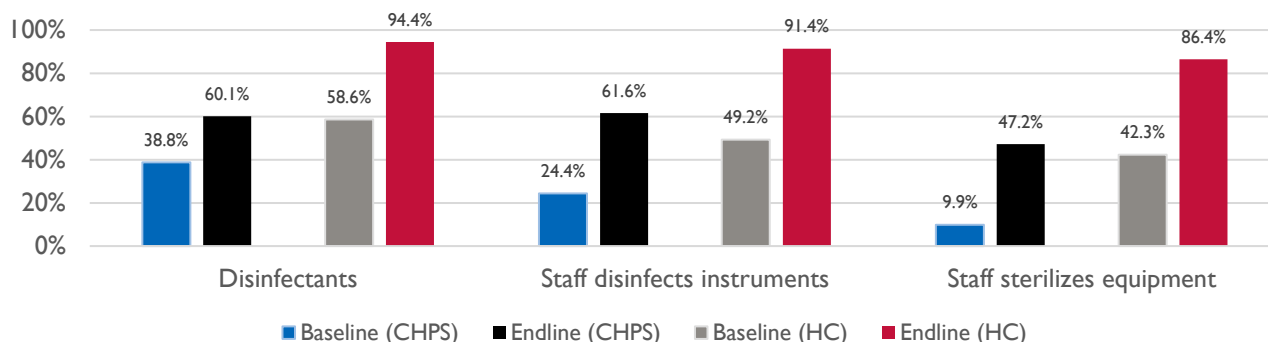
Regarding the reported availability or use of various measures to prevent and control infections, there was an overall increase from baseline to endline in measures related to sanitation, sterilization, and disposal, and ways of dealing with contagious clients among both types of facilities⁴⁷. Many of the measures examined were available in well over half of CHPS zones at endline and at over 85 percent of health centers (Figure 15)⁴⁸.

⁴⁶ The endline survey collected information on water supply and toilets and latrines for CHPS zones only. It was assumed that almost all health centers would have this infrastructure, and the provision of infrastructure in CHPS zones is the programmatic focus.

⁴⁷ Our analysis of these measures is based on facility self-reports; interviewers did not verify the availability and use of these measures.

⁴⁸ Systems for Health supportive supervision included a focus on infection prevention and control (IPC) which may have contributed to improvement in focal regions.

FIGURE 15. CHPS AND HCS WITH KEY STERILIZATION MEASURES IN PLACE FOR PREVENTION AND CONTROL OF INFECTIONS (ALL REGIONS)



All SDHOs and CHOs interviewed mentioned sanitation and infection prevention measures that they carry out at health facilities in order to protect staff and clients, including hand washing, shoe removal before entering a delivery room, and wearing protective gowns and gloves. They also mentioned decontaminating instruments and disinfecting beds. Another topic health facility staff members mentioned was modeling infection prevention for clients. One CHO described what his staff do at their CHPS this way:

We make sure that the client would have to, after disposing the latrine, ... wash with soap and water before he or she touches anything around here. So, we also inculcate it into our services. Before a staff must begin work, the staff has to wash the hand, the staff has to be neat before the client. The staff has to be a role model for the client to emulate by maybe after visiting the toilet, the staff has to come and wash the hand for the client to see how the staff is doing, and that is a very good infection prevention and control. So that is what we normally do.— CHO, Northern Region

F. Access to Supplies and Equipment

KEY FINDINGS – ACCESS TO SUPPLIES AND EQUIPMENT



Supply chain management significantly improved in some aspects, such as increased use of control cards and an increase in facilities with a dedicated person responsible for ordering supplies).



Maintaining adequate stocks of medicines, supplies, and equipment remained a significant obstacle to quality of care and service at endline.

To be able to provide high-quality care, it is important for CHPS zones and health centers to have sufficient supplies of medicines and other commodities (for example, immunizations, malaria RDTs, and contraceptive methods), as well as appropriate equipment in good working order. This section examines the systems in place for managing supply chains, describes the extent to which specific supplies and equipment are available, and looks at the availability of communication technology in these facilities.

I. Supply Chain Management

Effective management of supply chains—the sequence of processes from production and procurement by GHS of essential medicines, commodities, and other supplies to their final distribution to health facilities—is important to ensure that these are available in health facilities. Analysis of the qualitative and survey data revealed improvements in supply chain management in several areas: effective tracking of supply and medicine levels in facilities and potentially improved understanding of and proficiency with supply chain logistics by facility staff through increased participation in supply chain management training and supportive supervision.

Nonetheless, by looking at data from qualitative interviews with DDHSs, SDHOs, and CHOs in the focal regions and data from the survey, the study identified several major challenges to the effective operation of the supply chain at endline. One challenge is an inadequate supply of drugs available for distribution to facilities due to stock-outs at the regional medical stores. A second challenge is delays from the NHIS in reimbursing health facilities for services and supplies and delays from facilities and NHIS in reimbursing

suppliers for previously supplied medicines and supplies. A third challenge has been the shift to the new Last Mile Distribution (LMD) system or scheduled delivery system in 2017, through which the region is supposed to supply health facilities directly after a monthly requisition has been made.

Tracking the levels of medicines and supplies

An important dimension of effective supply chain management at the facility level is to accurately track the available quantity of medicines and supplies so they can be ordered as needed to maintain required stock levels. SDHOs and CHOs at all facilities visited indicated that the facilities continue to practice inventory monitoring measures to ensure stocks of medicines and supplies are requisitioned on time. These measures include having designated staff to monitor supplies and using ledger books and tally/bin cards to keep track of stock balances, and minimum/reorder levels.

The survey data show a significant increase between baseline and endline in the percentage of facilities that have a person dedicated to ordering medicines and supplies, which could help facilities monitor the level of supplies. As Table 16 shows, in focal regions the proportion of CHPS zones with a dedicated person to order supplies increased from 67 to 91 percent of facilities, while at health centers the proportion grew from 82 to 99 percent. These results were similar in all regions together.

At the same time, the proportion of facilities with no standard operating procedures (SOP) manual, which outlines the procedures for supply chain management, did not change significantly between baseline and endline, across both types of facilities and region groups. The proportion of CHPS zones without SOPs had declined significantly between baseline and midline, but then increased to slightly above baseline levels by endline. Among health centers, changes from baseline to midline and from midline to endline were small. These patterns might reflect staff attrition, which is higher in CHPS zones than at health centers; staff who were provided with an SOP as part of training might have left the CHPS zones after midline, taking the SOP with them or resulting in new staff not being aware of the SOP. If staff do not consistently have access to SOPs, the increase in facilities with a dedicated person responsible for ordering medicines and supplies may not translate to better management.

The survey data suggest that at endline 71 percent of CHPS zones in focal regions and 67 percent in all regions together used a Report Requisition Issue and Receipt Voucher (RRIRV) to reorder commodities based on consumption in the previous two months, as did 83 percent of health centers in focal regions and 85 percent in all regions (Table 16 in Appendix D). The staff in charge of supplies who do this task varies by facility; in health centers, it might be the SDHT leader or a nurse. Previously, if the facility head endorsed a RRIRV and the DDHS approved it, the items would be purchased at the regional medical stores (RMS) or the district medical stores. Some CHPS were even supplied through the sub districts. However, the new scheduled delivery system is set up so that the RMS supplies facilities directly after a requisition from the facility.

FIGURE 16A. FREQUENCY OF STOCK-OUTS AMONG CHPS ZONES (ALL REGIONS)

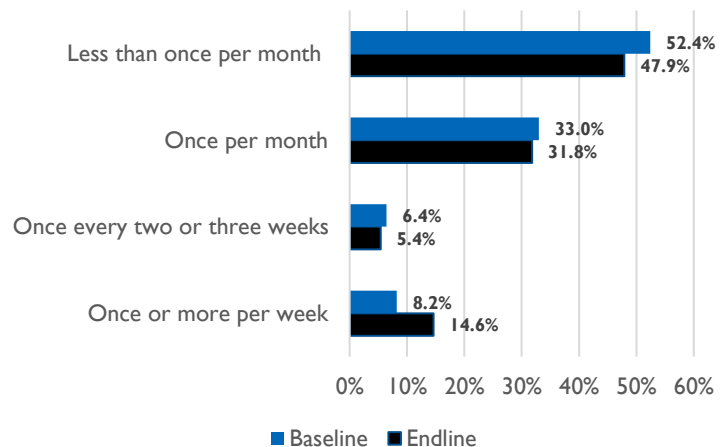
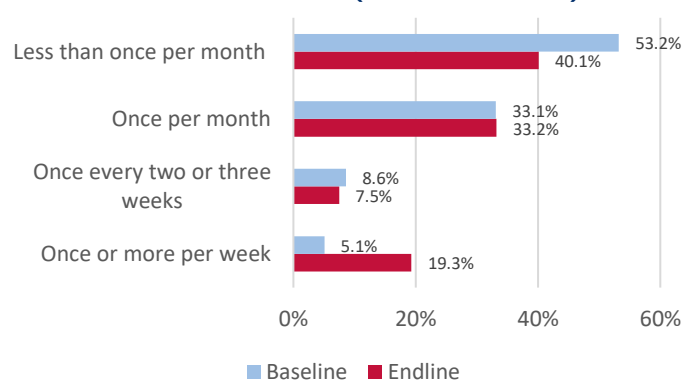


FIGURE 16B. FREQUENCY OF STOCK-OUTS AMONG HEALTH CENTERS (ALL REGIONS)



Overwhelmingly, CHOs, SDHOs, and DDHSs noted that problems in the supply chain are not in the monitoring system, but caused by shortages of supplies at the regional level and delays in receiving requested supplies from the RMS.

The survey also asked all facilities generally how often they were unable to provide prescribed medicines, vaccines, or other supplies clients needed due to a stock-out (Figures 16A and 16B). At endline, stock-outs were much more frequent than at baseline. Almost one-quarter of CHPS zones in the focal regions experienced a stock-out once per week or more often, while at baseline, this occurred in about one-tenth of facilities. For health centers in focal regions, 29 percent experienced a stock-out once per week or more at endline, while at baseline this occurred in only 6 percent of facilities and health centers experiencing stock-outs less than once per month dropped from 53.6 to 32.1 percent. Nationwide, changes were in the same direction as in focal regions but smaller in magnitude.(see Table 16 in Appendix D).

Facilities typically are expected to use control cards (e.g., inventory control cards, bin cards, tally cards, or supply cards) to track the levels of medicines and supplies. The results from the facility survey indicate that there was a large improvement between baseline and endline in the availability of control cards among CHPS zones and health centers for most commodities (Table 17). In focal regions, the average increase in the percentage of facilities with control cards across all commodities was 26 percentage points for CHPS zones and 21 percentage points for health centers, with an average of 71 percent of CHPS zones and 82 percent of health centers using control cards at endline (see Table 17 for selected commodities and Table 17 in Appendix D for the full set of commodities included in the survey). Results were similar in all regions. Only 35 of the 593 facilities included in the analysis had no control cards; these included 4 percent of focal region CHPS zones, 13 percent of nonfocal region CHPS zones, and no health centers.

Among CHPS zones that had control cards, the percentage with cards that were updated in the 30 days before the survey increased significantly between baseline and endline for all nutrition and immunization commodities measured in both rounds, in both focal regions and all regions. Results were similar for health centers, although not all the increases for nutrition commodities were statistically significant. At endline, averaging across all commodities, nearly one-third of CHPS zones had updated control cards for nutrition and immunization commodities in focal regions and all regions, as did more than half of health centers (see Table 17 in Appendix D).

Table 17 shows the percentage of facilities with control cards that had updated them in the 30 days before the survey, but the percent of *all* facilities with updated control cards showed similar trends (Appendix D). The percentage of *all* facilities with updated control cards increased for all nutrition and immunization commodities that were measured at baseline and endline, across both types of facilities and both groups of regions (results not shown). Among all CHPS zones in focal regions, averaging across all commodities measured at baseline and endline, this percentage increased from 8 percent at baseline to 32 percent at endline; results were similar for CHPS zones in all regions. Among all health centers in focal regions, the average percentage for the same set of commodities went from 25 percent at baseline to 54 percent at endline; baseline and endline percentages were slightly higher among health centers in all regions.

TABLE 17. MANAGEMENT OF ESSENTIAL SUPPLIES (% OF FACILITIES)⁴⁹

Percentage of CHPS Zones	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Facility has control card for the following commodities that was updated in the previous 30 days, among facilities with control cards available:						
Oral rehydration salts and zinc tablets	20.5	32.4	11.9***	16.6	34.9	18.3***
Vitamin A	11.5	43.2	31.6***	12.9	53.2	40.3***
Rotarix	25.4	54.6	29.3***	23.0	52.8	29.8***
Pentavalent	24.9	54.9	30.0***	23.5	52.1	28.6***

⁴⁹ This table lists the more important commodities in each category; for a full listing of all commodities in the study, see Tables 17A & B in Appendix D.

Percentage of Health Centers	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Facility has control card for the following commodities that was updated in the previous 30 days, among facilities with control cards available:						
Oral rehydration salts and zinc tablets	40.5	44.2	3.8	45.3	62.6	17.3***
Vitamin A	23.8	49.6	25.8***	21.1	55.2	34.1***
Rotarix	46.4	66.7	20.3***	46.3	70.8	24.5***
Pentavalent	43.3	67.6	24.3***	45.3	74.3	29.0***

Source: Health, Population and Nutrition Office Health Systems baseline and endline survey data.

n.a. = not applicable (question not asked at baseline, or not comparable).

†See Appendix E for midline and endline results for this indicator, which was added at midline.

Financial and logistical challenges to the supply chain

According to SDHO, CHO and DDHS respondents, finances are an ever increasing challenge to ensuring the regular availability of supplies. Lack of timely payments from the health insurance authorities to the facilities to reimburse claims especially causes problems in facilities' ability to access drugs and supplies from the regional medical stores. Some SDHOs and CHOs noted that NHIS claims for parts of previous years 2016, 2017 and 2018 had not been paid. As one CHO summarized:

The challenge is the health insurance is not paying. If you don't have money and then you request, they will tell you that health insurance has not paid, so there is no need for you to even bring your request. They [would] ...like for us to get it, but because we don't have the money, you yourself you can't make the request.—CHO, Northern Region

CHOs, SDHOs and DDHSs also reported that very often the RMSs do not have the medicine or supplies needed, and facilities must wait for them to be available. Other times, SDHOs and CHOs noted, when the facilities receive medicine, it is less than the amount they requested, since there can be overall shortages at the RMS level, which can also be caused by delays in payments from facilities. As one DDHS described,

So the regional medical stores don't have much drugs available. Why? Because I am not paying regional medical stores. Why am I not paying regional medical stores? Two reasons; the NHIS is not paying and also, there is no dedicated funding for operation. If I need to pay ECG [Electricity Company of Ghana] electricity, if I need to buy office stuff, if I need to take care of someone [who] has retired you know, severance package, it is this thing, fund. So one fund, DHD [District Health Directorate] is dipping his hands into it... So... when it comes to services, the same fund is being used by multiple things, because you are under funding it. So I don't pay... the region well. If we are paying region well, region can then go and buy more drugs and stock ... the regional medical stores. So I won't blame region, I would blame us. Buy why are we also not able to pay?—DDHS, Volta Region

The logistics of getting supplies from regional centers to local facilities also appeared to add to the delays. Many DDHSs brought up issues with the LMD system, also known as scheduled delivery. Commodities are supposed to be delivered to health centers by the RMS. Some SDHOs reported that supplies were delivered to their health centers, but others said they went to the RMS to pick up their supplies, often because the RMS will not deliver because the roads are too bad, especially in the rainy season. Another challenge can be that because the RMSs drop medicine off at health centers or district facilities, CHPS have to come and pick up their medicines, which is a challenge for staff who do not have regular transportation. In addition, although deliveries are supposed to be on a schedule, a few DDHSs reported that RMS often do not follow that schedule. Some CHOs, SDHOs and DDHSs attribute this to an inadequate number of vehicles to run the system. CHOs across the regions had similar reports of delayed supplies:

I must say it [supply chain management system] is very poor because at first, we [would] go down to the directorate ... for the supplies, but somewhere last year it was changed that the supplies [requests] will go directly to Regional Stores. With that, ...it takes time, and ... looking at the poor nature of the road, before it comes ... down to us [CHPS], it is not always easy. At times we run short of drugs for more than three months before we get them. It is a challenge.—CHO, Volta Region

The challenge is at times when we request drugs from the region it takes a long time. The time that they say they will bring the drugs, that time will pass, but the drugs will not be ready. So at times, we go out of stocks for a while. That's the challenge—CHO, Central Region

The vehicles that are meant for the various routes are not adequate to run that system in a region with 28 districts, so it makes it difficult because the number of vans that are supposed to be running are inadequate.—CHO, Northern Region

In addition to problems with the new last mile distribution policy, some DDHS and SDHOs also blamed a directive that facilities cannot purchase some medicines outside the regional medical stores as partially responsible for the inadequate supplies and commodities coupled. According to some of the SDHOs and DDHSs, when a facility is out of a medicine they might try to get it from a “sister” facility if there is enough. And although facilities are not supposed to get medicines from the open market, if there is a dire need sometimes this happens.

There is another policy document that says that you cannot procure some 54 drugs outside the regional medical stores. So ...getting to the tail end of this year, medicine supply has been a problem, but the worse hit was between the month of December and now.—DDHS, Northern Region

2. Availability of Supplies and Equipment

The study examined the availability of key supplies and equipment in health facilities. Quantitative survey data served to assess the frequency of stock-outs of key supplies, as well as the availability of supplies and equipment on the day of the survey, using the list of essential supplies and equipment from the 2014 CHPS Implementation Guidelines. The list in Table 18 includes priority supplies and equipment, with the full list found in Tables 18 through 20 in Appendix D. Qualitative data provides perspectives from health care providers.

Stock-outs

The study asked facility respondents whether they had experienced any stock-outs in the previous two months of commodities for which they had control cards. To examine changes between baseline and endline for each commodity, the analysis focuses on the sample of facilities that reported having a control card for each commodity at both baseline and endline, so that changes in the sample would not bias the findings.⁵⁰

Changes in the frequency of stock-outs between baseline and endline were mixed: out of 22 commodities, among CHPS zones in focal regions, the prevalence of stock-outs increased for five commodities, decreased for three and did not change much for 14 commodities (see Table 18A and 18B in Appendix D for the full list of commodities).

There was no statistically significant change in the prevalence of facilities that experienced stock-outs for any of the four nutrition commodities measured in both survey rounds (albendazole, Iron and Folic Acid tablets, ORS and zinc tablets, and Vitamin A) for CHPS zones in focal regions (Figure 18.i), an indicator of one of USAID’s funded projects.

Among immunization commodities, the proportion of facilities with stock-outs in any of eight immunization commodities decreased among CHPS zones and health centers in focal regions and all regions, but this decline was only significant in all regions (Figure 18.ii).

Changes in the proportion of facilities with stock-outs in any of five malaria commodities were mixed across facility types and groups of regions, but increased significantly for health centers in all regions (Figure 18.iii); stock-outs became substantially more common for malaria medications, and substantially less common for malaria RDTs.

There were no significant changes in the percentage of facilities with stock-outs for any of six family planning commodities among CHPS zones, despite a large increase in the prevalence of stock-outs for condoms, but these stock-outs decreased significantly among health centers in focal regions and all regions (Figure 18.iv).

⁵⁰ For example, if facilities that adopted control cards between the baseline and endline were less familiar with how to use them effectively and were more likely to experience stock-outs as a result, adding these facilities to the endline sample would artificially increase the prevalence of stock-outs.

FIGURES 18.I-18.IV. FACILITIES EXPERIENCING STOCK-OUTS BY COMMODITY TYPE⁵¹ IN FOCAL REGIONS

FIGURE 18.i. STOCK-OUT OF ANY 4 NUTRITION COMMODITIES

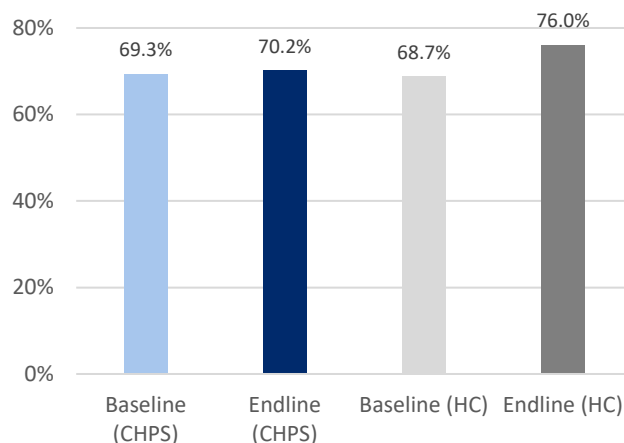


FIGURE 18.ii. STOCK-OUT OF ANY 8 IMMUNIZATION COMMODITIES

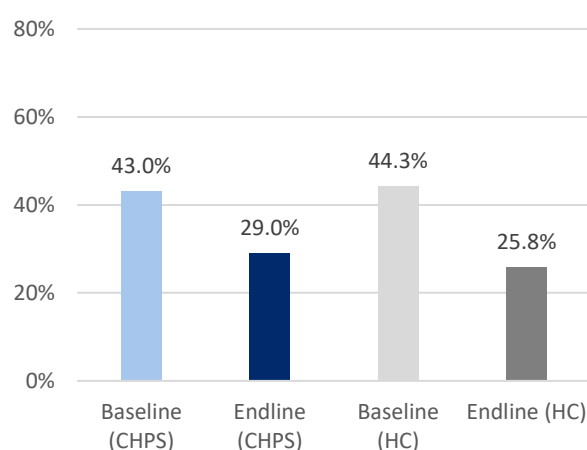


FIGURE 18.iii. STOCK-OUT OF ANY of 5 MALARIA COMMODITIES

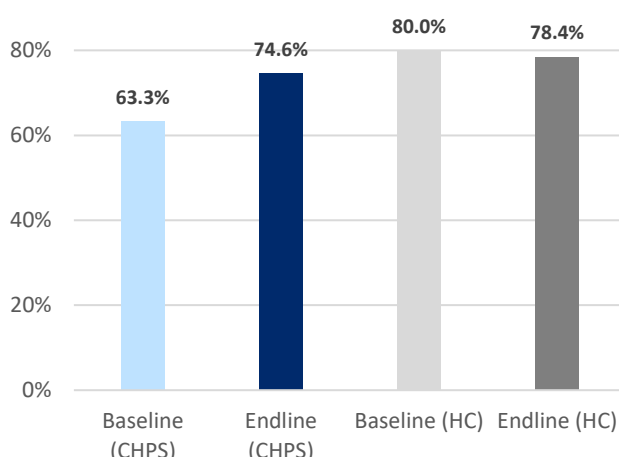


FIGURE 18.iv. STOCK-OUT OF ANY of 6 FAMILY PLANNING COMMODITIES

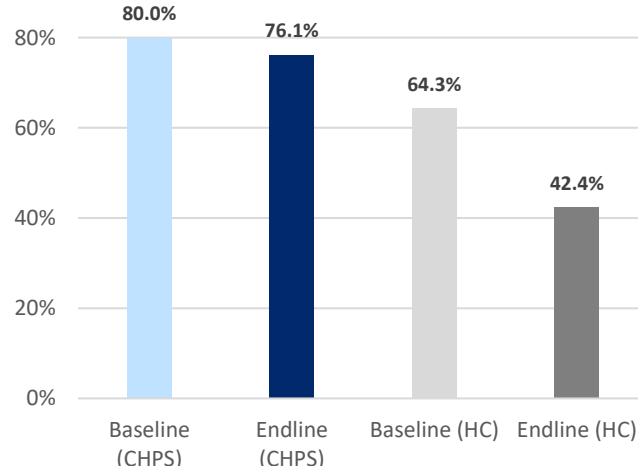


TABLE 18. STOCK-OUTS FOR SPECIFIC COMMODITIES IN PREVIOUS TWO MONTHS, AMONG FACILITIES WITH RELEVANT CONTROL CARDS

Percentage of CHPS Zones	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Facility experienced stock-out of the following commodities, among facilities with relevant control cards:						
Oral rehydration salts (ORS) and zinc tablets	34.2	47.6	13.4*	30.2	29.5	-0.7
Vitamin A	18.6	17.4	-1.2	21.1	13.4	-7.7
Rotarix	1.9	2.2	0.3	5.8	1.1	-4.7**
Pentavalent	19.9	9.9	-10.1*	20.1	4.7	-15.4***
Artesunate and amodiaquine	24.6	54.6	30.0***	19.8	45.9	26.1***

⁵¹ Nutrition Commodities: Albendazole, Iron and Folic Acid tablets, ORS and zinc tablets, Vitamin A; Immunizations: Measles, Polio, Pnuemo, Rotarix, Pentavalent, Tetanus toxiod, yellow fever, Bacillus Calmette-Guerin; Malaria Commodities: Pediatric syrup paracetamol, Adult paracetamol, Artesunate and amodiaquine, Artemether and lumefantrine, Malaria RDTs; Family Planning Commodities:

Percentage of CHPS Zones	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Artemether and lumefantrine	23.0	44.5	21.5***	22.6	38.9	16.2***
Malaria RDTs	22.2	8.3	-13.9**	23.3	5.5	-17.9***
An injectable contraceptive	18.8	9.9	-8.9*	14.5	5.4	-9.1***
Condoms	13.1	40.8	27.7***	12.6	39.3	26.7***

Percentage of Health Centers	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Facility experienced stock-out of the following commodities, among facilities with relevant control cards:						
Oral rehydration salts (ORS) and zinc tablets	37.2	46.8	9.6	23.0	32.8	9.8*
Vitamin A	29.3	15.6	-13.6	21.1	19.2	-1.9
Rotarix	8.1	4.7	-3.4	5.6	2.1	-3.5
Pentavalent	17.0	2.9	-14.1**	15.4	1.4	-14.0***
Artesunate and amodiaquine	27.9	53.0	25.1**	13.8	54.5	40.8***
Artemether and lumefantrine	28.4	44.9	16.5*	23.2	44.0	20.8***
Malaria RDTs	36.9	15.5	-21.4***	24.2	16.5	-7.7
An injectable contraceptive	20.3	5.7	-14.7**	14.1	4.8	-9.3**
Condoms	22.2	24.6	2.4	14.4	27.8	13.4*

Source: Health, Population and Nutrition Office Health Systems baseline and endline survey data.

^a Not reported because of small sample sizes (fewer than 10).

n.a. = not applicable (question not asked at baseline, or not comparable).

SDHOS and DDHS in four out of five focal regions reported inadequate supplies at the CHPS zones and health centers compared with the baseline. The qualitative data from some SDHOs and CHOs suggest that lack of essential supplies and equipment at the regional and/or district medical stores precluded their supply at the facility level. The other main reason cited for increased stock-outs was the worsening financial situation of facilities because of non-payments from health insurance. The most common medicines which are usually stocked-out at CHPS zones as reported by CHOs include malaria drugs, acetaminophen (paracetamol) and cough mixtures.

The malaria drug for three months now has not been in the system. So anytime a client comes, you have to prescribe for the clients to go and buy [it]. ... and then the paracetamol tablets too, and those are the ones we need most, so at times for three months it wouldn't be there, and when we get it too, we get it at a smaller quantity so that within 1- 2 months then it gets finished again.—CHO, Volta Region

The non-availability of medicines continues to be one of the significant issues affecting client satisfaction with the quality of care and services they receive at their CHPS zones, according to most of the clients and community leaders interviewed in almost every district. Many mentioned medications not always being available, from snake bite medication to malaria drugs to family planning medicines. Some credited CHPS zones with doing the best they could, such as this client.

When you come here and the medicine is available, they'll give it to you. If the medicine isn't available, as it's done in all hospitals, you'll be given the ones available and asked to go and buy the rest elsewhere. You'll be given the drugs as long as they're available.—Client, Central Region

However, many noted their frustration at having to pay for drugs and supplies that are listed as being covered by NHIS. In addition, implications of stock-outs also include additional time and effort. One client explained the extra steps involved.

One thing is, there are no medicines... even the day I came here he [the enrolled nurse] said there was no medicine available. So he wrote out the prescription for me to go and buy the medicine, and I went to buy it for him to use for me.—Client, Western Region

However a DDHS in the greater Accra Region explained that for her district, supplies were adequate and improved over previous years.

Access [to supplies and commodities] has improved. Yes, access has improved. ... Usually when they [CHPS zones & health centers] have challenges they will come to me and tell me that this is what is happening, we don't have medicines and then when we [DDHS] go around on monitoring, we'd look at in their stores and in their shelves and on their tally cards and ledger books, and I don't see that much anymore. I don't see the shortages that I was seeing before anymore, so it is on that basis that I'm saying that it has improved.—DDHS, Greater Accra Region

Availability of supplies on day of survey

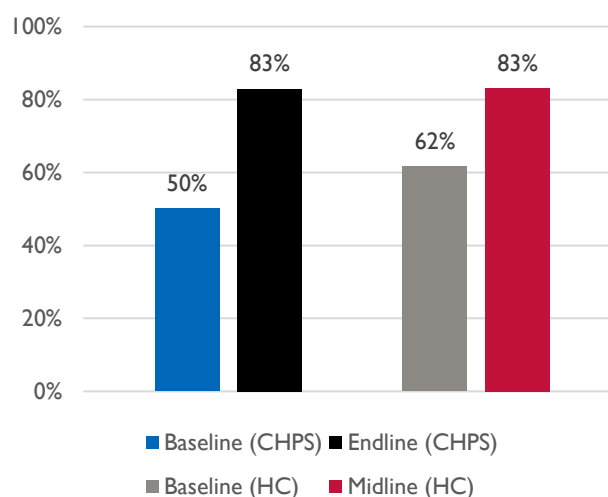
The survey also assessed the availability of key malaria, family planning, nutrition and immunization commodities among the facilities with control cards on the day of the visit (Table 19 and Figure 19).⁵² For analysis, again the sample was restricted to facilities that had control cards for a given commodity at both baseline and endline to avoid changes in the sample driving the estimated changes.⁵³ In focal regions, among the individual commodities examined, the average commodity was available in 75 percent of CHPS zones and 80 percent of health centers.

Similar to the findings on stock-outs, changes in the availability of specific commodities between baseline and endline were mixed. There were significant decreases in the availability of some individual nutrition commodities, including iron and folic acid tablets, as well as ORS and zinc tablets. However, there was no significant change

from baseline to endline in the percentage of facilities that had all four nutrition commodities available on the day of the survey across both facility types and both groups of regions. Availability of individual immunization commodities was high in both types of facilities at baseline, and changes in their availability were small between baseline and endline. However, there were statistically significant increases in the percentage of CHPS zones and health centers in all regions with all eight key immunization commodities available on the day of the survey. Several individual malaria commodities, including anti-malarial drugs, were significantly less available at endline than at baseline for both types of facilities; this was reflected in decreases in the percentage of facilities with all five key malaria commodities available, with especially large decreases for CHPS zones. However, the availability of malaria RDTs increased significantly between baseline and endline—they were available at more than 90 percent of both types of facilities nationwide at endline. This suggests that facilities are improving in their ability to diagnose malaria, but may not reliably have treatment options available. Finally, the availability of many family planning commodities, including several types of contraceptive methods, decreased significantly in CHPS zones between baseline and endline, but the opposite was observed in health centers.

For nutrition commodities, a related indicator newly examined at endline was whether facilities met the minimum competency criteria for delivery of infant and young child feeding (IYCF, which involves ensuring that infants and young children receive sufficient nutrition for healthy growth), which combines availability of commodities with other requirements.⁵⁴ No CHPS zones or health centers met all the criteria at endline (Table 20).

FIGURE 19. FACILITIES WITH ALL 8 KEY IMMUNIZATIONS* AVAILABLE (ALL REGIONS)



* Measles, Polio, Pnuemo, Rotarix, Pentavalent, Tetanus toxiod, yellow fever, Bacillus Calmette-Guerin

⁵² Survey respondents were able to answer questions about stock-outs, updates to inventory cards, and the availability of each commodity that day with the inventory card in hand, and based on any other information they knew or looked up.

⁵³ Similar to the analysis of stock-outs, we restricted the sample to facilities that had control cards for a given commodity at both baseline and endline to avoid changes in the sample driving the estimated changes.

⁵⁴ This is defined as (1) availability of all essential equipment in working order (six items): mid-upper-arm circumference tape, hanging scale, bathroom weighing scale, infantometers, hemoglobin test kit; (2) existence of at least one staff trained in the last 12 months in IYCF; (3) quality

Also newly examined was whether facilities with control cards were effectively using them to monitor the expiration of key basic commodities. At endline, all CHPS zones and health centers with control cards for at least one of the key commodities (vitamin A, pentavalent, uterotonic drugs, malaria RDTs, artesunate and amodiaquine and injectable contraceptives) had expired commodities (Table 19). This suggests that the levels of availability described above and shown in Table 19 might be inflated somewhat by the availability of expired commodities.

TABLE 19. AVAILABILITY OF ESSENTIAL SUPPLIES AMONG FACILITIES

Percentage of CHPS Zones	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Among facilities with relevant control cards						
Facility has the following commodities available:						
Iron and folic acid tablets	85.5	62.3	-23.2***	84.6	74.9	-9.7**
Oral rehydration salts and zinc tablets	67.6	40.5	-27.1***	74.1	61.0	-13.1**
Vitamin A	87.8	74.3	-13.6	87.7	76.3	-11.4**
Measles	87.9	89.2	1.3	87.1	86.6	-0.5
Pentavalent	87.0	85.2	-1.7	85.0	89.2	4.2
Yellow fever	96.0	93.7	-2.3	94.2	92.1	-2.1
Artesunate and amodiaquine	81.4	30.4	-51.0***	83.7	31.8	-52.0***
Artemether and lumefantrine	81.0	51.6	-29.3***	82.5	58.5	-24.0***
Malaria RDTs	84.5	96.5	12.0**	88.9	96.8	7.8**
An injectable contraceptive	94.8	94.0	-0.9	94.4	95.1	0.7
Combined oral contraceptive pills	90.7	77.9	-12.8***	88.5	80.7	-7.7*

Percentage of Health Centers	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Among facilities with relevant control cards						
Facility has the following commodities available:						
Iron and folic acid tablets	80.1	59.9	-20.3**	87.4	71.5	-15.9**
Oral rehydration salts and zinc tablets	70.2	60.6	-9.5	83.8	74.8	-9.0*
Vitamin A	83.6	80.0	-3.6	85.5	77.6	-7.9
Measles	96.2	96.2	0.0	96.4	96.7	0.3
Pentavalent	96.8	95.8	-1.1	93.7	95.8	2.1
Yellow fever	96.6	91.7	-4.9	96.4	94.5	-1.9
Artesunate and amodiaquine	77.8	36.6	-41.2***	85.1	45.0	-40.2***
Artemether and lumefantrine	85.1	65.1	-20.0***	86.7	76.3	-10.4**
Malaria RDTs	77.3	89.0	11.7*	82.2	93.9	11.7***
An injectable contraceptive	80.3	95.8	15.5**	86.2	97.9	11.7**
Combined oral contraceptive	88.1	92.4	4.4	80.2	92.1	11.9*

Source: Health, Population and Nutrition Office Health Systems baseline and endline survey data.

^a Sample includes all facilities with a control card for at least one of these commodities.

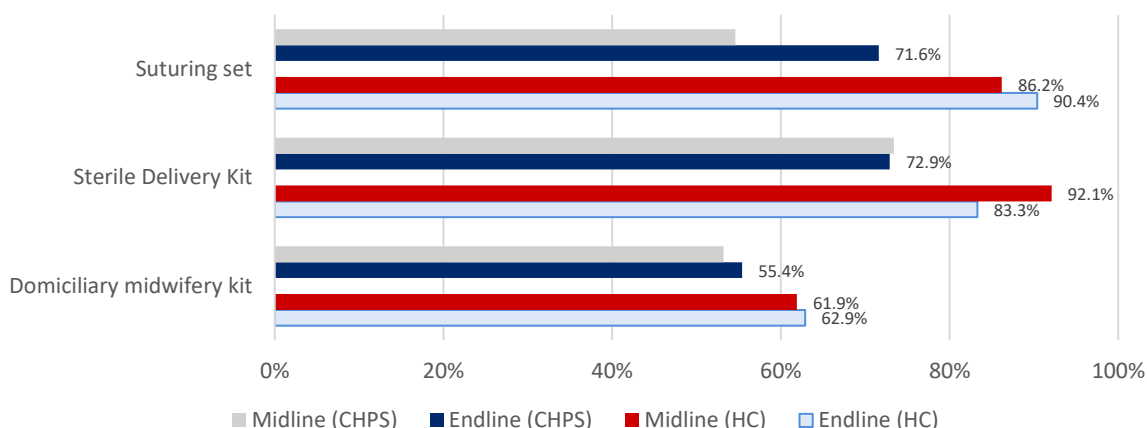
n.a. = not applicable (question not asked at baseline, or not comparable)

Availability of essential equipment

Also examined was the availability of functional essential equipment needed for delivery, nutrition assessment and counseling, and storage in the facilities on the day of the survey and how this changed between baseline and endline. For CHPS zones, the changes in availability of equipment were mixed within and across categories of equipment (Table 20, Figures 20.i, 20.ii, and 20.iii). For example, for CHPS zones in the focal regions and all regions, the availability of essential equipment for delivery among CHPS zones conducting deliveries increased significantly for postpartum hemorrhage and pre-eclampsia and eclampsia packs, but decreased significantly for hand-held vacuum extractors (Table 20 and Figure 20.ii).

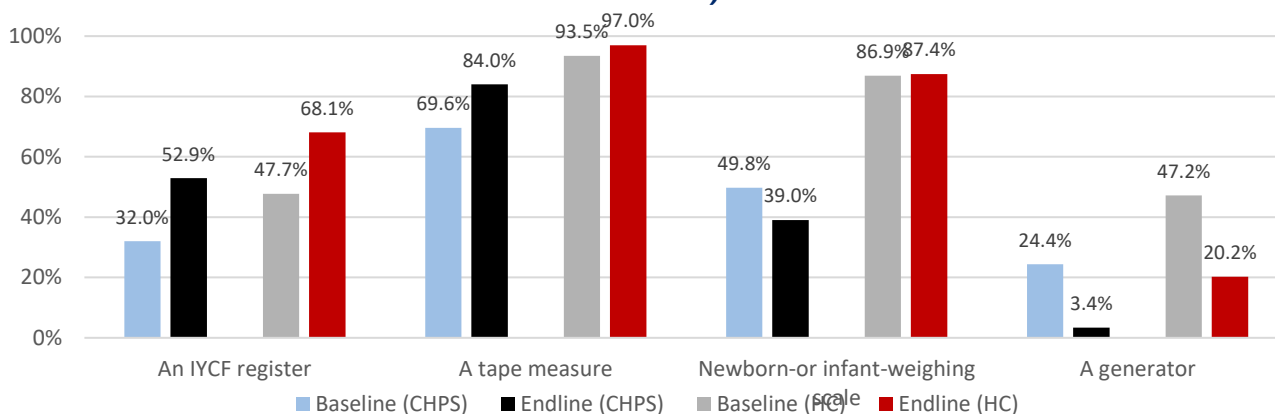
record keeping - completeness of infant records based on spot check of three records randomly pulled; (4) availability of all nutrition commodities and supplies (five items): vitamin A capsules, oral rehydration salts, iron and folic acid tablets, IYCF registers, and nutrition counseling materials (any of counseling cards, key messages leaflets, nutrition pamphlets, or other nutrition materials).

FIGURE 20.A. AVAILABILITY OF ESSENTIAL LABOR AND DELIVERY EQUIPMENT IN FOCAL REGIONS (MIDLINE AND ENDLINE ONLY)



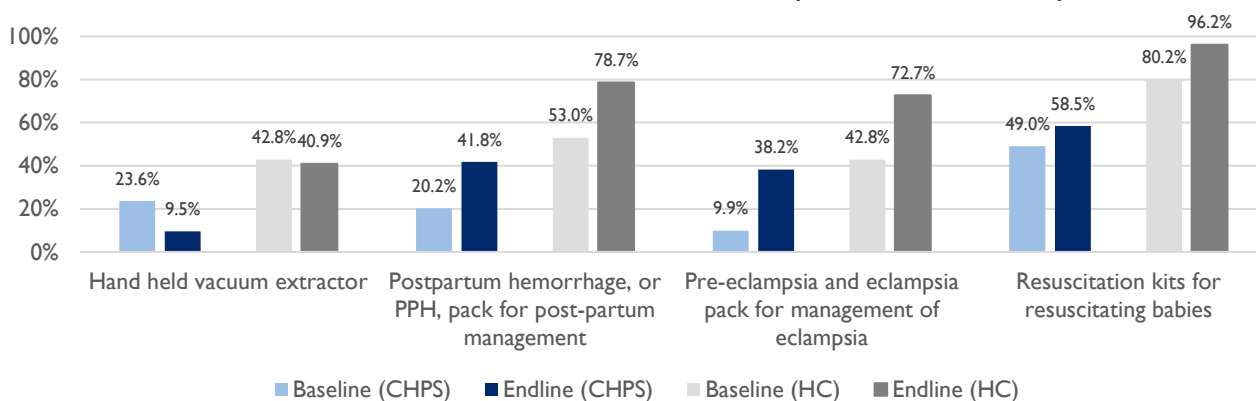
Overall, significant progress has been made in the availability of some essential equipment in CHPS zones, but large and widespread gaps remain at endline. The changes in availability of nutrition assessment equipment across CHPS zones in focal regions and all regions were similarly mixed, with significant improvements in availability of mid-upper arm circumference measuring tapes and other tape measures, but also significant decreases in availability of scales. In terms of storage equipment, access to vaccine refrigerators and ice packs improved, but there was little change in the availability of vaccine refrigerator thermometers and temperature-monitoring sheets (Figure 20.iii). Generators, which were found at one in four CHPS at baseline were found in practically no CHPS zones at endline.

FIGURE 20.B. AVAILABILITY OF ESSENTIAL EQUIPMENT (ALL REGIONS)



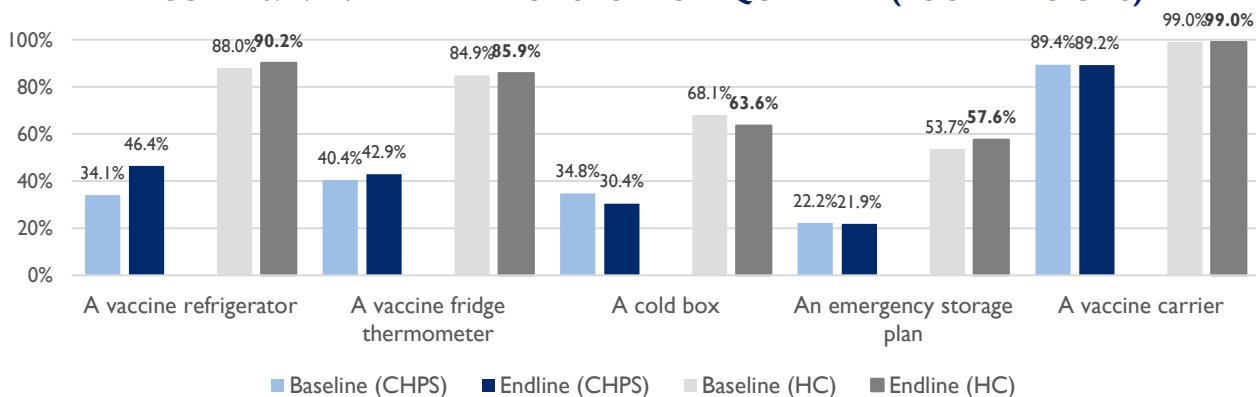
For health centers, changes in the availability of most types of equipment were similar to those observed at CHPS zones, but overall levels of availability of essential equipment were higher—as expected for these higher level facilities.

FIGURE 20.ii. AVAILABILITY OF ESSENTIAL LABOR AND DELIVERY EQUIPMENT FOR EMERGENCIES (FOCAL REGIONS)





Many of the DDHSs and SDHOs interviewed noted that facilities do not always have the functional equipment necessary to treat clients. Health centers were reported to be better equipped than CHPS, but many facilities still face inadequate equipment. DDHSs reported facing challenges with being able to provide all the facilities in their districts with the necessary equipment. Some also mentioned that part of the challenge with equipping facilities goes back to not being reimbursed from the NHIS.

FIGURE 20.iii. AVAILABILITY OF STORAGE EQUIPMENT (FOCAL REGIONS)



3. Availability of Information Communication Technology

KEY FINDINGS

-  Access to cell phones, computers and tablets increased across CHPS zones in focal regions and all regions between baseline and endline, but most CHPS zones still had no phone, computer, or tablet access.
-  Access to cell phones, computers, and tablets also increased among health centers, but gaps remained in cell phone and computer coverage.

The availability of information communication technology (ICT) could contribute to health facilities operating more effectively and efficiently—for example, by enhancing record keeping and access to online health information. The facility survey assessed the availability of cell phones, computers/tablets, and the DHIMS2 e-tracker application in CHPS zones and health centers. The qualitative interviews also provides perspectives from CHOs and DDHSs regarding ICT. For CHPS zones, the availability of cell phones increased significantly from baseline to endline in focal regions and all regions, reaching more than one-third of facilities (Table 20.1).⁵⁵ However, access to cell phones with internet access did not increase. Nevertheless, there were large

⁵⁵ This included personal cell phones of facility staff that could be used for work. We also examined changes in the availability of cell phones with specific features such as SMS, cameras, multimedia service, or smart phone capabilities. Access to cell phones with SMS services and cameras increased significantly, but the findings were broadly similar to those for cell phones in general.

increases in the availability of computers and of computers or tablets with internet access in CHPS zones, especially in focal regions. These increases at the national level were driven by strong increases in the Volta, Upper Eastern, and Central regions, which each had an increase of 20 percentage points or more from baseline to endline. (An initiative to roll out the e-tracker took place in the Volta and Upper Eastern regions, which involved the distribution of tablets to facilitate access to the e-tracker.) Still, in focal regions, only 42 percent of CHPS zones had a computer and only about 30 percent had a computer with internet access at endline. The limited availability of communication technology could, in part, reflect the limited cell phone and internet connectivity available in some of the rural areas in which these facilities are located. In fact, CHOs and DDHSs interviewed for the qualitative study reported that ICT remains a challenge in some parts of the focal regions due to non-availability of electricity and/or poor or non-existent internet network connectivity. For these reasons, it was not common to find desktop computers and their accessories at CHPS zones and health centers in more remote areas of the districts where the study was conducted. As one CHO noted,

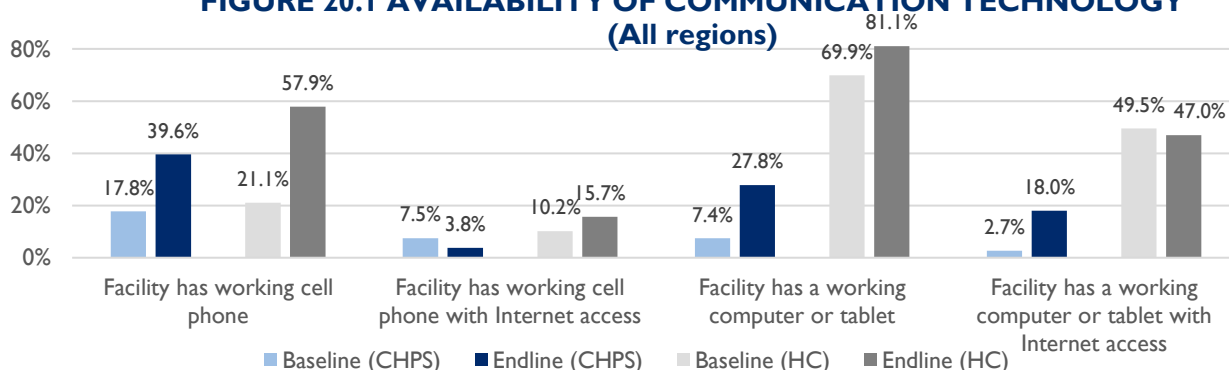
No network connectivity, it is a great challenge. ... We want to see if there is a way for us to have access to network connectivity, then we don't have any problem at all.—CHO, Volta Region

Access to communication technology was higher in health centers than in CHPS zones at baseline and remained higher at endline (Table 20.1). In the focal regions, the availability of cell phones increased significantly between baseline and endline among CHPS zones and health centers, though there were no significant changes in access to cell phones with internet access. Availability of computers also increased significantly among CHPS zones and health centers in focal regions and all regions.⁵⁶ This growth was fueled by growth in the Volta and Upper East regions, where an e-tracker pilot that provided tablets to run the e-tracker was taking place. Even at health centers, internet connectivity was reported to be difficult. One DDHS described it this way.

Here in [this district] and here at this point close to the shore, internet connectivity accessibility is very poor. Sometimes you have data, but you know connectivity is zero, so these are some of the problems that we face.—DDHS, Greater Accra Region

The endline survey incorporated new questions about facilities' use of e-trackers in Volta and Upper East, two regions where an e-tracker pilot was taking place. In these two regions, all CHPS facilities and all but one health center in these regions reported having a functioning computer or tablet that runs the DHIMS2 e-tracker application. Among these, roughly two thirds of facilities reported having entered client information into the e-tracker in the previous two months. Among those, nearly three-quarters of CHPS zones and six in ten health centers reported having used client information in the e-tracker to help make decisions about the delivery of health services.

FIGURE 20.1 AVAILABILITY OF COMMUNICATION TECHNOLOGY (All regions)



⁵⁶ All facilities in Volta and all but one facility in the Upper East region indicated that they had a functioning computer or tablet running the DHIMS e-tracker application; this was as expected because of the e-tracker pilot taking place in those regions. However, nearly two percent of facilities in Volta and nearly half of facilities in the Upper East region also indicated that they *did not* have a functioning computer or tablet. A potential explanation for these inconsistent responses could be if facilities that had a computer or tablet only for the e-tracker application thought they should indicate that they did not have a computer or tablet if the one they had was only for the pilot. If those facilities that had a computer or tablet for the e-tracker pilot indicated that they did have a functioning computer or tablet, the overall percentage of facilities with a functioning computer or tablet would increase by roughly four percentage points among CHPS zones and by about one percent among health centers.

G. Client Satisfaction

KEY FINDINGS – CLIENT SATISFACTION



Clients and community leaders overall reported very positive opinions of CHPS zones and health centers, although they noted challenges in terms of supplies, equipment, facilities and staff.

Another measure of the quality of care in facilities is the level of client satisfaction. The qualitative interviews asked clients, community leaders, CHOs, SDHOs and District Assembly members about their satisfaction with the care and services of the facilities in their area and their perceptions of others' satisfaction. This section summarizes their views of CHPS zones and then of health centers.

I. Perceptions of Quality at CHPS Zones

Generally, clients at the CHPS zones reported being very happy with the quality of care that they received. Some clients equated the quality of care and treatment provided by the CHPS zones to service they would expect to receive at higher-level facilities such as hospitals. Clients cited factors including positive staff attitudes and the respect CHOs showed them, the quick service delivery they received, and the quality of treatment provided at their CHPS. An additional positive attribute mentioned by some clients was the ability to receive treatment on credit at their CHPS zone and pay when they have the money.

The majority of CHOs interviewed reported that they were highly satisfied with the quality of services they and other CHOs provided at CHPS zones. One reason given by CHOs for their high level of satisfaction was the availability of various services they could offer, such as child welfare clinics (CWCs), antenatal care (ANC), outreach into communities, and outpatient department (OPD) services. Other reasons were that CHOs can treat most conditions presented at the CHPS, some can conduct deliveries, and many CHOs reported that their clients leave their facility very satisfied with the services provided.

Clients generally agreed with the assessment offered by the CHOs, giving high marks to CHPS zones for the diversity and quality of their services. A large and noticeable change clients reported was an increase in the number of skilled deliveries conducted in the CHPS zones. The improvement is due to the posting of midwives and physician assistants to some CHPS zones. Other clients indicated the availability of female midwives at CHPS compounds was a considerable improvement. Most CHPS zone clients were also very pleased about having a CHPS compound in or near their community, which assures the availability of healthcare close to them, and where they can be treated any time of the day or night.⁵⁷ Proximity of a CHPS compound was also noted as some clients' favorite feature of their CHPS zone. Some typical comments from clients are represented here.

Oh, when you are sick, and you come here [to the CHPS], they take care of you. They identify what exactly is wrong with you and then give you medication. Even if it is childbirth delivery and they realize that they cannot help, if they have to arrange for a vehicle they do that, and sometimes even accompany you to another hospital.—Client, Western Region

Now pregnant women don't have to go far. When they are in labor, they pick a taxi and come and meet the nurses and then they deliver here. For me also, if anything is worrying me I move from ... [a nearby community] to come to the CHPS and they take care of me.—Client, Central Region

When you live in a community that has no health facility, you suffer a lot, especially when you fall sick in the middle of the night; but having this here helps because when time for opening the place is even not up or when you call on them in the night they are able to attend to you.—Client, Central Region

On the other hand, the non-availability of supplies and medication in CHPS zones was a significant issue affecting client satisfaction with the quality of services they receive. Some CHPS clients reported they were provided with all the medicines required for their treatment at the CHPS; however, the majority of clients across all five focal regions said that some essential medication such as acetaminophen (paracetamol) or other supplies were not available at the CHPS, and clients were asked to purchase them from the open market. The

⁵⁷ Most often, interviews were conducted with CHPS clients at a CHPS compound; therefore, the perspectives of potential clients who do not come to the compound because of distance or any other reason are not reflected in our client data. However, CHC members and community leaders did represent the voices of a broad stretch of community members.

limited availability of RDT kits for malaria testing was also a challenge at some CHPS. Community leaders and CHOs concurred with these views. Other clients reported that some laboratory services were not available to them at the CHPS, and were therefore referred to other, more equipped health facilities. A few CHOs reported that the availability of essential equipment positively influenced the quality of their work and service delivery; however, most CHOs reported that the lack of essential equipment, laboratory and scan services had a negative effect on the quality of their work and created inconveniences for their clients. One CHO reported that they were doing their best to work with the limited resources available to them, but because of the lack of resources, she could not score their performance as excellent.

The medicines are not available here. If I say there are medicines here, it will be a lie. If the medicines are available and the insurance does not even cover them, we will buy it. ... There is no medicine available here.—Client, Greater Accra Region

When a pregnant woman comes to deliver, there is nothing here at the hospital, not even hand gloves, rubber, medicines, everything they need to deliver the baby they don't have unless the man goes out and buys all those things.—Client, Northern Region

Hmm, well if I should grade it (laughs)..I'll say very good. Not excellent because most of the services, we wish we could give but we can't, depending on the issues. Something like let's say laboratory services, we don't have a lab. So it's like the patients are being, how should I say it? It's like ... we inconvenience them in a way. Because moving ups and downs for their labs and stuff. So in terms of quality care, though I can say that it's very good, not excellent.—CHO, Greater Accra Region

Most of the clients interviewed were content with the attitudes of the CHPS zone staff. Some clients reported that there have been some improvements in the attitudes of the staff in the last two years in that they are now friendlier and treat clients with more respect. However, clients did note that some CHPS staff still have attitudes that discourage clients from visiting the CHPS.

Now the staffs are friendly, they are friendly towards us and, they ask you what is wrong in a friendly manner. At first, the people here used to frown their faces.—Client, Volta Region

I'm very happy about their services because any time I go there, they care for me with lots of patience without being rude or shouting at me. Even if I should go there at dawn, I'll be attended to.—Client, Greater Accra Region

She [the CHO] spoke harshly to us, and I told her that she has to exercise patience because if she doesn't exercise patience and she speaks like that, it will bring quarrel, so she should exercise patience.—Client, Central Region

A specific area we asked clients about was their satisfaction with the wait time before being attended to by CHPS staff. Clients reported that the wait time before being attended to usually ranged between five and 30 minutes, although it could be up to an hour at times. Most of the clients interviewed were satisfied with the time they spent waiting because they recognized that people with urgent needs needed to be served before them. Some clients noted that wait times were better than at other types of facilities, where clients had to wait for as long as two hours before being offered care. Some clients even mentioned the short wait times as one of the best features of their CHPS.

Usually, when you come early and don't meet a lot of people here, you will not be delayed. When you go to some places, the nurses ignore patients and do their things, but this place is not like that. The moment they arrive here, they get to work immediately. Though I can't precisely tell you how many minutes I spent here, I can tell you when you come, ... they work 'according to' [they do what they are supposed to do].—Client, Central Region

What I like about the CHPS is, if I come here, within a short time they attend to me, and I can go back home for whatever I have to do. If I go out of the community for healthcare I have to go and queue for long, but here they take care of you as soon as you come here, so there is usually no queue here so you are free to go home.—Client, Central Region

Clients were generally satisfied with the amount of time spent with CHPS staff during a consultation and the quality of their interactions with CHPS staff. Clients reported consultations or examinations usually lasted between 5 and 30 minutes, and RDT results were typically ready in 3 to 15 minutes. Most of the clients reported that health care staff listened carefully to them as they explained their medical issues. Most clients also appreciated the patience of the CHPS staff, how attentive they were, and reported that they answered all

their questions. The majority of CHPS zone clients were also of the view that the CHPS zone staff understood all their medical issues.

We also asked about clients' satisfaction with the advice and information on options for the treatments they were given. Clients and CHOs reported that generally CHOs did not present or discuss options for treatments with clients. However, most clients were not unhappy with this because they trust the professional background, training, and discretion of the CHPS zone staff to provide them with the most appropriate treatment available. And, as one CHPS client noted, for CHPS zone staff to be able to present options for treatment, those options have to be available.

They understood well, that is why I told you that they even said the symptoms are normal with this kind of sickness. It is because she understood me, that is why she said that.—Client, Central Region

If that [not providing options for clients] has to be changed then it also means that they should have different varieties of medicines to enable them to be able to ask you to choose, but because they don't have enough variations that is why they give you what they have.—Client, Central Region

2. Perceptions of Quality at Health Care Centers

Almost one quarter of the CHPS clients interviewed had also sought care at a health center either for a child or other family member, or for themselves. Health centers provide more services than CHPS zones, and CHOs reported that the health centers also have additional human resource capacities and services such as physician assistants, and scanning and laboratory services. However, health centers have more limited hours than CHPS zones, which provide services 24 hour per day, seven days per week.

Generally, clients who have patronized health centers were satisfied with the quality of care and services they received, including the access to laboratory services. One service they would like to see added is for health centers to provide blood transfusions. In the last two years, there have been various infrastructural improvements at health centers. Most clients of health centers reported noticeable changes including the renovation of existing structures, building new structures, provision of water and electricity, and purchases of equipment, supplies, and commodities, among other changes. The availability of medicines, on the other hand, remains a challenge at some health centers, and clients would like to see significant improvements in the availability of supplies and other commodities. Two clients shared experiences that were typical among respondents.

Because when I took the child [to the health center], they conducted some test on urine and blood to know what was wrong with the child, and we were admitted and were given some drips and some injections for the child to be okay; so I was satisfied with that.—Client, Volta Region

There has to be enough medicine at the health center because sometimes you can come and they will say they don't have medicine.—Client, Northern Region

Most of the clients who patronized a health center were content with the attitudes of the health center staff, describing them as friendly, patient, and respectful. However, others complained about the harsh handling they received from health center staff. Clients were also asked about their satisfaction with health center wait times, and they noted that they usually waited longer at the health centers than they did at the CHPS. Clients mentioned durations of 30 minutes to over two hours in queues before being attended to by health center staff. However, most of the clients were satisfied with the time they spent waiting because there were people with more urgent needs who needed to be served before them.

3. Human Resources

The majority of all respondent types interviewed (DDHSs, DAs, SDHOs, CHOs, community leaders, CHC members, and clients) were unanimous in stating that both CHPS and health centers are faced with inadequate numbers and types of staff. While there have been some notable improvements, such as midwives who have been placed in CHPS zones, it was evident that all types of health staff were still needed. Topping the list were midwives, physician assistants, and security staff to protect personnel and property at CHPS and health centers.

SDHOs and DDHSs reported that for staff like CHOs, CHNs and enrolled nurses, the staffing situation was so dire that they were forced to forgo their leave and always be at post.

Clients noted declines in the number of CHPS zone staff in some areas, thereby increasing the wait time at those CHPS. CHC members, community leaders, clients and DDHSs in all regions also complained about frequent staff transfers and staff attrition in general. According to these respondents, quality of service delivery at health facilities is severely negatively affected by staff attrition. Some facilities are not able to provide 24-hour service as a result of limited staffing. Closely related is the issue of staff going on study leave and maternity leave. When staff leave, a gap is created which can take months if not years to fill. Staff on duty are also overburdened with work.

At first, they were two... So if the madam is not there, the other will be there. One can come and give a talk to our children here while the other stays and mans the facility. But now it is left with only one person, so it becomes a problem for him to leave that place.—Client, Volta Region

In terms of staff, I would say that in our district our staff numbers are very few [low] ... and that's why I was saying that there's a lot of room for improvement. The numbers have gone down, so you find that if you take a cadre like community health nurses, quite a number of them have gone to school, so in some of the zones you'll find one person doing the work of 2 or 3 community health nurses.—DDHS, Greater Accra Region

If there is going to be a transfer, they should wait for the replacement to come before sending the nurse away, because if the nurse is sent away without the replacement the facility is left without anyone here to man it and that is a problem for us here.—CHC member, Volta Region

Although understaffing remains a challenge, it is worth noting that some districts received a boost in staffing in the last two years. A few clients also noted increases in staff strength at some CHPS zones, which has improved the quality of care. Some clients observed improvements in the last two years in the community-based services being provided by CHPS staff, including the number of home visits and follow-up visits on defaulters and those who cannot get to a facility. Other clients reported that they have seen an improvement in contact hours with CHPS staff.

Okay in terms of staffing I think the district has improved. We have for instance the critical staff. The region [regional health directorate] posted a number of midwives. But hitherto we didn't have. We had a few of them in few facilities, but as we speak now in most of the health centers and CHPS compounds we have a midwife covering those districts or covering those facilities.—DDHS, Northern Region

[For the] last two years we've sent a lot of midwives to the CHPS compound, and we see a lot of increase in skilled delivery as a result of that.—DDHS, Volta Region

Comparing the quality of care from two years ago, I'll say it is way better than before. Even when they are coming for night shifts, they come in twos because the nurses are many and there are midwives, and a PA [physician assistant] is also here.—Client, Western Region

Despite improvements, most CHPS zone clients would like to see improvements in the human resource base and capacity at their CHPS. They requested more CHOs, CHNs, and midwives at their CHPS.

We need more staff, especially midwives to most of the CHPS compounds. Then nurses. Not only enrolled nurses but general nurses should also be sent to some health centers, and we need medical assistants as well to some of the health centers, so that they will be able to [attend to] some minor admissions and take care of some cases.—DA, Northern Region

If possible they should recruit more personnel, especially midwives immediately because when our women have labor issues, they have to go to old Ningo before they can receive delivery services; but because we don't have any here we have to always join vehicles to old Ningo, Bator or new Ningo for such services.—Client, Greater Accra Region

We need security; we are alone over here. I am alone, and when it is night time you will be scared over here. But if there is a security ... you will also have the confidence to go out. People come here for service in the night, and sometimes you will be scared to come out. If there is a security person you will be okay to come out.—CHO, Volta Region

4. Infrastructure and Transportation

At endline, respondents reported noticing that there have been significant infrastructural development projects either completed or underway across the various districts, including new CHPS compounds built, a good number of CHPS compounds and health centers that have been renovated, and additions of water and electricity, laboratories, and furnishings. District assembly members, CHOs and clients reported such improvements in the last two years. This has increased client satisfaction with the quality of care at those facilities.

Where we were was not good at all [in terms of infrastructure]. But now we have [gotten] our own facility, and we have more space too here. So things have changed.—CHO, Central Region

We can talk of the Banaso CHPS compound... and we currently renovated the Boinso health centre, which was in a horrible condition. It has been awarded on contract and work is progressing, and there are others that are ongoing and that we are continuing.—DA, Western Region

At first pregnant women...you [had to] go to Enchi [the district capital] and do a scan, but now all of that is here. Now when you are pregnant, you will come here and do every form of your scan here till you deliver. But first, it wasn't like that. At first, ... you had to use lorry fare and go to Enchi... Now all those things are here, and that has helped us.—Client, Western Region

At first, when you are in labor, and you come here there is no light here, there is no foam. So, we lie on the floor and deliver, and there was no light. So they ask you to buy a torch, then they will use the torch to attend to you. Now by God's grace, there is light, and we also have foam [mattresses].—Client, Volta Region

Despite the infrastructure drive, there still exist infrastructural deficits. Some CHPS zones still operate from rented premises or temporary structures, and others are in need of renovation due to small, old, and dilapidated structures. Accommodation for CHPS zone and health center staff is also reported to be inadequate despite efforts to improve staff bungalows over the past two years. DA members, CHOs, clients and community leaders reported that most health workers continue to rent accommodations outside their duty post, so when their services are needed, especially at night, this is problematic. There also remain challenges with the availability of electricity and pipe-borne water in some CHPS compounds. Most CHPS clients want to see vast improvements in infrastructure at the CHPS zones, including the renovation of existing structures, provision of water and electricity, expansions, building new structures, and new staff bungalows. These desired changes and improvements were mentioned by clients in all five focal regions. Most CHOs interviewed concurred.

Water and toilet. When we come here, and we have to use the toilet we go and beg someone to use his toilet; if we get all these things we would like it.—Client, Northern Region

This place is too small... I wished they had enough room so that they could hospitalize people here since not every sickness can be treated the same day.—Client, Northern Region

Infrastructure-wise, I will say it is very poor because we don't even have a facility of our own. The facility we are using now is a rented facility. It belongs to somebody, we are perching and most of the things we don't have: Potable water, we lack a lot of things.—CHO, Western Region

We need renovation works at where we operate. It is full of cracks and...Wall gecko, mouse, rats, even snakes all intrude the facility.—CHO, Western Region

The non-availability of transportation such as ambulances, vehicles, and motorbikes is an additional significant challenge for most district health directorates, sub-districts, CHPS zones, health centers, clients and CHCs in all regions. Currently motorbikes are most commonly used, although sometimes taxis are also used. Challenges are especially acute for administrative work at the district level, referrals, outreach programs in communities within a CHPS zone, and errands. Not having easy means of transportation also causes inadequate supervision at all levels, and the inability to address emergencies.

H. Health Promotion

KEY FINDINGS - HEALTH PROMOTION



Awareness of the “GoodLife, Live It Well” campaign remained high, and clients’ recall of messages and reports of behavior change suggest receptivity to the messages.

GHS and the MoH relaunched a health promotion campaign, “GoodLife, Live It Well,” in July 2016 throughout the country. Through television, radio, social media and print materials, the campaign attempts to promote positive health behaviors in family planning; MNCH; malaria prevention and treatment; and water, sanitation and hygiene. The interviewers documented whether health facilities displayed GoodLife, Live it Well campaign materials and asked if staff used them during health promotion activities. Interviewers also asked clients about their exposure to these messages and their perceptions of changes they have made due to the campaign. This section summarizes the health facility data and clients’ experiences and reported behaviors regarding the campaign.

I. Awareness of the GoodLife, Live It Well campaign

The study examined the display and use of GoodLife, Live It Well campaign materials by facilities at endline. Roughly four in five CHPS zones in both focal regions and all regions displayed these materials and about nine in ten CHPS zones reported using them during health promotion activities (Table 21). More than nine in ten health centers in both focal regions and all regions displayed these materials and a similar fraction reported using them. This represents a significant increase over midline levels in CHPS zones and health centers in focal regions and all regions (full midline and endline results are in Appendix E).

TABLE 21. HEALTH PROMOTION USING CAMPAIGN MATERIALS (% OF FACILITIES)

Percentage of CHPS Zones	Focal Regions Endline	All Regions Endline
Facility displays GoodLife, Live It Well campaign materials†	82.9	77.0
Facility uses GoodLife, Live it Well campaign materials during health promotion activities†	90.3	87.3
Percentage of Health Centers	Focal Regions Endline	All Regions Endline
Facility displays GoodLife, Live It Well campaign materials†	93.9	93.2
Facility uses GoodLife, Live it Well campaign materials during health promotion activities†	94.0	90.9

Source: Health, Population and Nutrition Office Health Systems Endline Survey Data.

†See Appendix E for midline and endline results for this indicator, which was added at midline.

Awareness among clients of the GoodLife, Live It Well campaign was widespread in all five focal districts. More than half of the respondents reported that they had either seen posters at the health facility, heard advertisements on the radio, or watched the GoodLife, Live It Well campaign messages on television. However, despite how widespread awareness of the campaign extended, qualitative interviewers identified a substantial number of respondents—on the order of two out of five—who had never seen or heard about the campaign. In addition, among those who were aware of the campaign, the number who could share the messages they had seen or heard were far fewer.

We don't have a TV set, but we do hear of it from the radio, and also when I come here [to the CHPS compound] and I see posters on the wall. ... [if] I don't understand what is on it I ask them [CHPS staff].—Client, Volta Region

The most commonly recalled messages included the need to wash hands, sleep under treated bed nets, and breastfeed children, and why and how to use family planning.

That is, before you give the baby breast milk you have to wash your hands. If you are going to eat anything that you don't have to cook you must first of all wash it before you eat.—Client, Central Region

They talked about how to use family planning to space your children so that the children don't suffer, and also they spoke about the types of family planning methods available.—Client, Volta Region

At times they talk about how the mothers should—I mean, shouldn't give children water until they are six months.—Client, Northern Region

2. Changes in Behavior Associated with Campaign

Among clients who could identify messages from the GoodLife, Live It Well campaign, the majority reported changing some behavior because of them, again about two out of five clients interviewed. The most common changes in behaviors reported across the districts were increased handwashing, especially after using the toilet, family planning, and sleeping under insecticide-treated bed nets.⁵⁸

At first I was not sleeping in [under a] mosquito net because I complain of the heat, but when I heard the messages I decided that now that I have children if there is anything that is not good I have to do away with it.—Client, Central Region

Yes, at first I thought if you use the toilet and you use paper [toilet paper], when you come back home you can eat without washing your hands because the toilet did not stain your hand. However, from the messages, I heard that after you visit the toilet, you must wash your hands with soap and water before you eat.—Client, Western Region

We used to get cholera and stomach ache a lot, but after we started washing our hands after using the toilet these sicknesses have reduced drastically.—Client, Volta Region





If we hadn't changed we would get pregnant before our child is even a year old.—Client, Northern Region

⁵⁸ Although this cannot be considered definitive evidence of the influence of the program given the possibility that clients reported desirable responses, it does suggest knowledge and attitudes were affected, and seemingly behaviors as well.

IV. CULTURE OF QUALITY ASSURANCE (QA) AND QUALITY IMPROVEMENT (QI)

To improve the quality of health care, the GHS has worked with facility-based health staff to provide them with the essential knowledge and skills to plan and implement QA at all service delivery points, especially at the sub-district-level health centers (Healthcare Quality Assurance Manual for Sub-districts 2004). QA is a set of activities that seeks to improve the quality of care by setting standards and monitoring to see whether these standards are met; QI involves addressing gaps identified by QA. One particularly important dimension of effective QA and QI at the facility level is collecting and using high quality health data, which was a focus of both the Systems for Health and MalariaCare projects. QA and QI are a priority for USAID in Ghana, and USAID’s flagship project, Systems for Health, supported QA and QI activities in all the focal regions. This chapter examines the extent to which a culture of QA and QI exists in CHPS zones and health centers in Ghana, focusing on the collection and use of data. This chapter begins by describing the QA and QI activities conducted at these facilities. Then it examines how facilities assure data quality, especially for the DHIMS2; and the extent to which facilities and district level actors use data for monitoring and making decisions.

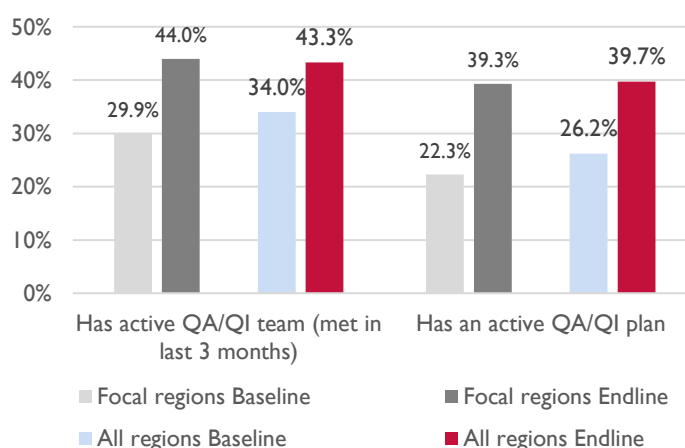
KEY FINDINGS – QA/QI

-  Large improvements occurred in formal quality assurance/quality improvement (QA/QI) action plans and activities between baseline and endline.
-  District- and sub-district-level stakeholders reported that the quality of DHIMS2 data was good and had improved over the past two years. Most facilities collected and validated data, with nine out of ten facilities nationwide validating DHIMS2 reports with source documents.
-  SDHOs and DDHSs in districts where e-tracker was rolled out found the electronic data capture systems gave them improved access to data for planning and decision-making which, in turn, helped to improve quality of care. The main challenges were internet connectivity and the instability of the e-tracker system which restricted access to updated data.
-  DDHSs and SDHOs reported using DHIMS2 data for planning and decision-making. DDHSs reported that their analysis capacities had improved over the past two years.

A. QA and QI Activities at Facilities

Health centers are expected to have a team of staff focused on QA and QI activities; these teams should meet on a regular basis to discuss potential improvements and the status of current QI efforts. In contrast, CHPS zones are not expected to have QA/QI teams, because they are typically too small to support them. Instead, representatives from CHPS zones typically join the health center QA/QI team. The facility survey suggests a large increase between baseline and endline in the percentage of health centers that reported having an active QA/QI team (Figure 22), as well as an active QA/QI team that met at least once in the three months before the survey.

FIGURE 22.A. QA/QI ACTIVITIES IN HEALTH CENTERS



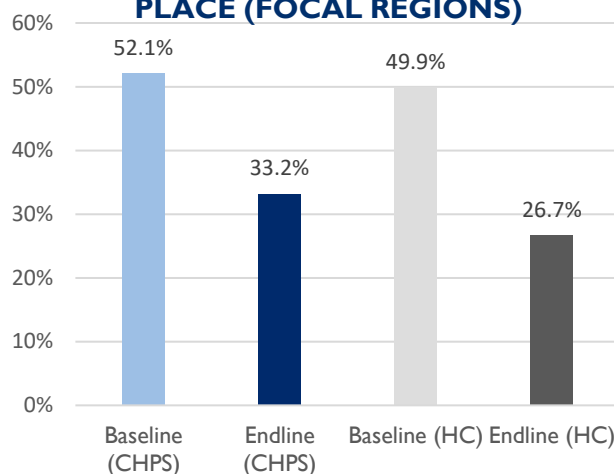
In addition to having a QA/QI team, it is important that both types of facilities have QA/QI plans in place and are acting on those plans. Survey results show a large and significant decrease between baseline and endline in the percentage of facilities reporting that they do not have a QA/QI action plan in place, among CHPS zones, the percentage fell from about half of facilities at baseline to one-third of facilities at endline, while among health centers, the percentage fell from about half to one-quarter of facilities. Figure 22 report the percentage of health centers that have an *active* QA/QI plan—defined as having both a QA/QI plan in place and a QA/QI team that met at least once in the three months before the survey.

At endline, 39 percent of health centers in focal regions and 40 percent in all regions together met this criterion, representing a large increase relative to baseline (22 and 26 percent, respectively). Overall, these findings provide evidence of substantial improvements in formal QA/QI activities between baseline and endline (Appendix D, Table 22).

During the qualitative interviews, most SDHOs reported that their health centers had existing QA/QI protocols that they were implementing, such as checklists and other processes of ensuring quality of care. Most CHOs reported that their CHPS zones had QA activities, and some even noted that they also had QI activities that were part of their routine work, such as using data to identify areas of health care that need attention, and making changes to address them. A minority of CHPS zones and health centers do not have any written QA/QI protocols, but they reported that they do have routines they follow to ensure QA/QI, such as hand washing between clients, or using a new glove for each client. There was only one CHO out of the 20 we interviewed who reported they had no knowledge regarding QA/QI nor had implemented any QA/QI, despite being at their facility for some time.

The increase in the implementation of QA/QI action plans and activities, and the spread of QI to some CHPS zones has been aided by the increased availability of various health personnel and equipment in the different facilities. A number of CHOs and SDHOs also reported that they had received some form of training in the last two years to enhance their knowledge of how to implement and ensure QA/QI at health facilities, for example System for Health’s training on Plan, Do, Study and Act. A few SDHOs and DDHSs mentioned monitoring visits they conducted helped to support QA/QI as well. Some CHOs agreed that the visits were very helpful and liked to be able to learn on the spot. One DDHS mentioned the USAID Systems for Health project had trained them to be able to conduct monitoring visits. Nonetheless, some CHOs and SDHOs think that more could be done to enhance the implementation of QA/QI activities at facilities, and report that at times they are limited by lack of resources.

FIGURE 22.B. FACILITIES WITH NO QA/QI ACTION PLAN IN PLACE (FOCAL REGIONS)



With our OPD attendance, we realized that most of the clients were rather accessing [caregivers outside the health system] than the facility itself. So, we had to get the assembly man, then some of the opinion leaders with our health committee, and we spoke about it. ... They said they cannot ask the man to stop treating, but what they will do is, they will advise the people. So with that, ... they helped a lot. If someone says I'm sick and going to this person, they will tell the person to come to the facility.—CHO, Northern Region

Sometimes when our senior health officials come for monitoring they can ask you about a particular scenario. So if you do it [the correct processes], you will be able to say the correct thing. But if you don't do it, you will not be able to say it and that means you do not do the correct thing.—CHO, Western Region

Two important aspects of QA are to make sure that the community accesses quality services and trusts the staff at CHPS zones and health centers. CHOs and SDHO reported that the types of QA/QI activities being implemented in facilities included ensuring hygiene (for example, having protocols for hand washing, decontamination, and sanitization), and safety measures (for example, ensuring use of protective gowns,

gloves, and sharp boxes). Other examples of these types of activities included decontaminating beds and sterilizing equipment after a delivery. Some facilities also used incinerators or had pits for burning, for example for placenta disposal. QA/QI activities go beyond ensuring hygiene and safety at the health facilities, and include making sure medical supplies and the proper equipment (for example, BP apparatus, hemocue machine, thermometer, and weighing scales) are available. SDHOs reported that as part of their efforts to enhance QA/QI implementation they track expiry dates of medicines given to clients. According to some SDHOs, confidentiality and privacy were also key when it comes to QA/QI activities. One CHO reported that confidentiality was a new QI they were implementing around family planning to ensure privacy. Implementing QA and QI also included enhancing client-patient relationship and communication. CHOs expressed the importance of having strong relationships with community members so they could feel comfortable coming to the CHPS zones. In addition, CHOs have incorporated education, sensitization, and follow-ups of clients at the facility and in the community as part of implementation of QA and QI.

For our labor ward, we don't enter there with slippers or shoes from outside. We have sterile sandals and shoes there, so, when you reach there you remove yours and when you enter put on what is in there. For both clients and then the staff.—CHO, Central Region

Quality assurance, yes because we have to make sure that every client that comes here goes home ... infection free, so for infection prevention we have to do that. That one is part of the quality assurance and the comfortability of the client, too. When the clients come, the client has to make herself comfortable at where he/she is receiving service.—CHO, Central Region

B. Collecting High-Quality Data

Collecting high quality data is important to inform daily decisions regarding priorities, monitor progress on goals and plan and budget for local needs. In addition, GHS's DHIMS2, which collects and provides routine health data, is populated through data aggregated from local facilities, including CHPS zones and health centers. Each level of the health hierarchy analyzes and uses this health information for management and policy decisions; it offers a comprehensive look at health needs and resources. For the DHIMS2 to be useful, health information—including administrative, demographic and clinical data—must be routinely transmitted and accurately aggregated upward through the health system from CHPS zones to the sub-district, district, regional and national levels.

In qualitative interviews, SDHOs reported that, based on policy, staff at health centers and CHPS zones do not enter data directly into the DHIMS 2 due to a lack of hardware for direct entry into software. Data are collected at the facilities and results are organized in paper report forms, which are sent to the district health directorate (the GHS office at the district level) in monthly reports to be entered. CHPS zones are assigned a certain day each month to bring their reports in to the sub-district, and their data are verified by the SDHOs before the report is finalized for the district. The mechanism for verification varies. Sometimes sub-district staff will go to the facilities to check reports against registers in order to verify data. Another evolution in this system reported in one sub-district was district officers who come to the sub-district with laptops to meet with sub-district and CHPS staff, and together they validate the data and enter them into DHIMS 2.

The quantitative survey data show that the vast majority of CHPS zones and health centers also reported validating DHIMS2 reports using source documents before transmitting the data to higher levels. About 85 percent of CHPS zones in focal regions and 89 percent in all regions reported doing so at endline, as did 93 percent of health centers in focal regions and 94 percent in all regions (Table 23).

TABLE 23. DATA VALIDATION AMONG FACILITIES

Percentage of Facilities	Focal regions endline	All regions endline
CHPS zones validated the DHIMS2 reports using source documents	85.3	88.5
Health centers validated the DHIMS2 reports using source documents	92.7	94.3

Source: Health, Population and Nutrition Office Health Systems baseline and endline survey data.

In qualitative interviews, SDHOs and DDHSs reported that the data received from the lower level facilities for DHIMS 2 are fairly reliable. According to a few SDHOs, data are sometimes late, which affects the timeliness of decisions based on the data. But, according to DDHSs across all five regions, data quality has improved over the last two years due to various trainings received as well as the validations that are done to make sure the data are correct. One DDHS attributed the data improvement to the integrated supportive monitoring and validations exercises the district has been doing, and another attributed it to proper supervision at the health facilities.

Nonetheless, the inputting of data at the district level faces some challenges. According to one DDHS, data fields in the DHIMS 2 are constantly being added as a result of changes to reporting forms. This is not a new situation, but the intensity has increased in the last two years according to respondents. Two district level staff members noted that the changes often make it difficult to locate data entered in previous months, and seemingly make data disappear or change. According to SDHOs, a lack of internet connectivity and money to purchase data (internet bundles) to connect to the internet are two other challenges to inputting data, even at the district level. Connectivity affects access to the DHIMS 2 software, which is required to either input data into the online version of DHIMS 2 or to upload data using the offline version.

Some SDHOs added to the list of challenges to high quality data, including inadequate human resources and unavailability of computers, among other factors which made collecting and inputting the needed data a challenge. As one SDHO explained, sometimes there is only one person at the CHPS zone both seeing to clients and taking notes. When they are overwhelmed, this can lead to oversights when writing in data. In addition, facilities are not always provided the correct GHS logbooks and have to make their own, which can affect the organization or quality of the data. The main suggestion made by SDHOs and DDHSs to improve data quality at the CHPS level was to provide laptops or tablets for facility-level staff to enter data into directly. Even at the district level this is a need. At one district, staff used mobile phones to enter facilities' data, mostly their own, and screens were too small, making it difficult to enter the data.

The quality, it has changed because training and validation has improved. ... Today and yesterday during our review meeting, I was talking about family planning. Our family planning data was 50%, 60% last year, which is almost impossible. And then this year, it's around 35%. National minimum is 30% and people are asking why? It's because the way some things were recorded in the past was wrong, we were over reporting. So now we are doing the right thing. If you go and look at the graph it will look like 60 has become 30, so they are like their performance has gone down. But it's actually an improvement in data quality that has reduced the coverage to the best approximate.—DDHS, Volta Region

The e-Tracker is a new initiative to collect client data at the facility level in a digital database as opposed to paper registers and logbooks. It has been deployed in three regions where e-Tracker tablets have been distributed and training provided on the application. One of these regions was part of the qualitative study area, Volta. In most sub-districts in Volta, e-Tracker was used by health centers and district and regional hospitals, but use in CHPS zones was not yet universal.⁵⁹

The two SDHOs and two DDHSs interviewed about the use of the e-tracker mentioned the potential and emerging benefits of the e-tracker as well as challenges they have so far encountered. Benefits included being able to generate reports, disaggregating data, and having individual client data at their fingertips. The access to these data helped staff plan and make decisions, which has improved the quality of care they can provide clients. As one DDHS described it,

E-tracker enables us to have individualized data on clients and helps us to do better planning, better defaulter tracing, helps us to schedule next appointments. So it provides a dashboard in which the staff can [do] better planning from EPI [Expanded Program on Immunization] to clinical services. So, the purpose for which it was designed, it's good.—DDHS, Volta Region

The main challenges reported have been poor network connections and not having money to purchase internet data bundles. Other challenges include system instability, i.e. system crashing when too many entries are attempted or multiple services at a same health center using the app simultaneously. One challenge, reported by a DDHS, has been the time it takes to enter in the data of each client electronically. Although

⁵⁹ Limited uptake at CHPS zones could be due to the rollout occurring in Volta Region at the same time as the endline data collection.

long-term it might be faster as the health workers learn the system, currently it is slowing down client care because health workers are required to maintain both paper and digital records.

C. Use of Data

The qualitative interviews suggest that data are being used for decision-making at several levels. At the district level, all of the DDHSs interviewed reported that they used DHIMS 2 data for most of the decisions they made, and examined the data at least monthly, if not more frequently to inform their decisions. One use they mentioned as an example was to determine which medicines and how much of them to request from the medical stores based on the attendance or cases seen at facilities. DDHSs reported that in the last two years their use of DHIMS 2 data has increased for decision making regarding posting of health worker staff, immunization coverage, community outreach organization (e.g. *dubars*), the distribution of equipment, and financial disbursements. DDHSs also reported that over the last 2 years their use of DHIMS 2 data has improved and changed because of improved capacities to conduct analyses using the DHIMS 2. One DDHS noted that Systems for Health sponsored an analysis training, and now he can quickly check the data for information he was not able to check on previously. Another DDHS mentioned that training has allowed staff to do different analyses for their decision making. A third DDHS reported that the quality of the data has improved and that has had positive impacts on their decision making. However, one DDHS pointed out that despite all the necessary data being gathered, and technology enhanced, without health financing the data cannot be used properly because data does not necessarily translate into the presence of the needed commodities and medical supplies.

In that two months we looked at our EPI [Expanded Programme on Immunization] coverage and we realized that we needed to do more, so we had to organize mop-up at facilities that were not doing well. ... So the DHIMS will help us to select even facilities that should do mop-ups. We also look at our family planning coverage, we look at every indicator and those ones informs us where we should back up, we see where we are not doing well. Even collation of the data itself, the data will tell you.—DDHS, Central Region

At the sub-district level, SDHOs reported using data more frequently than previously, including DHIMS 2 data, for decision making regarding immunization coverage, organizing community outreach (e.g. *durbars*), and other issues. SDHOs reported that some aspects of DHIMS 2 data used by the sub-districts can be disaggregated by age and sex to help with decision making. However, not all data at the sub-district level can be disaggregated for use, and some needed data is not in the DHIMS 2, such as home visits, CMAM, and TBAs.

Basically, every decision we make at the district level, and even at the facility, is based on the data we generate.—SDHO, Western Region

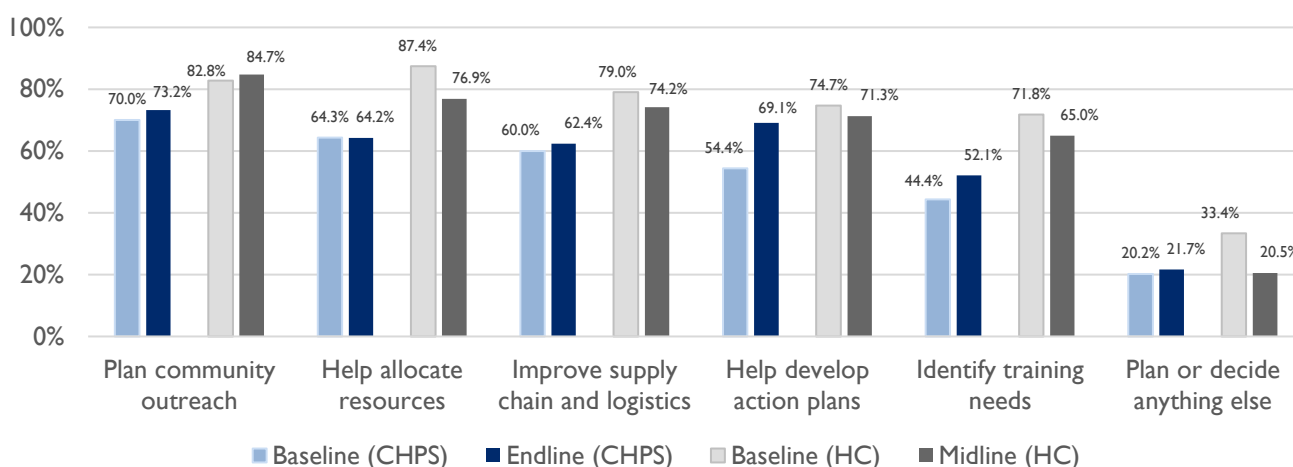
We did defaulter tracing and it was through the DHIMS. ... We got to realize that ... the dropout rate was high so we needed to go into the communities to fish out those children so that they will also be captured... So it was through the DHIMS that we were able to make that decision.—SDHO, Northern Region

At the CHPS zone level, CHOs reported that they used data for decision making in a myriad of areas. First, many of the CHOs reported using their registers or generated reports to look at trends to inform their planning, for example for setting up relevant *durbars* that could help educate the community on relevant issues, or to project the frequency of client attendance at CHPS compounds, or guide them in their monthly budgeting. Second, data in facilities is reported to be used to ensure or forecast the constant supply of medicines and commodities through the use of bin cards, monthly returns reports, and the rate of consumption. CHOs report monitoring their stock and supplies gives them the opportunity to know the stock available, monitor expiry dates, and keep track on the bin cards to help ensure no shortages. In addition, a CHO noted that seasonal changes in demand for medicines must be paid attention to, and often data from the previous year can be helpful. Third, data reports also help to inform the direction and strategies to take in providing health care and to project the human resources and transport logistics needed for a facility for proper health care delivery. For example, using data on home births and emergency births, a facility might project that they need a midwife and / or transportation for clients to facilities that have one. Finally, data collected at CHPS zones are also normally used to trigger or conduct investigations on disease

outbreaks by a validation team or the disease control officer in the district. A validation team checks reports at the end of the month to look at the number of disease cases and if the number is more than one or has increased they will do an investigation.

The survey data support reports that data are useful to CHPS zones and health centers in making decisions. At endline, more than half of CHPS zones in focal regions reported having used data generated for monthly reports in the previous 12 months for all five key purposes covered in the survey: planning community outreach, developing action plans, allocating resources, improving supply chain logistics, and identifying training needs (Figure 23.1). These rates were generally similar to those reported at baseline, except for helping to develop action plans, which increased significantly by 15 percentage points; Systems for Health provided support for using data to develop action plans. In contrast, in all regions, the proportion of CHPS zones reporting using data generated for monthly reports for various purposes increased significantly relative to baseline for all purposes other than allocating resources (see Table 23.1A in Appendix D). At endline, health centers in focal regions used facility-level data to an even greater extent for the five purposes that the study asked about, compared to CHPS zones. However, these rates declined relative to baseline for all purposes other than planning community outreach.⁶⁰ Data for health centers in all regions reveal a different pattern, with large increases in data use for three of the five key purposes (see Table 23.1B in Appendix D).

FIGURE 23.1: PERCENT OF FACILITIES WHICH USED GENERATED DATA FOR MONTHLY REPORTS FOR THE FOLLOWING PURPOSES IN LAST 12 MONTHS (FOCAL REGIONS)



Maintaining up-to-date data and comparing indicators over time can help facilities assess their performance. CHPS zones were more likely at endline than at baseline to display data, but this practice was far from universal. For CHPS zones, there was an increase between baseline and endline in the percentage of facilities displaying data on maternal, child, or reproductive health (22 percentage points in focal regions and 19 percentage points in all regions), so that about one-third of CHPS zones displayed such data at endline (Table 24). There was also a large and statistically significant increase in the percentage of CHPS zones displaying data on the Expanded Program on Immunizations, which about two-thirds of the CHPS zones did at endline. About 20 percent of CHPS zones displayed malaria-related data at endline (this indicator was not measured at baseline).

Overall, health centers displayed data at higher rates than CHPS zones, although this was still far from universal. For health centers, there were no statistically significant changes in the proportion displaying data on maternal, child, or reproductive health in focal regions and all regions. The proportion of health centers displaying graphs or tables for the Expanded Program on Immunization increased significantly by about 9 percentage points in focal regions and all regions.

⁶⁰ Of the five other uses for the data among health centers in the focal regions, the declines were significant for two (help allocate resources and plan or decide anything else), but not significant for the other three (improve supply chain logistics, help develop action plans, and identify training needs).

The study also examined changes in the percentage of facilities that displayed any graphs or tables with data from the month before the survey, which could indicate whether these facilities regularly update their data and use it for monitoring. Although CHPS and health centers were more likely to display data at endline than at baseline, facilities of both types were less likely to display up-to-date data. Across both regions and facility types, facilities were significantly less likely to have at least one graph or table with data from the past month, at endline compared to baseline, with declines of more than 20 percentage points in CHPS zones and of about 36 percentage points in health centers.

TABLE 24. DISPLAY OF DATA AND INFORMATION AMONG FACILITIES

Percentage of CHPS Zones	Focal regions			All regions		
	Baseline	Endline	Difference	Baseline	Endline	Difference
Facility has the following graphs or tables displayed: ^a						
Maternal and child health or reproductive and child health	15.5	37.5	22.0***	15.1	33.7	18.5***
Expanded program on immunization	49.1	64.8	15.7***	48.5	71.4	22.9***
Malaria- or insecticide-treated net distribution [†]	n.a.	21.2	n.a.	n.a.	19.1	n.a.
Facility has at least one graph or table with data from past month	24.8	4.4	-20.4***	27.3	3.9	-23.4***
Percentage of Health Centers						
Facility has the following graphs or tables displayed: ^a						
Maternal and child health or reproductive and child health	38.8	33.7	-5.1	36.9	45.9	9.0
Expanded program on immunization	78.0	87.8	9.8**	79.9	88.4	8.5**
Malaria- or insecticide-treated net distribution [†]	n.a.	30.3	n.a.	n.a.	29.4	n.a.
Facility has at least one graph or table with data from past month	38.9	2.7	-36.2***	39.9	3.3	-36.6***

Source: Health, Population and Nutrition Office Health Systems baseline and endline survey data.

^a Because multiple responses were possible, percentages sum to more than 100.

n.a. = not applicable (question not asked at baseline or not comparable).

[†] See Appendix E for midline and endline results for this indicator, which was added at midline.

V. COMMUNITY AND GOVERNMENT SUPPORT FOR CHPS

The primary health care system, especially at the community level, depends on community and volunteer support, governmental backing and linkages between communities and the government to ensure they both know and recognize the needs of CHPS zones. This chapter examines the nature and scope of community- and district-level government support for CHPS zones by describing one of the main community-to-health-care linkages—the community health committees (CHCs)—and examining community engagement in and support of CHPS zones. It also describes the supports provided to CHPS zones by community health volunteers (CHVs), and the challenges they face. It then examines the support for CHPS zones from DAs, as well as collaboration between USAID and district entities.

KEY FINDINGS – COMMUNITY AND GOVERNMENT SUPPORT



There was a substantial increase in the proportion of CHPS zones with a CHC since baseline; at endline, more than 97 percent of CHPS zones nationwide had a CHC. Most CHCs were reported to be largely functioning as intended.



At endline, CHCs continued to face several challenges in supporting CHPS zones, the main one being lack of funding.



CHOs' assessments of CHCs' effectiveness improved since baseline.



Community members reported good relations with CHPS staff at endline.



CHVs were essential to providing the services expected of CHPS zones, but lack of payment, transportation and training is a barrier to recruiting and retaining these staff.



DA members supported CHPS zones primarily by providing funding for infrastructure; however, securing sufficient funds remained an important challenge.



DDHSs and DAs had good relationships with USAID and many reported positive experiences with HPNO projects including Systems for Health and RING. DAs expressed a desire to be better integrated into or at least informed about work USAID does in their districts.

A. Community to Health Sector Linkages

The CHPS system decentralizes Ghana's health system by allocating resources directly in communities and involving communities in important health decisions. This aligns with the local government act of 1993, which emphasizes the important role of local communities in decision-making. CHCs have been set up to play a key role in promoting the linkages between the communities and the health sector. The section below describes the role that CHCs play, followed by community engagement with CHPS zones, and the role of CHVs.

I. Existence and Function of CHCs

CHCs, made up of volunteers selected from the communities in each CHPS zone, are the link between the formal health sector and communities. Their main role is to oversee the health system at the community level and manage CHVs, who are another part of the health sector to community link (CHPS National Implementation Guidelines 2016). According to the CHPS Operational Policy, CHCs are expected to perform six main functions: (1) carry out community advocacy and diplomacy for CHPS, (2) develop community health action plans (CHAPs) and mobilize the community for health action, (3) collaborate with the CHO and support CHPS service delivery, (4) monitor and support CHVs in their work, (5) mobilize resources for CHPS compound and service delivery and (6) organize community health meetings (*durbars*) and provide feedback to communities on health issues together with the CHO.

The survey data showed that there was a very large increase between baseline and endline in the percentage of CHPS zones that had a CHC. Between baseline and endline, the proportion of CHPS zones with a CHC increased from 55 to 95 percent in focal regions and from 63 to 97 percent in all regions (Appendix Table 25). There continues to be variation between regions, however. Only 87 percent of CHPS zones in Greater Accra had a CHC; in other focal regions, more than 95 percent of CHPS zones had CHCs. This is similar to the pattern at baseline, where Greater Accra also lagged other regions in number of facilities with CHCs.

Qualitative interviews revealed that the CHCs were started in different ways. According to the CHPS National Implementation Guidelines (2016), CHCs are to be “made up of dedicated, respected and willing leaders (both men and women),” but no size or other requirements are listed. One CHC explained that the district director of health services asked for volunteers for the CHC, and the community chose seven members. In other communities chiefs appointed members. In another community, the CHC was formed after volunteers came together on their own and informed the chief, who—with community leaders, helped them start the CHC. In another case, it was the CHO who suggested the community form a CHC.

Most CHCs in the qualitative study areas were functioning as intended at endline—that is, almost all met monthly or quarterly, and almost all would hold emergency meetings as needed. Most also reported keeping minutes for their meetings and having written plans for activities. The information from the meetings was usually shared at large public meetings, although the information was often shared orally to keep sensitive information, such as patients' names in the written documents, confidential. Most importantly, most reported working toward their main purpose of helping to ensure a healthy community that can access healthcare.

Although most CHPS zones had functioning CHCs at endline, CHCs reported many challenges in their work. The largest challenge was funding. There are no regular funding streams from the government for

CHCs, and CHC members reported that they are reliant on ad-hoc funding they receive by advocating for it with communities, chiefs, assembly members, local churches or NGOs. Members also donate their own money at times. Many of the CHCs reported that if they had more funding they could do more to help the CHPS zones, such as fix infrastructure problems at CHPS compounds or hold more *dubars*. They would also be able to better afford transportation, which would enable them to spread health information within their communities, gather community members and CHC members for meetings, and provide transportation to clients. The lack of transportation also affects health workers' ability to travel to give care, attend meetings, and collect supplies. Funding constraints also limit the CHC's ability to cover those costs of clients who are unable to pay for health services, which at least some CHCs try to do.

In looking for support—either monetary or other forms, such as backing for initiatives—some CHCs reported that another challenge was getting the needed support from chiefs and/or DA members. However, this challenge varied by area; for example, one CHC had their DA member as a CHC member, and another had their DA member attend every CHC meeting.

CHC members in all five focal regions mentioned that some people with NHIS membership assume they will not incur costs at a CHPS, and when they are asked to pay for certain services or supplies, they leave the facility unhappy. As a result, CHC members find they have to educate community members about what is covered and what is not covered by NHIS. Many also reported the need to explain why there are medicines that are unavailable when there are stockouts at the CHPS and inform community members when medicines are available at the facility. A challenge they mentioned was the lack of trust community members had for the information CHC members shared. CHC members reported people in the communities did not always listen to the information they communicated about health issues or the CHPS because the CHC members are typically farmers rather than health professionals, and most do not have formal health education. Some CHC members mentioned that they do not have recent training to fulfill their roles, acknowledging their knowledge might be lacking.

A final challenge is undertaking the work of the CHC as a volunteer. Members talked about the fact that these positions are not paid, and the challenges posed by having to choose between the work of the CHC and work for their livelihood.

It is planting season, but for two weeks now we have not been able to go to our farms. When one program ends there is another one the next day... Another challenge is the fact that we were trained three or four years ago, but nobody has come to see if we are doing what we were trained to do or even another training being held for us to refresh our memories.—CHC, Volta Region

One of our challenges is that we are farmers and so sometimes we are locked on our farms, and it is very difficult for us to stop our work on the farm to attend meetings here. At times not all of us are able to come for meetings, only a few of us attend the meetings and that is a challenge to us.—CHC, Volta Region

Nonetheless, CHCs reported a number of ways they have helped their communities' CHPS zone and the health of community members. One main way, despite the challenges described above, was sharing health information with the community from the health workers. CHC members reported providing support organizing *dubars*, organizing health talks at schools, and holding community meetings. Topics covered in these forums included information on diseases, proper sanitation, the importance of visiting a health facility rather than going outside the official health system, issues of importance to pregnant women to remain healthy and have safe deliveries, and teen pregnancy—in communities where this was seen as a problem. Relatedly, some CHCs organized community clean-up events to clear out rubbish, empty standing water, and the like, worked to get public toilets for their community, and to get latrines for CHPS compounds. Most CHOs also reported that CHCs helped them provide health information to communities, as well as learn about the communities in which they work, which helped them deliver better services.

Like when we want to convey any information to the community, they help us communicate that information. And at times, when we want to...like the ANC... and the delivery, they help, talking to the community members, educating them that 'They have midwives there, maybe they should participate,' so I think they are helping.—CHO, Central Region

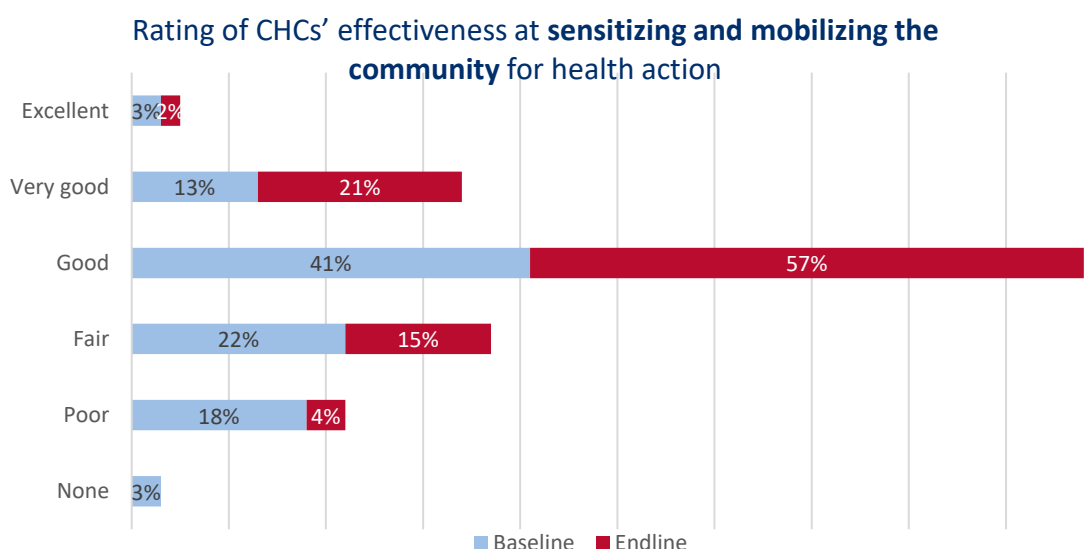
Other activities conducted by CHCs include the following: (1) helping CHPS staff with immunization campaigns, distribution of bed nets, and weighing children, including letting households know about the immunizations, helping with the children during the immunization sessions, and bringing children for weighing during child welfare clinics if mothers were not able to; (2) arranging transportation for community members or health workers (despite limited funds for this); (3) serving community members who could not leave their homes, either by communicating this to health workers or bringing the community members medicines; (4) working closely with CHOs to help maintain the CHPS compound and staff accommodation, including by recruiting volunteers or organizing community cleaning events to clear, weed, paint, fix things that break—such as windows or pipes, cultivate gardens, and help compounds get access to water and electricity; and (5) providing security when necessary by hiring security guards for nurses or volunteering their time to walk nurses home or check in about their safety.

Many of the CHOs agreed that the CHCs support them and their work. Many gave similar examples such as passing along health information to community members; helping on weighing day, at *dubars*, and with home visits; clearing CHPS compounds; and providing security. Many CHOs also reported that the CHCs' level of support had increased over time, and there is some quantitative evidence of improved perceptions of CHCs' activities by CHOs. As shown in Figure 25.i, there was an increase between baseline and endline in the percentage of CHOs who rated their CHCs' effectiveness at mobilizing CHPS resources for service provision to the community as good or very good (the second and third highest of five rankings, with the highest being excellent, and the bottom two being fair, or poor). The same was true of CHOs' ratings of CHCs' effectiveness in sensitizing and mobilizing the community for health action. At endline, most CHOs in focal regions and all regions reported the CHCs' effectiveness in these activities as being good or better, but a substantial minority still reported their effectiveness as poor or fair.

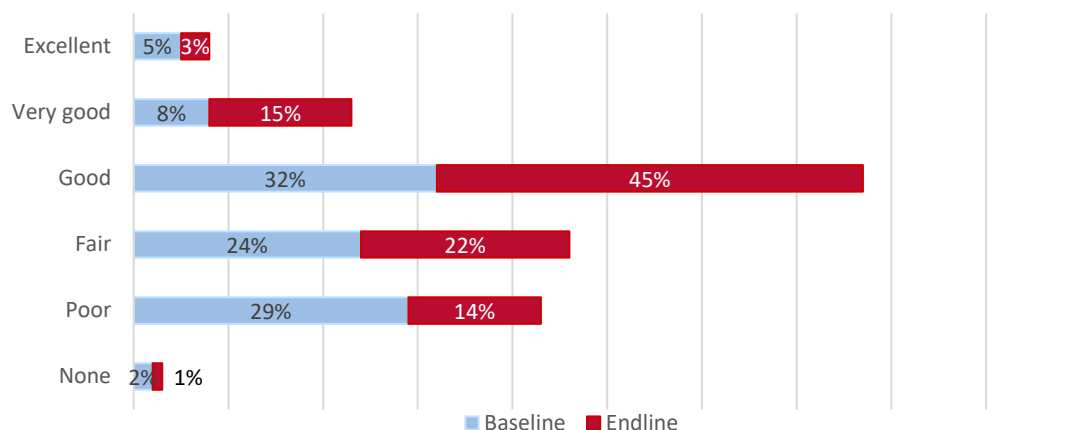
Yes previously, previously it was like that commitment wasn't there. When you want to do something ...it becomes very difficult to mobilize the community members but now, at least because of the CHC [it is better]. Initially we had CHC members...but it was like anytime you call them they were not there. So, we had to dissolve and get the new CHC members. So now it has improved. If you need them they're there. If you want someone to communicate something they're there to do it.—CHO, Greater Accra Region

The CHC members. ... usually when we have some issue we call them and then we discuss [with] them, and it looks like they are always ready to support... Sometimes they might even ask some people to come and do weeding ... or when we get programs like distributing of nets, these NIDs [national immunization days], and all those things, they are the people we use to mobilize the communities.—CHO, Western Region

FIGURE 25.I.A COMMUNITY SUPPORT (PERCENTAGE OF CHPS ZONES)



Rating of CHCs' effectiveness at mobilizing resources for the CHPS to provide services to the community



2. Community Engagement with CHPS Zones

For CHPS zones to be successful, they require the support and engagement of the communities they serve, which in turn requires good relationships between communities and health workers. Most CHCs—the link between communities and CHPS zones—reported they had good relationships with the CHOs and nurses in their communities. They thought this was a result of the many CHC members who visited the CHPS compounds regularly and checked-in with the health workers, as well as the support they provided to help maintain CHPS compounds and accommodations. CHC members also reported that most community members had positive relationships with their CHPS zone staff due to efforts made on both sides. For example, CHPS facilities might offer compassionate, respectful care and even treat community members who are unable pay on a credit system. Many communities also went out of their way to welcome CHOs. CHC members shared the importance of community members providing the CHPS staff support and kindness. Some examples included giving the nurses farm produce, cooking for the CHO, and helping at *durbars* (for example, providing snacks for participants).

CHC members reported that building the relationship between the community and the CHPS was an important part of their role. CHC members mentioned that they need to continue to give community members more education on the work CHPS staff do and encourage them to support the CHPS, as well as encourage the nurses to be patient with community members.

We stand for the staff and the community. So we are in the community, and so if we hear anything is going wrong we fix it immediately. We are not only cordial with the nurses here, but the community at large, so when we hear any problem we come to them and speak to them. And when we do come to them they have the time and listen, so our relationship is very cordial.—CHC, Western Region

One of the main ways CHCs worked to build these relationships was by ensuring the link between the community and the health workers was open and positive for both sides. To help the community feel more comfortable interacting with the health workers, some CHC members reported eliciting concerns and suggestions for addressing those concerns from community members. Some reported organizing times for community members to meet the health workers to build trust and relationships. Another technique was to foster communication between the community and new CHPS nurses.

[Our community has a good relationship with the nurse since she came and introduced herself to the community and] told everyone that she's here for everyone so nobody should be shy or scared of her. She told everyone to come to her with any problem they had so she can help with what she can.—CHC, Central Region

Another role CHC members played was resolving issues that arose, sometimes by listening for “rumors” in the community regarding perceived problems with the nurses, insurance, or service provision, and working with community members and/or health workers to address them.

However, despite these efforts, CHC members explained that there can sometime be tensions between the CHPS staff and community members. Examples they gave of issues that created tension included medicine not being available, clients’ insurance not covering all that was expected, or when the CHPS closes early. Another issue that negatively affects the relationship between community members and their CHPS was when the community does not feel comfortable with CHPS staff, which makes it hard for community members to go to the CHPS. Language barriers can also make these relationships difficult. In two regions CHCs reported obstacles when CHPS nurses only spoke Twi and English rather than local languages. Further, the process of building trust and relationships often has to be redone when CHOs are transferred between communities. CHCs reported they work with community members and nurses or CHOs to resolve these tensions when they arise.

Most clients reported that they would feel comfortable talking to a CHPS staff member and expressing their dissatisfaction or sharing any issues they had; however, most reported that there had never been a reason to do so. A few clients reported that if they had an issue they would go to a CHC member or another community leader or their DA member. Everyone reported there was someone linked to the health system they felt comfortable turning to if need be.

One way that CHCs, community leaders and community members can support CHPS zones is by developing and enacting a community health action plan (CHAP), through which communities identify and document goals and action steps. The facility survey examined the percentage of CHPS zones whose CHC played a leading role in the previous 12 months in developing a CHAP. Focusing on CHPS zones that had a CHC at both baseline and endline to avoid sample selection bias, the percentage of these respondents who reported that their CHC played a leading role in the previous year in developing a CHAP decreased by 9 percentage points in focal regions between baseline and endline and increased by 8 percentage points in all regions (Figure 25.ii). However, these changes were weakly statistically significant, at best. At endline, 41 percent of CHPS zones with CHCs in focal regions and 57 percent in all regions reported that their CHC played such a role.

In the qualitative interviews, a few CHC members reported their community had a CHAP. Most CHCs reported that their community had a community action plan (CAP), often with health activities integrated in it.⁶¹ The most common health activities reported to be included in the CAPs and CHAPs, according to the CHCs, were sanitation efforts (especially cleaning the community), clean drinking water (for example boreholes, pipe repair, etc.), and toilet facilities. Other priorities included working to fight malaria with bed nets, creating a dumping point, and working on preventing teenage pregnancy. Less common efforts included focusing on getting a midwife for the community, and working to find money for an ambulance. According to some CHC members and community leaders, data was used to create their CAPs—in fact more than half of interviewed CHCs with CAPs or CHAPs used data to create them. However, other CHCs reported basing the CAPs on problems they knew needed to be addressed. Some CHC members also reported using data to create other action plans, for example for their committee, the facility or CHVs.

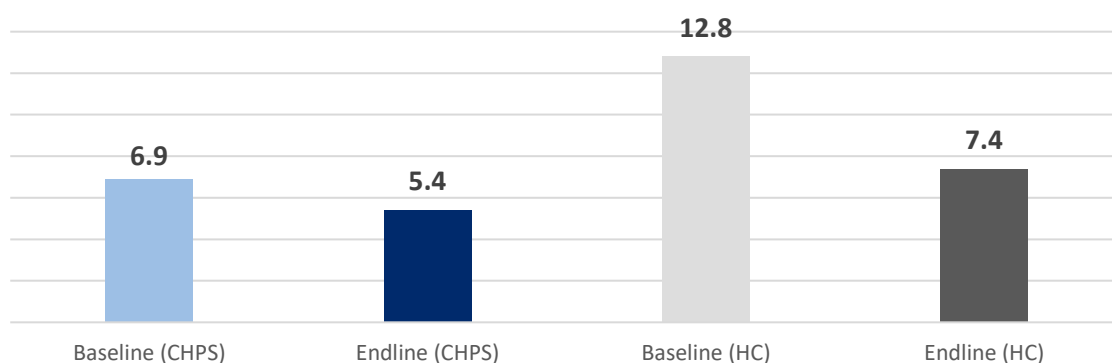
An example is the teenage pregnancy. We had the information on the data from the CHPS compound, and as committee members, we interact with them and informed the community on the issues and how to solve them through education and counselling.—CHC, Central Region

⁶¹ A CAP is an action plan created at the community level focusing on many different areas for improvement, such as education, markets, agriculture and the like. Some communities incorporate health-related action steps in their CAP, while other communities have a separate CHAP just for health-related activities. Our survey did not collect data on CAPs.

3. Community Health Volunteers

CHPS zones and health centers are designed to be supported by CHVs. The role of CHVs is somewhat different in health centers and CHPS zones. The roles of CHVs in health centers are typically program specific and facility based, while the roles of CHVs in CHPS zones are multipurpose and include more engagement in home and community outreach. In this section, we focus on volunteers at CHPS zones. These volunteers are approved by the communities they serve and should receive specialized training from the sub-district to support the basic services provided by the health facilities with which they work (CHPS Revised Implementation Guidelines 2014). Structured training for CHVs is usually through GHS and managed by the CHPS. However, most of the training they receive is more informal and done by facility staff. Some of the training topics include malaria, family planning, and diarrhea. In some areas literacy is a challenge when trying to train volunteers. CHVs also receive other incentives for their service, such as “recognition of their important role in appropriate forums” (CHPS Revised Implementation Guidelines 2014), but they are not

FIGURE 25.IB. AVERAGE NUMBER OF CHVs (FOCAL REGIONS)

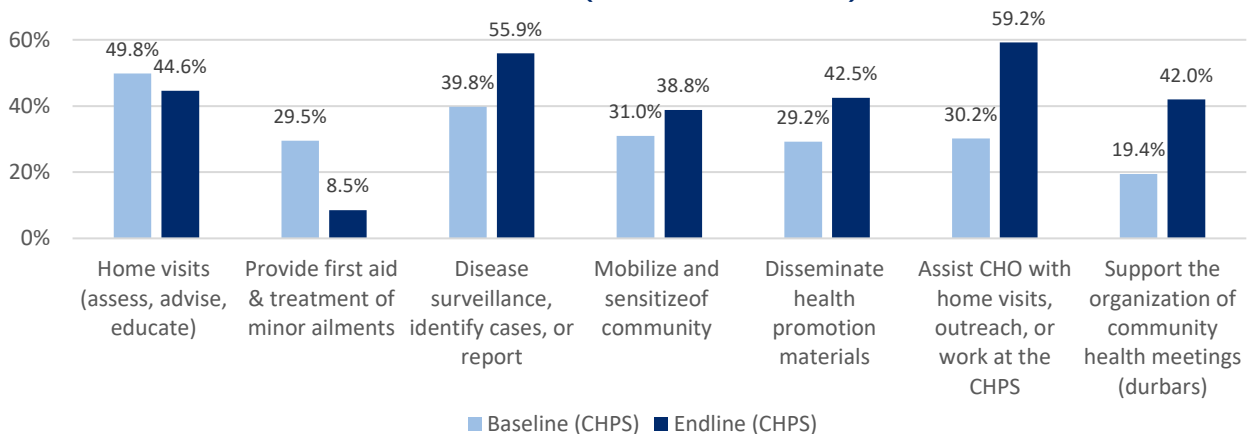


paid. The key functions of CHVs in CHPS zones can include conducting and supporting home visits, supporting CHOs in delivering basic care, conducting disease surveillance, supporting outreach and communication activities (including community meetings) and providing some basic community-based care (including first aid, family planning and providing health education). Monitoring of CHVs is usually done by health workers at CHPS, since they work most directly with the CHVs. CHCs report they try to support monitoring, and in some communities they were more involved than in others. In addition, in some communities CHVs monitor other CHVs. Chiefs and community leaders also try to help monitor their work.

The study examined the prevalence and roles of CHVs in the sampled facilities. As Tables 25.IA and 25.IB in Appendix D show, there were no significant changes between baseline and endline in the proportion of CHPS zones or health centers with at least one CHV (these rates were high at baseline, at 96 percent of CHPS zones and 90 percent of health centers in all regions). However, the number of CHVs working with CHPS zones and health centers decreased between baseline and endline. On average, the number of CHVs per CHPS zone fell from seven to five while the number fell more sharply from 13 to seven for health centers in focal regions (Figure 25.I.A). These decreases were similar in all regions.

Despite the decrease in the average number of CHVs per facility, there were large improvements in the range of health services offered by CHVs, among facilities that had at least one CHV at both baseline and endline. For example, for CHPS zones in focal regions, there were significant increases in the proportion of facilities in which CHVs offered specific services for 10 of the 14 services that were asked about at baseline and endline (the average increase in the proportion of facilities in which CHVs offered each of these specific services was about 9 percentage points). There were similar increases for CHPS zones in all regions, as well as for health centers. One service decreased for both facility types and groups of regions: CHVs providing first aid and treatment of minor ailments decreased significantly from 30 to 9 percent in CHPS zones and from 46 to 12 percent among health centers in focal regions (Figure 25.I.C, Appendix D).

FIGURE 25. I.C. SERVICES OFFERED BY CHVs AT CHPS IN PAST 12 MONTHS (FOCAL REGIONS)



In qualitative interviews, CHCs and CHOs reported that CHVs were most often chosen by the CHOs, community opinion leaders, or community leaders, such as the chief and elders. When identifying CHV candidates, CHOs and leaders often look for people who can work without being paid and who have interest and commitment to serve the community. However, it can be difficult to find people that are able to work for free and also have the abilities needed to serve as a CHV. A few CHCs mentioned that many of the CHVs are older and trying to find young replacements is difficult. Younger people often do not have the time or cannot make volunteering their priority due to other priorities, like having to work on the farm. As a result of the lack of support available, CHCs and CHOs report it is hard to find community members that have the time and dedication to become CHVs. In addition, once CHVs are identified, sometimes it can be hard to have them be available in a regular way. Some are only available for larger events like immunization campaigns, and the like. In some cases, CHC members, who are already volunteering, also serve as CHVs.

Yes, a volunteer is a volunteer, so they decide to volunteer their time with you, you know, and this is an age old issue. Our volunteers are not paid. We don't pay them anything so they are not obliged to stay on and deliver any service to us. They come and go as they please and we cannot hold them to stay with us, to stay on and do work beyond what they wish they would do for free. So because we are not paying them we have a high attrition rate so today it's this person the next day it's the next person who decides they would want to help us, so that's it.—DDHS, Greater Accra Region

In many cases the CHVs existed before the creation of the CHC, which has limited some of the CHCs involvement with CHVs. Overall, CHCs try to provide CHVs support, such as transportation or food, to show the community's appreciation. According to some CHOs, CHCs can also potentially support CHVs in getting training by providing transportation or funds for the CHVs to attend training at the sub-district. But, with a general lack of funds the support is limited. Most CHCs confirmed that they did not have the money to pay the CHVs, and according to CHC members and CHOs, CHCs often were not able to provide any material support at all, despite their intentions; most often the support CHVs receive comes in praise and thanks.

We and the volunteers, we [are] in the same economic situation, and so we cannot give them financial support or provide them with transportation or food. We know it is good to support them in that regard, and we wish we could do that, but we do not have the means.—CHC, Northern Region

B. District-Level Support

In addition to communities' engagement and ownership, support from the top down is an important element to promote strong health systems at the community level. The section below summarizes the findings from district-level stakeholders on the support they provide related to community health and their engagement and collaboration with USAID.

I. Support from District Assemblies

DA members are elected from each electoral area within a district by all adults in that area. Part of their role is to support CHPS zones, health centers and the health system as a whole in their districts. DAs are responsible for the infrastructure components of health. This includes building and renovating CHPS compounds, including accommodations for CHPS staff; equipping them with the necessary infrastructure and equipment to carry out their work; ensuring electricity and water for the facilities; and paying rent for staff accommodations. Other ways DAs support the health system include providing vehicles for the health directorate, providing fuel for vehicles for activities such as National Immunization Days (NID), and providing motorbikes so health staff can move around their zones. DAs reported they also support GHS in their efforts to conduct training and capacity development of health staff at all levels in the districts.

DAs mentioned a number of challenges they face in providing support for the health sector. One of the main challenges is funding. DAs reported that there are many different sectors in their communities that need to be supported and the needs can be enormous. Another challenge that was mentioned was the limited capacity of assembly members and their limited understanding of the health system. One DA explained that part of this challenge is that many of the assembly members have low levels of literacy, which hinders their ability to read documents regarding issues, policies, or solutions. Other DAs and CHC members across the regions mentioned that not all assembly members are in close contact with their communities or visit their communities enough to have a full understanding of the challenges facing the communities and advocate for them.

The relationships between CHCs and their assembly member varied district by district. Most CHCs thought they had a good or cordial relationship with their assembly member, with regular communication. Some even have their assembly members attending meetings or serving as one of the CHC members; whether or not they attended meetings varied. However, other CHCs reported having no relationship at all with their assembly member and/or having a completely non-responsive assembly member in their district.

We don't have any problems with him. We expect him to come for some of our meetings; he even promised us he'll come for some of our meetings, but never showed up. We sometimes write letters to the assembly for help, but all to no avail. So we don't know the reason why he does that, but we don't have a problem with him.—CHC, Central Region

Overall, most CHC members interviewed did not think the DA provided much support to their CHC or CHPS, even among the CHCs who thought they had good relationships with their assembly member. Most of the lack of support was financial, however, it was also reflected in not receiving responses when CHCs reached out, the lack of assembly members attending meetings, and lack of communication with CHCs. A DDHS concurred with the paucity of support, reporting that there had been no direct support from their DA except for the construction of one CHPS center in the last two years.

We consult and discuss with the assemblyman our plans, particularly on supports that we seek from the assembly. Except that [we] are getting fed-up because all the request[s] for support for our CHPS have not been met by the assembly. We can all attest to the fact that the assembly's support for this CHPS is very limited.—CHC, Northern Region

However, there were a few CHCs that reported feeling very supported by the DA. Most of the support that was mentioned was related to CHPS compounds, including new CHPS reported in at least three regions, and health staff accommodations. Other support that was mentioned included provision of street lights, building a storage shed that provided shade for CWC attendants, construction of roads leading to CHPS compounds, extending electricity supply and water to CHPS compounds, and provision of motor bikes for outreach services.

2. Collaboration Between District-Level Officials and USAID

Overall the DAs and DDHSs interviewed reported that they had a good relationship with USAID. Most DAs and all DDHS's reported that their districts had received some type of support from USAID for their health system; only one DA reported that they had never received any direct support or collaborated with USAID on any project in their district.

Those DAs and DDHS who reported on the types of support USAID has provided mentioned support such as training CHNs to become CHOs, provision and distribution of mosquito nets, and funding to build CHPS compounds, build toilet facilities, deworm school children, and provide posters and other health education materials (e.g. Good Life, Live it Well) to the health facilities and communities of their districts. DAs in all five regions also reported the Systems for Health project as an example of support they had received from USAID, and that it had been beneficial for their districts. DAs explained that Systems for Health had given them training on capacity building, helped them with supportive supervision and collaborated with the DHMT on an activity called Integrated Supportive Monitoring, and provided support in the area of quality improvement. One DDHS also talked about Systems for Health's work to support them in doing analysis using the DHIMS 2 for planning purposes. The DDHSs in two regions also mentioned the CHPS compounds built through Systems for Health. District level staff in the Northern Region mentioned the support they are receiving from the RING Project, and that it has been innovative and very helpful as well.

And Systems for Health has helped to build our capacity. They've done trainings for us, over the years, trainings in different aspects of our service delivery. In fact I will say that they've been our main backbone, training in different aspects of the work that we do. Apart from training, the supervision you know. Supervision is key with the work we do so after training there needs to be a follow up and Systems for Health they have followed up, they have come here to build our capacity, helped us to do supervision you know. Sometimes they would go with our team to the field to go and do supervision, they would come with [a] vehicle, you know vehicle we don't have so they would come with vehicles and then go on the field and go and do some supervision.—DDHS, Greater Accra Region

Different opinions emerged regarding how USAID does and should work with district level structures. One DA in the Northern Region appreciated RING's approach of working directly with the DAs rather than running parallel programming. Where programs did not work with the DA, a few DAs mentioned that organizations like USAID bypass the district level structures and go directly to the community level, and therefore the DAs are not aware of the work organizations like USAID do in their district. They stated that they would prefer that USAID and other organizations go through the district to help them not only be aware of the work that is being done, but also to be able to support the work more effectively. However, working with the DAs also has its challenges, including USAID passing funds through the DA. One DDHS reported that since she had to ask the DA for the funds, and they can, at times, get caught up in the DA bureaucracy, it would be more efficient and effective to give the funds directly to the DDHS.

USAID has ventured into where most donors don't go to, dealing directly with district assemblies. ... Most donors will put parallel organizations, working through them in the districts, ... because they do not have confidence in the capacity of the districts. USAID has broken that jinx by working directly with district assemblies. I am not saying they don't have challenges. ... But they have braced the storm, they have been able to prove that you can work with decentralized structures and get success.—DA, Northern Region





For me as a district assembly [representative], I will say that if you look critically, the assistance coming from the organizations, they don't pass it to the district assembly, and when you don't pass it through the district assembly then you are on the wrong path, you don't know what is happening. ... So I will suggest that whatever programs, activities, projects that the USAID wants to do, at least they should pass it through the district assembly and gear it to the ... health directorate within the district, so that ... then we are aware that the USAID is doing A, B, C in the district. What assistance you [the DA] can give, then you [the DA] can give that assistance. Probably they want to build a hospital for us now, then they pass it through the health directorate. Health directorate is not custodians of the land, but when they pass it through the district assembly, we can easily facilitate, so ... we make the work easier for the USAID.—DA, Greater Accra Region

VI. HEALTH INSURANCE

In 2003, the Government of Ghana passed the National Health Insurance Act, which abolished the existing cash-and-carry system of health delivery and replaced it with the National Health Insurance Scheme (NHIS). The goal of the NHIS is to provide equitable access and financial coverage for basic health care services to Ghanaian citizens (NHIS 2015). Because the NHIS represents a substantial change in the public health care environment in Ghana, understanding health insurance could be important context for the changes in outcomes described in this report. This chapter describes health insurance in Ghana; the level of

membership in health insurance; and perceptions of the association between health insurance and the location, quality and type of care among facility clients.

KEY FINDINGS - NHIS

-  Membership in the national health insurance scheme (NHIS) at endline was widespread, even if it decreased slightly since baseline. Substantial regional variation remained.
-  Slow payment of NHIS claims to facilities continued to be a challenge and was an important driver of stock-outs.
-  Higher levels of NHIS coverage were handicapped by logistical challenges, although community outreach and mobile phone renewals helped to offset these challenges. Other barriers included the cost of renewal, lack of sufficient benefits from the scheme, and perceived lack of need for insurance.
-  Insurance determined what services and medicines were covered; this varied per type of health facility; clients preferred to seek care at facilities where services and medicines they needed were covered.

A. Health Insurance in Ghana

Health insurance in Ghana under the NHIS has three main categories. The first and most prevalent is the district mutual health insurance scheme, which operates in every district in Ghana. Any resident of Ghana can register for this public scheme. It is funded primarily from the central government's National Health Insurance Fund, as well as by premiums paid by members. The other two categories of health insurance in Ghana are private commercial health insurance schemes and private mutual health insurance schemes. Neither receives subsidies from the National Health Insurance Fund. The cost of membership in the NHIS district mutual health insurance scheme depends on the applicant's category: annual premium paying member or a member of an exempt group. Exempt groups include pregnant women, people living in poverty, children up to the age of 18, people over 70 years of age and people with a mental disorder.

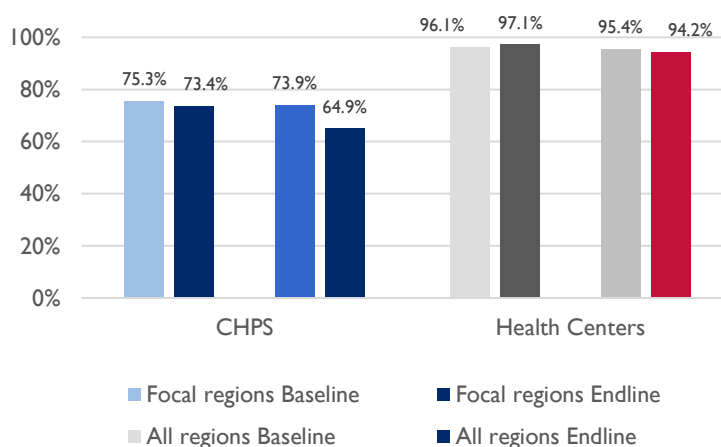
With membership in an insurance scheme, health insurance members are entitled to seek treatment in any public health facility in the country and can use their insurance to obtain approved services free. Without insurance, clients typically are required to pay at every point of service delivery before services are rendered. Accredited pharmacies and licensed chemical shops are also supposed to provide approved prescribed drugs without charge to members. However, the NHIS continues to face challenges paying claims from health providers. The NHIS acknowledges this issue, but reports they have made progress. On the NHIS website in April 2019, the head of the NHIS reported that "Currently, the gap [in paying claims] is probably about five months and we need to get it down to three months. ... Those days of 'I have not been paid for two years' are gone. We are running an efficient and tight ship" (NHIS 2019). However, as discussed in Chapter III, the slow payments from NHIS continue to negatively affect the supply chain for medicines and supplies at CHPS and health centers.

B. Membership in Health Insurance and Claims Submission by Facilities

In qualitative interviews clients, CHC members, and CHOs reported that enrollment in NHIS was widespread throughout the focal regions. Reported coverage varied substantially across regions, with coverage estimates in the Northern Region the highest and for the Greater Accra Region the lowest. Nonetheless, overall the majority of clients were reported to be insured. These reports are corroborated by data analyzed from DHIMS 2, which showed that as of December 2018, 73 percent of clients who sought health care at the outpatient department of any health facility in the five focal regions were insured. In Northern Region, the data show that 89 percent of clients at OPD departments were insured, and in Greater Accra 52 percent of clients at OPD departments were insured. The overall percent insured has fallen from 77 percent in 2015 to the current 73 percent, which is a small but statistically significant difference. All regions have experienced similar declines.

Further evidence on the scope of NHIS is provided by the facility survey, which measured recent submission of NHIS claims, an indicator that depends on whether facility clients are NHIS members and the extent to which health facilities accept NHIS insurance.⁶² At endline, the percentage of CHPS zones and health centers that reported submitting at least one NHIS claim in the two months before the survey was similar to baseline levels. Nationwide, there was a large and statistically significant decrease of 9 percentage points for CHPS zones, but little change for health centers (Figure 26).

FIGURE 26. PERCENTAGE OF FACILITIES THAT SUBMITTED AT LEAST ONE NHIS CLAIM IN LAST TWO MONTHS (FOCAL AND ALL REGIONS)



At endline, nearly two-thirds of CHPS zones and more than 90 percent of health centers nationwide reported submitting these claims. Over half of CHPS zones (56 percent) and three-quarters of health centers (74 percent) in all regions had received *reimbursements* for one or more insurance claim within the last year at endline. The results of the endline survey also suggest that reimbursement is slow—a much smaller proportion of CHPS (22 percent) and health centers (18 percent) alike indicated having received reimbursement within 6 months of submitting a claim in focal regions and all regions (Appendix C, Table 26).

DDHSs, SDHOs, and CHOs across the five focal regions reported the negative ramifications of NHIS's poor record of reimbursing claims. Some SDHOs and CHOs noted they were owed in arrears for a period of eight to 16 months. Others noted that claims for parts of previous years going back to 2016 had still not been paid. CHOs, SDHOs, and DDHSs directly linked the stock-outs of medications at facilities to the non-payment of claims.

Your initial USAID Evaluate for Health findings showed that NHIS non-payment is affecting the district. Your midline too said the same thing. And now, you are coming to do endline. Nothing has happened [changed]. So you know what is going on. We need to find a way of finding a more sustainable means of health financing you know, especially for the district level.—DDHS, Volta Region

Because if ...health insurance [the NHIS secretariat] were honest in paying [claims], there wouldn't have been shortages [stock-outs of medications]. But you see now [in February], as at September [5 months earlier] claims are still lying down, it has not been processed to pay, and we need money to run the system.—SDHO, Northern Region

Because health insurance reimbursement is not forthcoming regularly, [the Regional] Medical Stores is also not supplying the quantity of drugs our facilities need to run, so sometimes people will come to the health facility, and there will not be medications.—DDHS, Western Region

Among clients, the NHIS is overwhelmingly the most popular health insurance scheme in the study area and virtually all qualitative respondents knew about the NHIS. Only a few respondents in the Greater Accra Region mentioned any private insurance companies; otherwise, knowledge of private insurance schemes was almost non-existent. One reason membership in NHIS is reported to be widespread is people's understanding that membership allowed them to access health care even in situations where they did not have money, according to community health committees members and clients.

Many people think it [NHIS membership] is good for them because you may fall sick and not have money. ... If you don't have insurance and you go to the district hospital or the CHPS, the money they will charge you will be high, and they will also write out medicine for you to go and buy.—CHC, Central Region

⁶² Our endline survey only measured very short-term changes in the number of facility clients who were members of NHIS from which we cannot draw conclusions about the overall baseline-endline trend in membership.

However, the limited number of renewal centers and logistical problems at NHIS offices are hindrances to health insurance registration and renewal. Clients explained that there are very long queues at the NHIS centers. Some clients complained that they had to spend two to three days to renew their NHIS cards, especially in the Northern Region. Internet connectivity at the centers seemed to add to the lengthy delays, as clients reported enduring long queues only to be informed that the internet network was down, hence the NHIS office could not process their registration or renewal.

As I'm talking to you ... we don't have [an] NHIS office within the district that you can go if you want to do a new one [membership]. You must travel outside the district and go and have the ... [renewal] done.—CHO, Greater Accra Region

When they go there maybe it will take you 2 or 3 days or maybe one week to also get your insurance cards. And this one also scares them out of doing this thing sometimes [renewing the cards]. You go maybe it will take you one week, and you have still not had it done, then you come back.—Community Leader, Northern Region

There are efforts to remove logistical barriers. A proven strategy to improve the registration and renewal process and increases insurance coverage is field outreach by NHIS teams. CHC members from all regions reported that in areas where NHIS staff reach out to communities to do the registration and renewals in the communities, more clients have valid NHIS cards. Another strategy members of the CHCs reported was the introduction of NHIS card renewal via mobile phone, introduced in December 2018. This was welcome news, and CHC members and clients hope it will solve some of the challenges involved in renewing coverage. CHC respondents stressed that education is needed to ensure community members know about and can implement membership renewal via phone. However, knowledge might not be enough, as CHC members who tried renewing their NHIS memberships via phone encountered issues with connectivity.

The reason why people in this community have the national health insurance is that in the past two years, officers of the national health insurance come to this community to register people so that we do not have to go to Tolon [the district capital] for the registration. ... This time people suffer with the registration because they [NHIS officials] don't come here again for the registration. This has prevented some people from renewing the registration.—CHC, Northern Region

The officials don't come frequently to register everyone or to register those who have expired cards. Now they [NHIS secretariat] are asking them to do it on their mobile and most people also don't know how to register using their mobiles so though they have insurance, it has expired so they don't have insurance.—CHC, Greater Accra Region

By God's grace now you can renew it on your phone, so we also have to educate the community members to renew it on their phone.—CHC, Central Region

Financial constraints were raised as another significant issue in the renewal of insurance. A number of CHOs, clients and CHC members noted that the cost of renewal and the transportation costs resulting from the distance to NHIS renewal centers were seen as significant issues. Clients explained that sometimes the transport costs are higher than the cost of renewal of the NHIS card, and therefore they were not able to afford to renew their cards. Another element of cost for women can be intra-household decisions. CHOs, female community leaders, and clients observed that for some women it is their husbands who provide money for NHIS card renewal. Most female clients, in fact, mentioned that it is their husband's responsibility to replace their NHIS card. Husbands not providing money for renewal of NHIS coverage makes it difficult for some women to renew, a comment heard in all five regions. A CHO in Greater Accra observed that

Some women ... wait for their husbands to give them money, even [for] their children ... but she will say that ... 'I have told my husband many times, he doesn't give me the money' and ... the husband too doesn't see the importance of giving ... [her] the money to go and ...[renew] because even if you go and do it, [when] you send ... [the sick child] to the hospital ... [he] still pays something.—CHO, Greater Accra Region

Other clients reported they did not renew their cards because they had not benefited from the scheme while members. For some of these clients, they reported that they never fallen sick, and therefore did not need health insurance. Others explained that even with their valid NHIS card, medications they needed and that were covered by NHIS were often not available, and therefore they still had to buy essential prescriptions from the market. Most clients and CHC members complained about having to pay out of pocket for drugs that are supposed to be provided by NHIS. Some of these clients reported that as a result, they would not renew their NHIS memberships. Some community leaders and clients stated another reason clients do not register or

renew their coverage is that NHIS does not cover sufficient numbers of medications to make being a member worthwhile.

When I came to the hospital, the center, they gave me paracetamol, and they say we should use insurance [NHIS]. Why should we use insurance? They just gave me paracetamol, and that is all.—Community Leader, Northern Region

It doesn't work, that is what most people think. They say that when you take the insurance to the doctor it doesn't work and the amount of money you have to pay when you have insurance is the same amount you pay when you don't have insurance, so that is the reason why some people don't have insurance.—CHC, Western Region

A primary reason people registered for health insurance is their sense of vulnerability to illness or to a condition that would require seeking services at a health facility. CHOs, community leaders and CHC members reported that pregnant women and young children registered more for health insurance because they were most likely to need health services. Men and youth, they reported, are less likely to think they individually are likely to fall sick and therefore do not think they need NHIS coverage. The District Director of Health Services in the Northern Region also reported that some men, especially in the Northern Region, prefer to see a traditional healer than attend a health facility. CHCs also reported that at NHIS registration centers, priority is given to pregnant women and the aged because of the long queues. This further disincentivizes the youth, who are reluctant to queue for more than two days to acquire or renew their NHIS cards.

There's a difference. There is a high registration rate for children and women. The men don't register because they think the children are more vulnerable to diseases and the women may get pregnant, so they register the most.—CHC, Central Region

The youth are more [reluctant to register or renew their insurance] because we usually chat with the youth and when we ask them ... do they have health insurance they will say that they are not sick so there is no need to.—CHC, Central Region

The health insurance workers don't often come here to register people. Here in this community, we are farmers and so if someone goes to join a queue for two days and still does not get the insurance card, especially the youth, he will not get [make] time to do it. When they queue for insurance, the officials typically consider the aged... 'Oh, let this old man come and do his own,' so usually, the youth are always left without a card, and they also have other things to do, so they won't keep going to queue for the card.—CHC, Central Region

C. Health Insurance and the Location and Quality of Care

Most CHOs explained that they had a standard treatment protocol and therefore provided the same level of care to all clients, whether insured or non-insured. Some CHC members corroborated the information provided by CHOs and explained that the care provided clients did not depend on whether one had NHIS or not—health workers offered the same treatment for everyone.⁶³ The main difference noted was that, with insurance, the cost of care was lower.

If two people come and one has insurance, and the other does not, let's say with malaria because that is what is common, you have to give them artemether-lumefantrine, artesunate-amodiaquine, ... That is the same treatment I will provide to the person with insurance. Just that the person without insurance will have to pay, but the person with insurance will not pay.—CHO, Western Region

The treatment for those who have health insurance and those who do not have the health insurance is the same except that those who do not have the health insurance will pay money for the services while those with the health insurance do not pay for the services.—CHC, Northern Region

However, some CHC members were of the view that health workers provided better health care to clients who paid cash in comparison to those who were members of NHIS. Some CHC members and clients reported that health workers provided substandard prescriptions to clients with NHIS cards compared to

⁶³ This study was not able to compare the rate of service usage among the insured and non-insured, but other research suggests that the non-insured rely mainly on informal care, while more than 80 percent of those with NHIS coverage visit a public or private formal provider for care (Fenney et al. 2015.). This could be due to the lower cost of care for the insured.

clients who pay cash, or that they provided a less potent and a more limited number of drugs to clients with insurance compared to what is required for treatment of the condition.

The insurance is not serving the purpose for which the government established it because those in charge of it are not doing well at it. ... The best thing should be that people with insurance be given unique treatment, but now when you go those with cash are treated before those with the insurance. Once they have seen you have insurance and they can't get extra money from you, they attend to the people without insurance.—CHC, Central Region

The health insurance [card] when you are holding it, it limits your treatment... but when you have money they write a lot of medicines for you to go and buy.. But when you are on the health insurance it is limited. Your healthcare is inadequate; they will give you some small –small drugs that it will take time for the illness to go. It needs improvement so that all of us will be safe.—CHC, Greater Accra Region

Some people say that they're not given the same quality care when they have insurance as will be given when they have cash. You're given so many drugs and are taken care of well because you're paying for it. I don't agree with that.—CHC, Central Region

On the other hand, other clients, CHC members, and CHOs reported that NHIS holders were provided better and more timely service to motivate others to register for NHIS. Being treated in a timely manner at a health facility was also raised as one of the reasons for having NHIS. Some clients and CHC members thought it was an advantage to have the health insurance card as they were treated faster than those without health insurance. However, being treated on time at the health facility was also a reason given for *not* having NHIS membership. A number of clients believed that those without health insurance were treated faster than those with health insurance.

They give reverence to those with health insurance before they come to you who does not have insurance, so if even you went first, someone with health insurance will be treated first before you. So in this case even if you don't have insurance you will be forced to get it.—CHC, Western Region

If you go to the hospital with the card and your opponent [someone who has not registered for NHIS] comes with ... money, they attend to that person fast. So due to that, people decided that [even if]... you bring the [NHIS] people to their locality to do the health card for them, they don't go [to register or renew].—CHC, Greater Accra Region

CHC members, CHOs, SDHOs, and clients reported that CHPS zones were limited in the types of services they could offer through insurance. CHC members and clients were unanimous in reporting that the insurance did not cover some infusions or intravenous medication popularly referred to as drips, snake bites, and amoxicillin for children, among other issues and medications. This situation is getting even more difficult, as some drugs that CHPS zones could initially dispense have been taken off their list and are now only available at higher levels. CHOs noted that drugs like Flucloxacillin suspension for children, and Doxycycline for pregnant women were previously on the CHPS list, but now only available at higher level facilities.

What I also know is that this facility does not issue infusion and amoxicillin to a child, and the NHIS doesn't cover it because they are CHPS. It is a worry for us. And that is why most of the women complain that they have NHIS and go to the ... [CHPS], and they still take money from them. How can a child have diarrhea here and common amoxicillin cannot be given unless you take the child to another facility?—CHC, Northern Region

There are some drugs that when you come, insurance will not cover, but maybe when you go to [another facility]... since it is a health center ... you will get the drug there for free. But when you come here, because we are in level A, we can't serve you that drug—insurance will not pay. So they will prefer going with the insurance to where ... [they] will get all or some of ... [their] drugs there, insurance will cover, than coming and not getting.—CHO, Greater Accra Region

Currently for skin infection, we were using flucloxacillin to treat, and health insurance used to cover it, but it was later excluded, so it has made things a bit worrisome because people were used to getting that treatment for free then all of a sudden they are required to pay. The drugs that were previously being covered by the insurance that clients knew of, but are no longer being covered made the delivery of service a bit difficult for us.—CHO, Central Region

As part of a change in government policy, some CHPS zones are evolving to a new status called “CHPS zones with midwives” and adding to the services that they provide. Unfortunately, NHIS does not recognize this new status and is not evolving the medications that can be given with the new services. Originally midwives were at the health center level and above, so even if a midwife at a CHPS zone prescribes a medication, because the facility is accredited as a CHPS zone, NHIS will not pay the claims for it.

This is a CHPS zone clinic so there are some drugs that a midwife can't prescribe. ...In terms of health insurance accreditation, ... [it is] accredited as a [mere] CHPS zone, though ... [in the books of the GHS] it is a CHPS zone with a midwife. [After a]... series of letters and stuff, still, it's a CHPS zone. So when the clients come and are accessing a service or a midwife can attend to the person, ...since this place is [accredited as] a CHPS zone without a midwife, we can't give the person [certain needed] drugs. Unless the person pays for that drug or, we write for the person to buy it.—CHO, Greater Accra Region

VII. SUMMARY AND CONCLUSIONS

This chapter briefly summarizes the key findings from the endline evaluation in each of the four thematic areas into which the research questions are organized. These findings are used to highlight specific successes and challenges in each area, which can inform future programming strategies focused on improving the health system.

A. Quality of Care and Services

The study found a substantial increase since baseline in the percentage of clients referred from CHPS zones who returned with completed referral feedback notes, which are important to maintain the continuum of care. However, despite these increases, at endline two-thirds of referred clients in the average CHPS zone did not return with completed feedback notes, and more than half of CHPS zones did not maintain written records of referrals. Qualitative data collection at endline revealed an increased use of technology, such as the WhatsApp platform, to track referrals across facilities; this could improve communication between facilities for referrals, but makes it less likely that written records are maintained to ensure appropriate post-referral care.

Both CHPS zones and health centers improved service provision in several key areas between the baseline and endline. First, the provision of comprehensive family planning services improved, largely through increases in providing contraceptives to complement the existing family planning counselling. Second, there was a large increase in the proportion of CHPS zones that conducted deliveries, which could be related to recent policy changes that assign midwives to more CHPS zones and allow some trained CHOs to conduct deliveries at these lower-level facilities. Third, the average number of certain types of home visits conducted by CHPS zones (routine home visits, follow-up home visits, and clients needing special visits) increased significantly. Fourth, malaria testing using RDTs increased significantly.⁶⁴ However, some important gaps in service provision remain at endline, such as appropriate malaria treatment, and maintenance of key child anthropometric information. Qualitative interview data also suggest CHPS zones and health centers continue to face inadequate staffing of all types, especially midwives, physician assistants and security personnel. There is also an ongoing need for additional physical infrastructure investments that could improve the quality of service in CHPS zones (for example additional rooms to serve different types of clients, toilet facilities and staff accommodations), whereas a lack of transportation for outreach, supplies and transporting clients to facilities continues to be an important challenge to service provision. Qualitative interview data also suggested that active surveillance of infectious diseases—prospective steps to search for and identify cases of a disease within communities—is uncommon due to a lack of motivated volunteers to do so; investigations of infectious disease outbreaks might also be hampered by a lack of necessary equipment.

Facility survey data revealed widespread decreases in recent staff training and complementary supportive supervision related to caregiving and management between baseline and endline, which could affect the quality of care. Training indicators decreased steeply among CHPS zones and health centers for topics related to malaria, nutrition, maternal and child health, data tracking, and facility management; in most cases these decreases occurred between midline and endline. Declines in training on malaria care in the last year could be due to a shift from frequent trainings in the period leading up to the baseline and through the midline, to training that followed the GHS guidelines of training every three years, starting after the midline. Regardless, at

⁶⁴ This refers to an increase in the proportion of facilities that tested all suspected malaria cases using RDTs and is measured relative to midline because the variable was not included in the baseline survey.

endline, almost half of CHPS zones and more than half of health centers nationwide indicated that they had unmet priority training needs.

Important gaps remained in the availability of written treatment protocols, especially at CHPS zones. For example, written protocols for managing acute undernutrition and maternal and newborn care were unavailable in about half of CHPS zones, with limited changes since baseline. Nevertheless, both CHPS zones and health centers substantially increased compliance with standard measures related to sanitation, sterilization, waste disposal, and ways of dealing with contagious clients between baseline and endline.

The endline survey suggests that supply chain management significantly improved in both CHPS zones and health centers between baseline and endline, most notably through increased availability and use of control cards for a wide range of commodities and an increase in the proportion of facilities with a dedicated person responsible for ordering supplies. However, the frequency with which facilities could not supply clients' needs because of stock-outs overall increased, even if stock-outs became less common for some commodities (for example, malaria RDTs, injectable contraceptives, and most immunizations).

A key challenge to maintaining adequate stocks is a financial constraint, on the part of facilities, which in large part is due to delayed reimbursement of facilities from the NHIS. Other challenges include insufficient medicines and supplies available for distribution from the regional medical stores, and the recent shift to the new Last Mile Distribution system in 2017, which centralized all supply distribution to originate from the regional medical stores but has raised logistical challenges with transportation of medicines and supplies to facilities. The availability of functional essential equipment needed for delivery, nutrition assessment and counseling, and storage generally persisted at endline, though the availability of some equipment, including some equipment for handling emergencies in delivery, improved.

Access to cell phones and computers increased across CHPS zones and health centers in focal regions and all regions between baseline and endline, but still, most CHPS zones have no phone or computer access, and access at health centers is not universal.

Clients and community leaders overall continued to have a positive opinion of CHPS zones and health centers, although they recognized challenges in terms of supplies, equipment, facilities and staff.

B. Culture of QA and QI

Significant improvements have been made in formal QA and QI activities between baseline and endline. At endline, more than half of health centers had an active QA/QI team and two-thirds of CHPS zones and three-quarters of health centers had a QA/QI plan. Many CHPS zones and health centers continue to conduct a range of QA and QI activities, including those related to hygiene and safety, supplies, and client satisfaction in their formal plans.

High quality data collection is important for QA and QI purposes, as well as to inform local needs and feed into the DHIMS2 data. District- and sub-district-level stakeholders reported that data quality was good and has improved over the past two years, largely because they conducted validation against source documents before submitting data to DHIMS2, and sub-district and district staff verified data before entering it in the DHIMS 2. However, the lack of access to computers and reliable internet connectivity continue to hamper the accurate and timely collection, storage, compilation and transfer of data, which affects how quickly it can be used. SDHOs and DDHSs in rollout districts found the newly deployed e-trackers give them access to data for planning and decision-making, improving quality of care. The main challenges have been internet connectivity and the instability of the e-tracker system that results when the system unexpectedly offline. Data are used at the district, sub-district and facility levels to inform decision-making and planning. At the district level, data users have benefited from the improved quality of the DHIMS2 data over the past two years as well as enhanced capabilities in data analysis.

C. Community and Governmental Support for CHPS

CHCs, community health committees largely composed of volunteers selected from the communities within each CHPS zone, are designed to serve as the link between the formal health sector and communities. Their main role is to oversee the health system at the community level and monitor and support CHVs. The proportion of CHPS zones with a CHC increased substantially between baseline and endline, so that almost all CHPS zones nationwide had a CHC at endline and most were reported to be functioning largely as intended, including through regular meetings. However, CHCs continue to face several challenges in supporting CHPS zones—the main one being lack of funding. Despite these challenges, CHOs' assessment of CHCs' effectiveness has improved since baseline and community members report good relations with CHPS staff at endline.

CHVs, community volunteers who help to mobilize the communities in CHPS zones and provide community-based care, are essential to providing the services expected of CHPS zones. Although the average number of CHVs per facility decreased between baseline and endline, there were large improvements in the range of health services offered by CHVs. However, lack of support for payment, transportation, and training is a barrier for recruiting and retaining these staff.

DA members support CHPS zones primarily by providing funding for the infrastructure components of the health system, especially CHPS zones and health centers in their districts. They support their CHPS zones primarily by providing funding for infrastructure; however, securing sufficient funds remains an important challenge. DDHSs and DAs have good relationships with USAID and many reported positive experiences with HPNO projects including Systems for Health and RING. DAs appreciate being well integrated into or at least informed about work USAID does in their districts.

D. Health Insurance

Ghana introduced the NHIS more than a decade ago; this public health insurance program seeks to provide equitable access and financial coverage for basic health care services to Ghanaian citizens. Membership in NHIS at endline appears to be widespread, but it has decreased slightly since baseline and substantial regional variation in coverage remains. Most CHPS zones and the vast majority of health centers regularly submit NHIS claims, although slow payments from NHIS continue to negatively affect the supply chain for medicines and supplies at these facilities and are an important driver of medication stock-outs. Logistical challenges for registering or renewing health insurance coverage are a barrier to higher levels of coverage, although efforts such as community outreach and mobile phone renewals represent efforts to improve this. Other barriers include the cost of membership, perceived lack of sufficient benefits from the scheme, and perceived lack of need for insurance. Coverage restrictions and limited supplies sometimes mean that insured clients have to unexpectedly pay for medicines or visit other facilities for treatment. Insurance determines the types of services and medications that are covered depending on the type of facility; clients prefer to go to facilities where more services and medications they need are covered.

E. Use of endline findings

The endline findings in this report showed positive changes in key indicators relevant to USAID Ghana's health portfolio four years after the 2015 baseline, notably as concerns service provision as concerns family planning, assisted deliveries, use of RDTs and home visits, along with improved IPC, QA/QI and use of DHIMS2 data. Although these findings cannot fully be attributed to the impact of USAID interventions, they do inform understanding of changes in the Ghanaian health system coinciding with implementation of USAID projects. The endline levels of key indicators, together with findings from qualitative data, also highlighted important remaining gaps in the coverage and quality of health care in CHPS zones and health centers, especially in terms of staffing, infrastructure, transport and CHV retention. A key further weakness identified in the overall health system was the lack of NHIS reimbursements to facilities which impeded their ability to provide needed medicines and supplies and influenced clients to seek care at higher level facilities rather than CHPS zones. The endline study is intended to contribute to programming decisions by GHS and other donors to address remaining gaps in subdistrict facility-based health care in Ghana.

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ANNEX B: USAID PROJECT BACKGROUND INFORMATION

Five of the IPs contributed to improve the baseline indicators and updates for the midline: (1) Systems for Health (Systems); (2) Strengthening Partnerships, Results and Innovations in Nutrition Globally (SPRING); (3) the Maternal and Child Survival Program (MCSP); (4) Resiliency in Northern Ghana (RING); and (5) MalariaCare. Three new projects that launched in 2014- 2016 also contributed to the midline study: (6) Communicate for Health (C4H); (7) WASH for Health; and (8) Global Health Supply Chain and Procurement Services Management (GHSC-PSM). At endline, the study team consulted Systems, MCSP and RING, along with the three newer projects launched in 2014 to 2016 to guide updates and additions to the evaluation’s indicators from the midline study. The section below briefly describes these eight five-year USAID-funded projects (find more project details in Annex B).

FIGURE 2.1.⁶⁵ TIMELINE OF USAID PROJECTS AND INITIATIVES

Project or Initiative	Start date	End date
Strengthening Partnerships, Results and Innovations in Nutrition Globally (SPRING)	October 2013	September 2018
MalariaCare	October 2013	September 2018
Resiliency in Northern Ghana (RING)	June 2014	September 2019
Systems for Health (Systems)	July 2014	December 2019
Maternal Child Support Project (MCSP)	September 2014	June 2019
Communicate 4 Health (C4H)	November 2014	November 2019
WASH for Health	February 2015	February 2020
Global Health Supply Chain Program—Procurement and Supply Management	October 2016	September 2020

Note: Projects are listed in order of implementation.

The University Research Corporation LLC implemented USAID’s flagship project, **Systems for Health (Systems)**, from 2014 to 2019. The project aimed to increase the sustainability of the six fundamental building blocks of successful health systems: leadership and governance, health information systems, health workforce, medical products and technologies, health financing and service delivery. It included activities that help balance supply and demand for health services and increase gender equity. Systems worked in the areas of maternal, newborn and child health; family planning and reproductive health; malaria; nutrition; and infection prevention and control, using a quality improvement approach. It worked at the national level on policy and governance and supports community-level health services through programmatic and infrastructure support for Ghana’s CHPS program, concentrating on USAID’s five focal regions.

John Snow Inc. implemented Strengthening Partnerships, Results and Innovations in Nutrition Globally (**SPRING**) from 2013 to 2018. The project aimed to reduce stunting by 20 percent in the two regions most affected by stunting and severe anemia—Northern and Upper East. SPRING’s activities addressed anemia reduction; infant and young child nutrition; water, sanitation and hygiene; aflatoxin reduction; and support to the Livelihood Empowerment Against Poverty (LEAP) Program, which provides cash transfers and health insurance. SPRING sought to improve nutrition services at facilities through supportive supervision, training and coaching and used a “1,000 Day Household” approach, which targeted households with pregnant women and children 2 years of age and younger.

Maternal Child Support Project (**MCSP**), implemented by Jhpiego from 2014 to 2019, is organized around three strategic objectives to improve reproductive, maternal, newborn and child health: supporting increased coverage and use of evidence-based, high quality interventions; closing innovation gaps to improve health outcomes among high-burden and vulnerable populations; and fostering effective policymaking, program learning and accountability. The project focuses on standardizing strategies, guidelines, training materials, tools and monitoring systems and on strengthening preservice education to midwives and nurses in training facilities across Ghana.

Resiliency in Northern Ghana (**RING**), implemented by Global Communities from 2014 to 2019, is a partnership effort under USAID's Feed the Future (FTF) initiative. RING aims to contribute to efforts of the Government of Ghana (GoG) to sustainably reduce poverty and improve the livelihoods and nutritional status of vulnerable populations in districts across the Northern Region. The project includes several activities designed to support three complementary project components: increasing the consumption of diverse quality foods, especially among women and children; improving behaviors related to nutrition and hygiene among women and young children; and strengthening local support networks to address the ongoing needs of vulnerable households. It also works closely with district governments to bolster their capacity to carry out needs assessments and develop work plans, budgets and monitoring systems.

MalariaCare, implemented by Path from 2013 to 2018, works in seven regions in Ghana to improve malaria case management across the continuum of care—from communities to health facilities—in both the public and private sectors. The project collaborates with the National Malaria Control Program (NMCP) and other partners to build case management capacity at all levels of the health system. The main activities include strengthening quality assurance (QA) and quality improvement (QI) systems and supporting routine systems for malaria diagnostic services, monitoring and evaluation, with a focus on CHPS.

For the midline and endline evaluation, the following IPs, whose projects launched in 2014-2016, were also consulted.

Communicate for Health (C4H), implemented by FHI 360 over the period 2014 to 2019, focuses on support to the GHS to increase demand and use of key health services and commodities and to foster healthy behaviors. The project's large-scale behavior change communications initiative, implemented in partnership with the GHS Health Promotion Division, is intended to expand the promotion of the "GoodLife, Live It Well" brand through national media campaigns and community-level messaging in USAID's focus regions. The project addresses family planning; maternal, newborn and child health; nutrition; water, sanitation and hygiene; malaria; and HIV/AIDS.

WASH for Health (WASH), implemented by Global Communities over the period 2015 to 2020, in the five USAID focal regions plus the Eastern Region, and is designed to improve equitable and sustainable access to safe water and improved sanitation facilities and to strengthen community infrastructure and ownership. Its activities include expanding existing water facilities and repairing damaged boreholes, increasing the number of household or family latrines, and promoting improved sanitation behaviors and point-of-use household water treatments.

Global Health Supply Chain Program—Procurement and Supply Management (GHSC-PSM), is implemented in several countries worldwide by Chemonics and will operate in Ghana from 2016 to 2020. The program works to reduce costs and increase efficiencies in global and national health supply chains and to strengthen national supply chain systems and collaboration among supply chain stakeholders. The GHSC-PSM operates across all 10 regions of Ghana.

ANNEX C: KEY TOPICS COVERED IN QUALITATIVE INTERVIEWS

TABLE 3. KEY TOPICS COVERED IN QUALITATIVE INTERVIEWS, BY TYPE OF RESPONDENT

Participant type	Key topics covered
District Directors of Health Services	<ul style="list-style-type: none"> Quality of district health care and services and access to supplies Availability and use of treatment guidelines and protocols at local and sub-district facilities Use of DHIMS 2 data and other types of data in decision-making Collaborating with the district assembly and USAID on health initiatives Community-level engagement and support for CHPS zones in their districts
District Assembly members	<ul style="list-style-type: none"> Perceptions of the quality of care in their district Ways in which district assemblies support the health system How decisions are made regarding health service delivery Whether and how they collaborate with USAID and suggestions to make collaborations more fruitful
Sub-district Health Officers	<ul style="list-style-type: none"> Quality of sub-district health care and services, quality assurance, and quality improvement Integration of care through the referral system Disease outbreak and control Availability and use of treatment guidelines and protocols at CHPS and HCs Quality of data and data collection and tracking Use of data by facilities to inform health-related and other decisions Access to supplies and use of tools and mechanisms for supply chain management Community engagement
CHPS Zone clients	<ul style="list-style-type: none"> Health clients' rights Use and satisfaction with CHPS zone services Use and satisfaction with health center services Health Promotion through GoodLife, Live it Well How their community engages with the CHPS zone Health insurance
Community leaders	<ul style="list-style-type: none"> Health clients' rights Perceptions of the quality of CHPS zone care and services Linkages between communities and health care, such as through community support for CHPS zones, the work of their CHCs, community action plans and other community engagement Health insurance
Community Health Officers	<ul style="list-style-type: none"> Perceptions of the quality of CHPS zone care and services Use of Community Health Action Plans (CHAPs) Existence and work of CHCs and CHVs Community support for CHPS zones and other community engagement and linkages Health insurance
CHC members	<ul style="list-style-type: none"> The use of Community Health Action Plans (CHAPs) Client referral system CHC roles, responsibilities and operation - How CHCs support CHPS zones including CHVs Community engagement, support and linkages with CHPS CHC linkages with the DA Health insurance