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Nutrition Training and Supply Needs of 55 Districts in Northern Ghana

A Rapid Assessment

About USAID Advancing Nutrition

USAID Advancing Nutrition is the Agency's flagship multi-sectoral nutrition project, led by JSI Research & Training Institute, Inc. (JSI), and a diverse group of experienced partners. Launched in September 2018, USAID Advancing Nutrition implements nutrition interventions across sectors and disciplines for USAID and its partners. The project's multi-sectoral approach draws together global nutrition experience to design, implement, and evaluate programmes that address the root causes of malnutrition. Committed to using a systems approach, USAID Advancing Nutrition strives to sustain positive outcomes by building local capacity, supporting behavior change, and strengthening the enabling environment to save lives, improve health, build resilience, increase economic productivity, and advance development.

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Contents

Acronyms

ANC	antenatal care
APC	anemia prevention and control
CHN	community health nurse
CMAM-IPC	community-based management of malnutrition-inpatient care
CMAM-OPC	community-based management of malnutrition-outpatient care
CWC	child welfare clinic
F-100	Formula 100
F-75	Formula 75
G2G	Government to Government
GMP	growth monitoring and promotion
Hb	hemoglobin
IFA	iron-folic acid
IYCF	infant and young child feeding
JSI	JSI Research & Training Institute, Inc.
KII	key informant interview
MCHN	maternal and child health and nutrition
MCHRB	maternal and child health record book
MUAC	mid-upper arm circumference
NoP	network of practice
NO	nutrition officer
RCEL	responsive care and early learning
RING	Resiliency in Northern Ghana
RUTF	ready-to-use therapeutic food
RGN	registered general nurse
USAID	U.S. Agency for International Development

Executive Summary

USAID Advancing Nutrition conducted a rapid assessment in Ghana between March and April 2023 to determine gaps in training and supplies needed for the provision of maternal and child health and nutrition (MCHN) services in the 55 districts in the Northern, North East, Upper East, Upper West, and Savannah regions. Specifically, we set out to determine the number of health workers that required training to provide MCHN services; shortfalls in the availability of essential supplies needed for the provision of MCHN services; and the equipment needed by networks of practice (NoPs) in the zone of influence to provide quality MCHN services. The assessment aimed to help prioritize and support the 55 districts with training and supplies to improve the quality of MCHN services, the project having expanded its geographic scope from an initial 17 districts to include the remaining 38 districts in the five regions.

USAID Advancing Nutrition conducted the assessment using both quantitative and qualitative data collection methods. For the quantitative data collection, we developed five tools to collect data on training and supply needs. We assessed how many health workers had received training in infant and young child feeding (IYCF), anemia prevention and control (APC), responsive care and early learning (RCEL), and use of the maternal and child health record book (MCHRB), among other areas of interest. For the supply needs, we examined the availability of equipment, commodities, and data capturing tools. Specifically, we examined how much of the various supplies we required for the next one year, how much was available, and how much we expected to received. This helped us calculate the shortfall for each item. The training needs assessment was limited to the 38 new districts because the project had previously conducted a similar assessment and provided support in the initial 17 districts. The qualitative aspect involved interviews with key stakeholders at regional and district levels to help prioritize the training and supplies needed by the 55 districts.

The assessment revealed a huge gap in the training of health workers who provide MCHN services across the 38 new districts. Only 312 frontline health workers had been trained in IYCF in the three years preceding the assessment, with 12,076 needing training in IYCF. Of this number, 4,753 were community health nurses (CHNs), midwives, nutrition officers (NOs), and public health officers/nurses. These four cadres are critical in the provision of nutrition services. Similarly, only 167 frontline health workers had received training in APC and 12,409 needed to be trained, of which 4,863 were CHNs, midwives, NOs, and public health officers/nurses. In addition, 11,811 frontline health workers needed to be trained on the use of the MCHRB.

We also found wide gaps in the availability of equipment, (i.e., weighing scales, height boards, hemoglobin [Hb] testing devices and strips, mid-upper arm circumference [MUAC] tapes, and handy measures). Several districts reported that they had not received some of these equipment items in the past one year. The assessment showed an expected shortfall of more than 21,000 Hb testing devices and more than one million test strips in the coming months. We also anticipate a shortfall of 798 height boards and 2,149 mother and child solar scales.

Similarly, we found that the 38 districts will need 260,939 MCHRB, 46,513 copies of the antenatal care (ANC) register, 37,922 copies of the IYCF register for pregnant women, and 5,727 copies of the IYCF register for children to be able to meet their needs for the next one year. There were likewise significant deficits in the supply of commodities and the different types of data capturing tools and equipment needed for the provision of MCHN services by the NoPs.

Introduction

USAID Advancing Nutrition is the U.S. Agency for International Development's (USAID) flagship multisectoral nutrition project, led by JSI Research & Training Institute, Inc. (JSI), and a diverse group of experienced partners. Launched in September 2018, USAID Advancing Nutrition implements nutrition interventions across sectors and disciplines for USAID and its partners. The project's multisectoral approach draws together global nutrition experience to design, implement, and evaluate programs that address the root causes of malnutrition. In Ghana, the project provides technical support and assessment services to advance the Government of Ghana's efforts to improve district planning for the equitable delivery of services that promote household resilience and early childhood growth and development. Project activities in the country were initially implemented in 17 districts in four regions: Northern, Upper East, Upper West, and North East regions.

Since June 2020, USAID Advancing Nutrition has been working with government ministries, departments and agencies, and other partners to improve multi-sectoral nutrition planning, coordination, and financing, especially at the district level. We have also been working to improve the quality of nutrition services, while ensuring that many more people, especially pregnant women, lactating mothers, and children under age five, benefit from essential nutrition services. We have focused on capacity strengthening for health workers who deliver these services, and strengthening community structures that can be used to promote nutrition at the community and household levels by supporting the integration of mother-to-mother support groups and village savings and loans associations.

In March, USAID Ghana initiated a process to extend the project's end date from September 30 to December 31, 2023, and expand the geographic scope to cover all 55 districts in the Northern, Upper East, Upper West, North East, and Savannah regions. These changes will enable the project to continue to build the capacity of health workers to provide key nutrition and early childhood development services. This includes conducting training on infant and young child feeding (IYCF), responsive care and early learning (RCEL), and anemia prevention and control (APC), and providing some of the equipment and data capturing tools needed for effective service delivery.

USAID Advancing Nutrition conducted this rapid assessment to determine gaps in training and in supplies needed for the provision of maternal and child health and nutrition (MCHN) services in the 55 districts. The aim was to help the project prioritize and support the districts based on their needs to help improve the quality of MCHN services in the districts.

Objectives

The overall objective of the rapid assessment was to help the project understand the nutrition training and supply needs of the 55 districts in the Northern, North East, Upper East, Upper West, and Savannah regions. Specifically, the rapid assessment was conducted to determine:

- The number of health workers that require training to provide nutrition, early childhood development, and child protection services in 38 districts in northern Ghana.

- Shortfalls in the availability of essential supplies needed for the provision of MCHN services in 55 districts in northern Ghana.

- The equipment needed by the networks of practice (NoPs)[1] in the zone of influence to provide MCHN services.

Methods

Geographic Area

The assessment was conducted in all 55 districts in the Northern, North East, Upper East, Upper West, and Savannah regions (table 1).

Table 1. Assessment Districts and Regions

Northern Region	North East Region	Upper East Region	Upper West Region	Savannah Region
1. Sagnarigu Municipal	17. East Mamprusi Municipal	23. Bawku Municipal	38. Nadowli-Kaleo District	49. West Gonja District
2. Gushegu Municipal	18. Mamprugu-Moagduri District	24. Bawku West District	39. Daffiama-Issa-Busie District	50. East Gonja Municipal
3. Yendi Municipal	19. West Mamprusi District	25. Garu District	40. Wa East District	51. Central Gonja District
4. Karaga District	20. Chereponi District	26. Tempane District Bawku Municipal	41. Sissala West District	52. Sawla Tuna Kalba District
5. Nanton District	21. Yonyo-Nasuan District	27. Binduri District	42. Sissala East Municipal	53. Bole District
6. Mion District	22. Bunkpurugu Nakpanduri District	28. Talensi District	43. Lambussie Karni Municipal	54. North East Gonja District
7. Savelugu Municipal		29. Bolgatanga Municipal	44. Wa West District	55. North Gonja District
8. Tolon District		30. Bolga East District	45. Jirapa District	
9. Tamale Metro		31. Bongo District	46. Wa Municipal	
10. Saboba District		32. Nabdam District	47. Nandom	
11. Zabzugu District		33. Kassena Nankana Municipal	48. Lawra Municipal	
12. Tatale Sanguli District		34. Kassena Nankana West		
13. Nanumba North Municipal		35. Builsa North District		
14. Nanumba South District		36. Builsa South District		
15. Kpandai District		37. Pusiga District		
16. Kumbungu District				

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[1] The NoP is a network of health facilities within a defined geographical area providing comprehensive health services. One of these health facilities (sub-district level) is equipped with personnel and logistics to serve as a model facility and a referral center to the other health facilities, e.g., Community-based Health Planning and Services (CHPS) compounds (GHS, Dec 2022. Implementation Guidelines for the Networks of Practice – draft version).

Assessment Design

The assessment involved both quantitative and qualitative data collection. The quantitative data collection was used to achieve the three objectives of the assessment. The qualitative data collection was used to validate the appropriateness of the training and supply needs for MCHN services identified and assumed to be of priority to the districts.

Sampling and Target Respondents

All 55 districts in the five regions in northern Ghana were selected for the assessment in line with its objectives. For the assessment of nutrition equipment and commodity needs of the districts, all 55 districts were covered. However, for the assessment of training needs, only the 38 new districts were purposely sampled for data collection. This was because the training needs of the 17 original project districts had been assessed previously and support had been provided to those districts to train health workers. For the assessment of the logistical needs of the NoPs, only seven districts with established NoPs were purposely sampled for data collection. In each of the seven sampled districts with NoPs, one NoP was randomly sampled and for each NoP sampled, the hub facility and one spoke facility were purposely sampled for data collection.

For the qualitative aspect of the assessment to verify the appropriateness of the training and logistical needs related to MCHN services assumed to be of priority to the districts, we purposively selected five key informants in all five regional health directorates. Using multistage random sampling, we further selected four key informants, two from the district level and the other two from the facility level. Therefore, a total of nine qualitative interviews were conducted.

The target respondents for the district-level training and logistical needs assessment were the district nutrition officer, store keepers, and human resource officers in the districts visited for data collection. On the logistical needs of the NoPs, the target respondents were the facility in-charges of the sampled facilities. For the qualitative aspect of the assessment, the target respondents were the regional and district nutrition officers (NOs) of the sampled regions and districts, and the facility in-charges of the sampled facilities.

Data Collection Tools and Techniques

We developed seven data collection tools that were used for the data collection. We used six tools for the quantitative data collection and one was used for the qualitative data collection. The six quantitative data collection tools were a district training needs assessment tool, district data capturing tools needs assessment tool, district commodity needs assessment tool, district equipment needs assessment tool, NoPs data capturing tools needs assessment tool, and NoPs equipment needs assessment tool. The qualitative tool was a key informant interview guide to validate the appropriateness of the areas of training and logistical needs related to MCHN services assumed to be of priority to the districts. We programmed all quantitative data collection tools onto the KoBo Collect open data kit for data collection using tablets. The data collection tools are provided in Appendix 3.

For the quantitative data collection, data collectors conducted one-on-one interviews with the target respondents (district NO, human resource officer, and store keeper). However, because of the nature of the data collected, respondents were given the liberty to bring in other people that they felt could help answer some of the questions, if needed. This was to ensure the accuracy of the data collected. We collected data electronically using tablets. We uploaded the data collected to a server daily after the day's work. For the qualitative data collection, we hired consultants to conduct key informant interviews

(KIIs) with nine officers from the regional, district, and facility levels. The two consultants conducted all KIIs and were recorded, which were later transcribed for analysis.

The data collection process for both quantitative and qualitative data collection was completed in five days with each data collector visiting two to three districts for the quantitative data collection and the consultants visiting four to five districts each for the qualitative data collection.

Recruitment and Training of Data Collectors

Twenty-two experienced data collectors were recruited for the quantitative data collection. The minimum criteria used for recruiting the data collectors were:

- Minimum educational qualification of a Bachelor's degree

- Ability to read and understand the questions as intended

- Previous experience with quantitative and qualitative data collection

- Experience in MCHN surveys

All data collectors were taken through a one-day training to prepare them for the data collection. The training focused on the data collection tools to understand the meaning of the questions, how to use the KoBo Collect App for data collection, and understanding where to administer each data collection tool, among other issues.

Informed Consent

Verbal consent was sought from all respondents before they were interviewed. The purpose of the assessment, respondents' right to voluntary participation and to refuse to respond to any question, or even to withdraw completely at any point if they had earlier agreed to be part of the assessment, were explained. Only respondents who voluntarily agreed to participate were interviewed. Consent to record each KII was also sought from all respondents before any recording was done.

Data Quality Control

To ensure the quality of the data, several quality control measures were taken. First, all data collectors were trained to collect accurate and quality data. The quantitative data collection process was supervised by the consultants to ensure that quality data were collected. We also built in skip patterns in the electronic data collection tools to minimize errors in the data collection. The quantitative data on the server were reviewed daily by the information technology team as they were being uploaded by the data collectors for completeness and consistency. Any inconsistencies detected were reported to the consultants for redress. A WhatsApp platform was also created with all data collectors and consultants on it, which was used to quickly resolve challenges identified with the data collection process by one person and the experience was shared with all data collectors to learn from. We also transcribed recordings from the KIIs shortly after completing the interviews to ensure the accuracy of the transcriptions. After downloading each data set, the data were cleaned before analysis of the data was done.

Data Analysis

The quantitative data collected were analyzed using Microsoft Excel version 16. The data were analyzed by aggregating figures to generate district and regional-level totals and overall totals. In some instances, percentages and means were also determined. The results were presented in tables to enhance understanding. For the qualitative data, the information generated through the KIIs were transcribed and analyzed manually based on common themes identified.

How training needs and gaps in supplies were determined

For objective one, we assessed training gaps/needs of health workers to enhance service delivery of MCHN services. In particular, we examined training gaps on IYCF, RCEL, maternal and child health record book (MCHRB), and APC. Under each technical area, we looked at the number of frontline workers who had been trained in the past three years and the number who needed to be trained in that technical area.

For objective two, we assessed shortfalls in supplies needed for effective delivery of MCHN services. Specifically, we assessed the shortfalls in equipment, commodities, and data capturing tools, as outlined in table 2. For each item, the gap in supply for each district in the next one year was determined by calculating the quantity of the logistic required by the district for the next one year, the quantity available (quantities in stock and in use), and the quantity expected to be received (from the Resiliency in Northern Ghana [RING] II Government to Government [G2G] project or other sources) in the next one year. The gap or deficit in supply in the next one year was then determined by subtracting the quantity available and the quantity expected from the quantity required. All supplies were counted and reported in their smallest units.

Table 2. List of Supplies Assessed

No.	Supplies Assessed		
	Equipment	Commodities	Data Capturing Tools
1.	Mother and child scales (150kg)	Ready-to-use therapeutic food (RUTF)	MCHRB
2.	Hanging scales	Formula 100 (F-100) therapeutic milk	IYCF register for children
3.	Hemoglobin (Hb) testing device	Formula 75 (F-75) therapeutic milk	IYCF register for pregnant women
4.	Hb testing strips	Iron-folic acid (IFA)	Child health and nutrition register
5.	Height boards for children/adults	Vitamin A	Antenatal care (ANC) register
6.	Handy measures		Delivery register
7.	Mid-upper arm circumference (MUAC) tapes		Home visit register
8.	Food models		Bin cards

Findings

Nutrition training needs of 38 districts

In general, the results of the rapid needs assessment showed a huge gap in training for health workers who provided MCHN services across the 38 districts. Only 312 frontline health workers had been trained in IYCF in the three years preceding the study, with 12,076 needing training in IYCF, as shown in figure 1. Similarly, 167 frontline health workers had received training in APC, whereas 12,409 needed to be trained, and 574 frontline health workers had been trained in the use of the MCHRB, with 11,811 needing to be trained. It was worse for RCEL as only four of the 12,211 health workers who needed to be trained in it, had received some form of training in RCEL in the last three years.

Figure 1. Number of Health Workers Trained/Requiring Training in Nutrition Technical Areas in 38 Districts
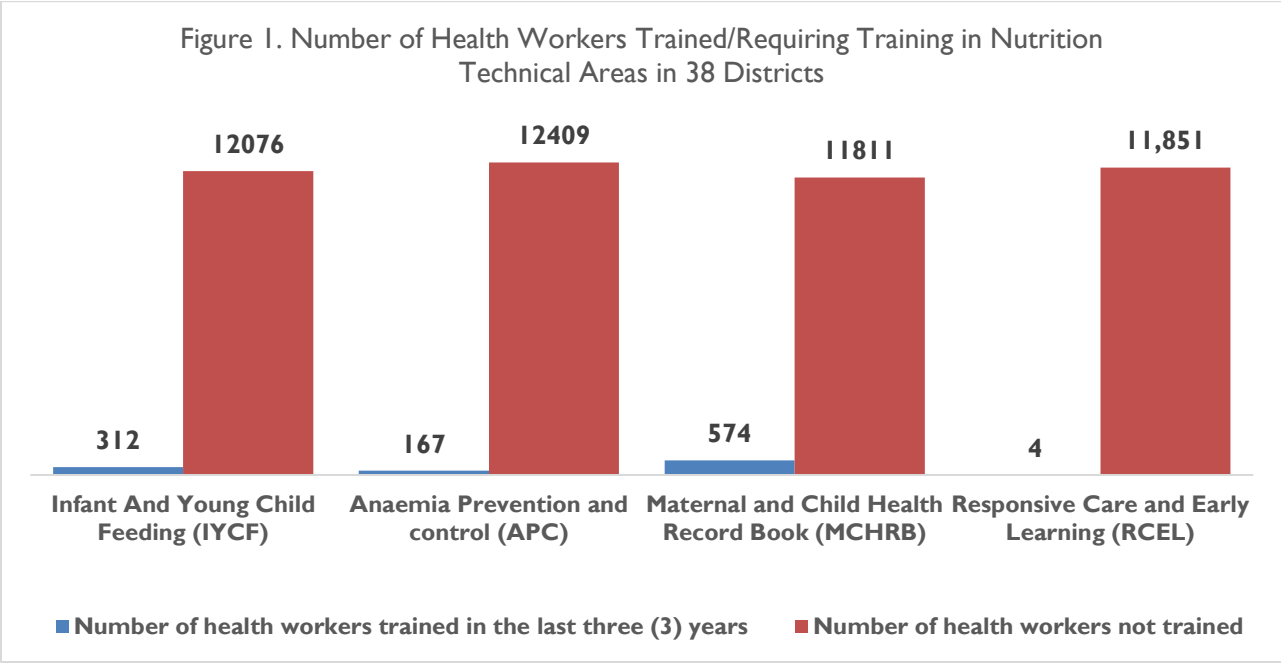
The situation was worse in five districts (Bolgatanga East, Bolgatanga, Nabdam, Savelugu, and Tamale), where no frontline health workers had been trained in IYCF, APC, MCHRB, and RCEL. Moreover, six of the 38 districts had need for more IYCF training (figure 2), with a total of 3,903 health workers requiring training in IYCF. They are Kassena-Nankana West, Bolgatanga Municipal, Bongo, Jirapa Municipal, West Mamprusi, and Wa Municipal. No frontline health workers had been trained in IYCF in Kassena-Nankana West, Bolgatanga Municipal, and Bongo, and only 88 frontline health workers had been trained in IYCF in Jirapa (29), West Mamprusi (9), and Wa (50). Appendix 1 presents information on the training needs of frontline health workers in the 38 districts.

Figure 2. Selected Districts with Most Training Needs in IYCF
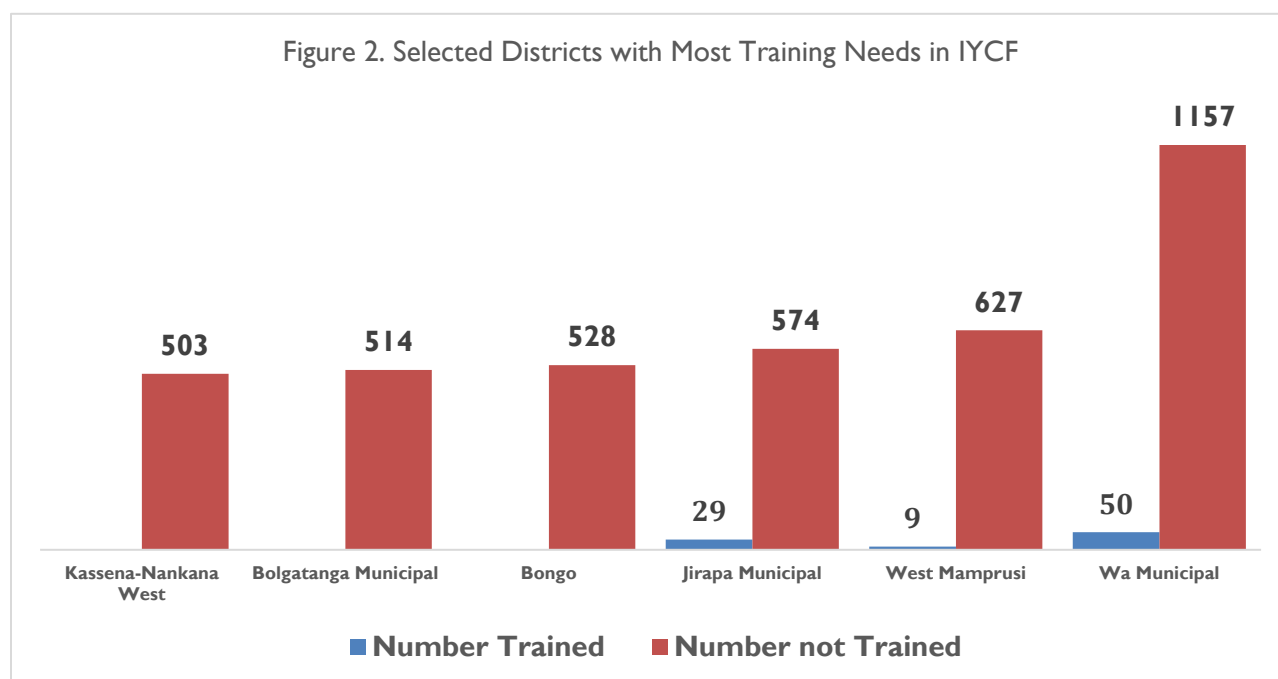
Of the 12,076 frontline health workers who required training in IYCF, a total of 4,753 were CHNs (2,470), midwives (1,911), NOs (294), and public health officers/nurses (78) (table 3). These four cadres are critical in the provision of nutrition services. The remaining 7,323 frontline health workers were mainly enrolled nurses (4,452), registered general nurses (RGNs) (2,243), and physician assistants (234). Similarly, a total of 4,863 CHNs (2,497), midwives (1,901), NOs (384), and public health officers/nurses (81) needed training in APC, whilst 4, 508 CHNs (2,332), midwives (1,810), NOs (284), and public health officers/nurses (82) needed training in MCHRB. The story was not different for RCEL, as 4,811 of the 11,851 health workers who needed training in RCEL were CHNS, midwives, NOs, and public health officers/nurses.

Table 3. Nutrition Training Needs for Various Cadres

No.	Cadre	IYCF		APC		MCHRB		RCEL	
		Trained	Not Trained	Trained	Not Trained	Trained	Not Trained	Trained	Not Trained
1.	Community Health Nurses	133	2,470	34	2,497	306	2,332	0	2,532
2.	Disease Control Officers	3	129	2	131	0	137	0	0
3.	Doctors	0	118	0	133	1	129	0	129
4.	Enrolled Nurses	36	4,452	15	4,586	41	4,428	0	4,432
5.	Field Technicians	1	24	0	25	0	25	0	0

No.	Cadre	IYCF		APC		MCHRB		RCEL	
		Train-ed	Not Train-ed	Train-ed	Not Train-ed	Train-ed	Not Train-ed	Train-ed	Not Train-ed
6.	Health Information Officers	0	20	0	20	0	20	0	0
7.	Health Promotion Officers	1	34	0	35	1	34	0	0
8.	Laboratory Technicians	0	3	0	3	0	3	0	0
9.	Midwives	86	1,911	84	1,901	156	1,810	0	1,924
10.	Nutrition Officers	45	294	23	384	62	284	4	314
11.	Physician Assistants	0	234	0	234	0	234	0	231
12.	Public Health Nurses	4	50	2	52	1	53	0	41
13.	Public Health Officers	1	28	0	29	0	29	0	0
14.	Registered General Nurses	2	2,243	7	2,313	5	2,228	0	2,243
15.	RMHO	0	5	0	5	0	5	0	5
16.	Others	0	61	0	61	1	60	0	0
	Overall Total	**312**	**12,076**	**167**	**12,409**	**574**	**11,811**	**4**	**11,851**

Findings from the in-depth interviews with supervisors of MCHN services at regional, district, and facility levels also showed that health workers in the study districts required capacity building in the following technical areas of MCHN services.

- IYCF

- Community-based management of malnutrition-outpatient care (CMAM-OPC)

- APC

- Community-based management of malnutrition-inpatient care (CMAM-IPC)

- MCHRB

- Lactation management

- Growth monitoring and promotion (GMP)

- Nurturing care/RCEL

- Integrated social services

The regional-, district-, and facility-level supervisors of MCHN services ranked the following areas as the top five for training needs at the district level, in order of priority. They explained that these areas were the most critical in MCHN service delivery for which health workers needed capacity building to improve their knowledge and skills to deliver quality services.

- MCHRB

- CMAM-OPC

- IYCF

- APC

- GMP

The findings from the in-depth interviews confirmed the quantitative data on the huge number of frontline health workers found to need training in various technical areas of MCHN services, especially in IYCF, APC, MCHRB, CMAM-OPC, and RCEL. The quotes below show how some of the supervisors of MCHN services described the training needs in their districts and how they ranked the needs in terms of priority.

Our frontline health workers will need capacity building in IYCF, CMAM, anemia prevention, maternal and child health record book, growth monitoring and promotion, responsive care and early learning, and integrated social services. (A supervisor in North East Region)

The areas of maternal and child health nutrition services that our health workers require training on to build their capacity are maternal and child health record book, CMAM (OPC), IYCF, nurturing care (RCEL), anemia prevention, CMAM-IPC, and integrated social services. (Supervisor, Northern Region)

……maternal and child health record book, IYCF, CMAM-OPC, anemia prevention, GMP, lactation management, and responsive care are the areas of maternal and child health nutrition our health workers will need their capacity to be built in. (Supervisor, Upper East Region)

If I am to rank the areas of training needs in terms of top five based on our priority needs, I will rank maternal and child health record book first followed by IYCF, CMAM-OPC, anemia prevention, and then growth monitoring and promotion. (Supervisor, Kanvili Health Center)

Ranking the top five areas of training needs, I will say maternal and child health record book comes first, then anemia prevention, IYCF, CMAM-OPC, and responsive care. (Supervisor, Upper West Region)

Supervisors gave various reasons to justify why they thought that the areas of training needs that they mentioned were of priority for their health workers. Generally, the reasons given were that they were important areas of MCHN service provision and yet a significant number of health workers did not have the requisite knowledge and skills in those areas, largely due to high staff attrition rates, health staff being newly graduated from school, and there had not been training in those areas in some of the districts for a long time. They further explained that there was high prevalence of anemia and malnutrition in the districts and, therefore, the need for health workers to be trained on anemia prevention and CMAM. It was also reported that lack of knowledge in the various areas of MCHN services was affecting the quality of MCHN service provision in the districts, hence the need for the frontline health workers to be trained in those areas to improve service delivery. The quotes below best capture the reasons given by the supervisors to justify the areas of training needs that they had mentioned.

The prevalence of anemia in the Savannah Region among pregnant women is unacceptably high so I will first of all prioritize training on anemia prevention and control because this will equip the health workers in the region with the necessary skill and up to date practices on anemia prevention and control to deal with the increasing number of women who are anemic. Care providers' capacity will be built so that they are able to intervene and control anemia in the region. (Supervisor, Savannah Region)

Infant and young child feeding is an important aspect of maternal and child health nutrition services and yet, a significant number of frontline health workers are not trained in it which is affecting service delivery." (Supervisor, East Mamprusi)

There is a relatively high prevalence of severe acute malnutrition in the district; health staff therefore need to be trained in CMAM to help deal with the numerous cases to help save the lives of the affected children and also help prevent it from recurring. (Supervisor, Northern Region)

Shortfalls in the availability of essential supplies needed for MCHN service delivery

Shortfalls in equipment

The assessment revealed wide gaps in the availability of all the equipment included in the assessment, especially for the Hb testing device and strips, as shown in table 4. Many districts indicated not having been supplied these types of equipment in the past one year, contributing to the shortages.

For example, the districts needed a total of 22,779 Hb testing devices and more than two million strips, but had only 817 of the devices and 18,872 strips available (table 4). They expected to receive only 560 testing devices and a little more than one million strips from various sources in the next one year. We calculated an expected shortfall of more than 21,000 devices and more than one million strips. Interestingly, Yendi had the highest expected deficit—20,000 testing devices—accounting for 92 percent of the total deficit for the 55 districts (Appendix 2). At the regional level, the Northern Region had the highest expected deficit of 20,217 Hb devices (data not shown). Gushegu recorded the highest expected deficit of 500,000 Hb testing strips, followed by East Mamprusi (92,138), and Yendi (63,000) (Appendix 2). At the regional level, the Northern Region recorded the highest deficit of 722,316 strips, followed by the Upper East (153,820), and North East (121,813) regions.

For the height boards, we found that the districts needed 2,456 and had 1,132 available, and were expecting to receive 1,407 height boards from various sources in the next one year, which will create a surplus for some districts (table 4). Nevertheless, we found the anticipated shortfall to be 798 because not all districts were expecting huge quantities that could make up for their needs. The Upper West Region had the highest anticipated shortfall (299), followed by the Upper East (233), and Northern (105) Regions. Nadowli-Kaleo (100), Bolgatanga (82), and Kassena-Nankana West (44) recorded the highest anticipated deficits for the height boards (Appendix 2). For mother and child solar scales (electronic scales), the total needed across the 55 districts for the next one year was 4,087, but only 1,601 were available (table 4). The districts expected to receive a total of 899 scales, which would leave a shortfall of 2,149. The shortfall will be highest in the Northern Region (630) at the regional level, and in the Kassena-Nankana West district[2] (233) at the district level (Appendix 2).

There were 9,320 MUAC tapes available and the districts needed 15,491 (table 4). A total of 2,920 tapes were expected to be received, leaving a shortfall of 8,878. The anticipated shortfall was highest in the

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[2] The Kassena-Nankana West District had a total of 124 scales available, but estimated their need for the next year as 357, which happens to be the highest amongst the 55 districts. This therefore left them with the huge gap of 233.

Upper East (3,405) and Upper West (3,222) regions, and in Jirapa (2,932), Kassena-Nankana West (2,050), and Pusiga (1,050) at the district level (Appendix 2).

Table 4 presents information on the availability and expected shortfalls of the various nutrition equipment items included in the rapid assessment in the 55 districts combined. The equipment needed by each district is presented in Appendix 2.

Table 4. Total Availability/Anticipated Shortfalls of Nutrition Equipment in the 55 Districts

No.	Nutrition equipment	Quantity required[3]	Quantity available[4]	Quantity expected	Anticipated shortfall
1.	Mother and child scales (150kg)	4,087	1,601	899	2,149
2.	Hanging scales	3,546	1,421	962	1,867
3.	Hb testing device	22,779	817	560	21,675
4.	Hb testing strips	2,130,102	18,872	1,001,276	1,141,984
5.	Height boards for children/adults	2,456	1,132	1,407	800
6.	Handy measures	3,742	30	2,435	1,726
7.	MUAC tapes	15,491	9,320	2,920	8,878
8.	Food models	8,026	165	2,136	5,830

Findings from the in-depth interviews with supervisors of MCHN services at regional, district, and facility levels showed that the following were the priority equipment items that the districts needed for the provision of MCHN services.

- Mother and child scales

- Hanging scale

- Hb testing device

- Hb testing strips

- Handy measures

- MUAC tapes

- Food models

- Height board

Supervisors further ranked the following as the top five priority equipment items needed in the districts for MCHN service delivery, in order of priority. This equipment was said to be in most limited supply in the districts. All five regions reported that for Hb testing devices and strips, they had not received any major supply in the past five years. The shortages in the supply of Hb testing devices and strips were reported to be affecting service delivery, especially ANC, because they are needed to monitor the Hb of pregnant women, which is very critical in determining how well they are doing.

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3 The total number needed by all facilities in the 55 districts for the next one year.
4 In stock and in use.

- Hb testing device

- Hb testing strips

- Electronic scale

- Hanging scale

- Handy measures

Findings from the in-depth interviews confirmed the huge gap in the supply of the various equipment items needed for the provision of MCHN services in the districts, especially the gaps in the supply of Hb testing devices, Hb testing strips, electronic scale, hanging scale, and handy measures. The quotes below highlight how some of the supervisors of MCHN services described the equipment needs in their districts and how they ranked them in terms of priority.

In terms of the equipment, we need for the provision of maternal and child health nutrition services, we need Hb testing devices, Hb testing strips, electronic scales, MUAC tapes, food models, and handy measures. (A supervisor in the North East Region)

The equipment we need to provide maternal and child health nutrition services well in the district are weighing scales, Hb testing machines, Hb testing strips, height boards, handy measures, and food models. (Supervisor, Daffiama Bussie Issa)

I will rank the HB testing machines first followed by the Hb testing strips, digital weighing scale, hanging scale, handy measures, and food models. These are critical in the provision of maternal and child health nutrition services. (Supervisor, Northern Region)

Ranking the needs for the equipment in order of priority, I will say weighing scales come first, and then the Hb testing device, Hb testing strips, MUAC tapes, and handy measures. (Supervisor, Savannah Region)

If I want to rank the top five equipment we need for maternal and child health nutrition services, the HemoCue device will be number one, followed by the Hb strips, weighing scales, food models, and handy measures. (Supervisor, Upper West Region)

The reasons the supervisors generally gave for why the equipment mentioned above was a priority for the districts were that they were critical for the provision of MCHN services and yet their supply had not been regular leading to shortages that they said was affecting the quality of MCHN service provided in the districts. The following quotes best capture their reasons.

For our pregnant women, checking their Hb levels is very critical in monitoring their pregnancy. It is recommended that we check their Hb at registration, at 28 weeks of gestation, and at 36 weeks of gestation. Despite this, most of our facilities do not have this device and are therefore not able to check the Hb of pregnant women. (Supervisor, Kanvili Health Center)

The weighing scales are very important during ANC and child welfare clinic (CWC) services because they are used to measure the weights of pregnant women and the children under five during these services, which helps in monitoring how well they are doing as children or pregnant women. (Supervisor, East Mamprusi)

Shortfalls in data capturing tools

Similarly, we found significant gaps in the availability of various tools/materials used for capturing and reporting data at the facility level on MCHN services, especially for the MCHRB, ANC register, and IYCF register for pregnant women.

The districts needed a total of 867,690 copies of the MCHRB for the next one year, but had only 178,699 available. They expected to receive 428,052 more of the MCHRBs from various sources. We therefore calculated a shortfall of 260,939 (table 5). Sagnarigu recorded the highest anticipated deficit of the MCHRBs (93,078), followed by Bawku West (49,450) (Appendix 2). At the regional level, the deficit was highest in the Northern Region (62,118) followed by the Savannah (55,286), Upper West (49,563) and Upper East (49,506) regions (Appendix 2). The 38 districts needed 57,498 ANC registers, but had a mere 6,420 available, with only 4,565 expected to be received. This left a shortfall of more than 46,513 (table 5). The anticipated shortfall in the supply of the ANC register was highest in East Mamprusi (45,966), accounting for more than 90 percent of the total anticipated shortfall for the 55 districts (Appendix 2). This was due to a very high demand for the register in that district.

For the IYCF register for pregnant women, 49,172 were needed across the 55 districts, but only a little over 5,000 were available. A total of 6,145 copies were expected to be received, leaving a shortfall of 37,922 (table 5). The Kassena-Nankana West District had the highest anticipated deficit of 625 (Appendix 2). Similarly, 10,412 copies of the IYCF register for children were needed, but only 2,926 were available and 1,759 were expected. The anticipated shortfall for the IYCF register for children was 5,727 (table 5). Bawku West alone accounted for more than 70 percent of the overall deficit (5,817) (Appendix 2) due to a very high demand compared with the average demand of about 300 registers in the other districts.

We found that most of the districts had not receive any supplies of the two registers in the past one year and were relying on their old stocks, while hoping to receive what they were expecting from the RING II G2G project and other sources.

We found that the child health and nutrition (CHN) register, another important data capturing tool and a primary source for CWC attendance and weight and height measurements, was also in short supply. Only 3,613 were available whereas the districts needed about 14,000 copies (table 5). Fortunately, most of the districts were expecting to receive more CHN registers—11,593 in total—which would leave a shortfall of 1,251. About 49 percent of the districts did not record any anticipated deficit in the supply of the CHN register for the next one year, if the supplies that were expected were indeed received.

Table 5 presents information on the availability of the various data capturing tools needed by the 55 districts for effective delivery of MCHN services. The data capturing tools needed by each of the 55 districts are presented in Appendix 2.

Table 5. Total Availability/Anticipated Shortfalls of Data Capturing Tools in the 55 Districts

No.	Data capturing tool	Quantity required	Quantity available	Quantity expected	Anticipated Shortfall
1.	MCHRB	867,690	178,699	428,052	260,939
2.	IYCF register for children	10,412	2,926	1,759	5,727
3.	IYCF register for pregnant women	49,172	5,105	6,145	37,922
4.	CHN register	14,735	3,613	11,593	1,251
5.	ANC register	57,498	6,420	4,565	46,513

No.	Data capturing tool	Quantity required	Quantity available	Quantity expected	Anticipated Shortfall
6.	Delivery register	7,206	1,072	3,649	2,956
7.	Home visit register	6,765	712	3,310	3,151
8.	Bin cards	154,996	24,475	51,250	91,669

Supervisors of MCHN services at the regional, district, and facility levels confirmed in the in-depth interviews that the data capturing tools whose availability were assessed were among the priority data capturing tools that the districts needed for the provision of MCHN services. They also identified monitoring charts for CMAM, vitamin A, and anemia, CMAM register, and GMP tally book as other data capturing tools that were also of priority.

Supervisors further ranked the MCHRB, CHN register, GMP tally book, bin cards, and ANC register as the top five priority data capturing tools needed in the districts for MCHN service delivery. These data capturing tools were said to experience the most frequent stockouts and shortages due their irregular supply. All five regions reported that for the MCHRB, in particular, the shortages in supply had been too frequent due to high demand.

For the data capturing tools we need for the provision of maternal and child health nutrition services, we need maternal and child health record books, child health and nutrition register, ANC register, GMP tally book, CMAM register, IYCF register, bin cards, home visit register, and monitoring charts for CMAM, vitamin A, and anemia. (A supervisor in Northern Region)

In terms of data capturing tools, we need to provide maternal and child health nutrition services, we need the maternal and child health record books, child health and nutrition registers, GMP tally book, IYCF registers, ANC registers, bin cards, delivery register, and home visit registers. (Supervisor, Upper West Region)

In terms of ranking, I will rank the maternal and child health record book first, followed by child health and nutrition register, GMP tally book, ANC register, and IYCF register as the top five data capturing tools we need for the provision of maternal and child health nutrition services. (Supervisor, Savannah Region)

To rank the top five data capturing tools we need for the provision of maternal and child health nutrition services, I will start with the maternal and child health record book followed by child health and nutrition register, GMP tally book, bin cards, and ANC register. (Supervisor, North East Region)

We need the maternal and child record books to provide both ANC and CWC services because we need to complete one for every client at ANC and CWC and yet we sometimes run out of stock. This affects service provision because it is this book that is used to monitor the pregnant women and children at ANC and CWC sessions. (Supervisor, Kanvili Heath Center)

The GMP tally books are very important in providing CWC services. It is used to track the number of children who turn up for weighing sessions and therefore provides the primary data for compiling monthly reports. Despite this importance, we do run out of supply of this book, which affects service provision. (Supervisor, Daffiama Issa Lambussie)

Shortfalls in commodities

A total deficit of 3,068,329 sachets was recorded in the supply of RUTF across all 55 districts in northern Ghana for the next one year (table 6). About 62 percent of the districts said that they had not received a supply of RUTF in the past one year. Kassena-Nankana recorded the highest deficit of

1,580,400 sachets, followed by Tolon (252,000), and Yendi (160,000). The deficit in the Kassena-Nankana municipality accounted for about 88 percent of the total deficit in the Upper East Region and 52 percent of the total deficit for all 55 districts. At the regional level, the Upper East Region had the highest deficit of 1,797,196 sachets, followed by the Northern Region (659,445).

A total deficit of 236,097 sachets of F-100 was recorded across the 55 districts. All districts, except Chereponi, said that they had not received a supply of F-100 in the past one year. About 24 percent of the districts said that they did not require F-100 because they did not offer IPC for the management of acute malnutrition where F-100 is used. Central Gonja and Tolon recorded the highest deficits of 150,000 and 21,600 sachets, respectively. The Savannah and Northern Regions recorded the highest deficits of 179,422 and 37,025 sachets, respectively, at the regional level.

A total deficit of 233,515 sachets of F-75 was recorded across the districts. Apart from Nanumba North, all remaining districts indicated that they had not received a supply of F-75 in the past one year. About 24 percent of the districts also reported that they did not require F-75 because they did not offer IPC for the management of acute malnutrition where F-75 is used. Once again, Central Gonja (150,000) and Tolon (21,000) recorded the highest deficits, and the Savannah (172,385) and Northern (36,875) Regions had the highest deficits at the regional level. The deficit in the Central Gonja district accounted for about 87 percent of the deficit recorded in the Savannah Region and about 64 percent of the total deficit for all districts.

We recorded a total deficit of 61,895,561 IFA tablets across the 55 districts. More than half (63.6%) of the districts reported that they had not received a supply of IFA in the past one year. The deficit was highest in East Mamprusi (24,877,260) and Sagnarigu (6,480,000), with the former accounting for about 40 percent of the total deficit. At the regional level, the North East and Upper East Regions recorded the highest deficits of 25,959,116 and 17,894,022 tablets, respectively.

An overall deficit of 5,193,602 vitamin A capsules was recorded across all 55 districts. About 42 percent of the districts had not received a supply of vitamin A in the past one year. Bole district recorded the highest deficit of 2,992,535 capsules, which accounted for about 84 percent of the deficit recorded in the Savannah Region and about 58 percent of the total deficit recorded in all 55 districts. The Savannah Region recorded the highest regional deficit of 3,569,022 for vitamin A, followed by the Upper East Region (893,554).

Table 6. Total Availability/Anticipated Shortfalls of Nutrition Commodities in the 55 Districts

No.	Commodity	Quantity required[5]	Quantity available[6]	Quantity expected	Anticipated shortfall
1.	RUTF	3,544,061	48,394	649,376	3,068,329
2.	F-100	516,081	0	299,204	236,097
3.	F-75	761,119	1,200	547,024	233,515
4.	IFA	7,4780,335	774,160	19,139,599	61,895,561
5.	Vitamin A	7,267,630	396,401	2,259,364	5,193,602

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5 The total number needed by all the facilities in the 55 districts for the next one year.
6 In stock and in use.

Findings of the in-depth interviews with supervisors of MCHN services at regional, district, and facility levels also showed that the following were the priority commodities needed by the districts for the provision of MCHN services.

- RUTF

- Vitamin A

- IFA

- F-100

- F-75

- ReSoMal[7]

- Dewormer

- Micronutrient powder

The supervisors further ranked RUTF, Vitamin A, IFA, F-75, and F-100, which were covered in the quantitative assessment, as the top five priority commodities needed in the districts for MCHN service delivery. These commodities were said to record the most frequent stockouts and shortages due their irregular supply and this was affecting the quality of MCHN services provided in the districts. All five regions reported that for RUTF, F-75, and F-100, in particular, they had not received any major supply in the past three to five years. The shortages in the supply of these commodities were affecting service delivery, especially CMAM services, and vitamin A and IFA supplementations.

RUTF is very critical in the treatment of severe acute malnutrition in children under five years and yet we no longer get supply of it in recent times. This is making it difficult for us to manage the cases of malnutrition. (Supervisor, Daffiama Issa Lambussie)

RUTF is a priority because we need it to treat our children who are severely acutely malnourished, who are many in the district, but unfortunately, we do not have RUTF in stock. This is affecting the CMAM program because many children who need treatment are not getting it. (Supervisor, East Mamprusi)

The maternal and child health nutrition service commodities we need and that are of priority to us are RUTF, vitamin A, iron-folic acid, F-75, and F-100. They are mostly in short supply. (Supervisor in Upper West Region)

For the commodities we need for maternal and child health nutrition services, I will say we need RUTF, IFA, vitamin A, F-75, F-100, ReSoMal, and dewormer because we do not get regular supply of them. For RUTF, F-75, and F-100, we have not received supplies for over five years now. So, we badly need supply of RUTF particularly. (Supervisor, Northern Region)

In terms of the commodities, we need to provide maternal and child health nutrition services, we need RUTF, vitamin A, IFA, F-75, F-100, and micronutrient powder. For some of them, like RUTF, F-75, and F-100, we have not had a supply of them in the last three to five years. (Supervisor, North East Region)

If I should rank the top five priority commodities we need for the provision of maternal and child health services, I will say RUTF is number one followed by vitamin A, IFA, F-75, and F-100. (Supervisor, Upper East Region)

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7 ReSoMal is used for the preparation of an oral rehydration solution (ORS) exclusively for people suffering from severe acute malnutrition (https://www.nutriset.fr/products/en/resomal).

The top five commodities of priority we need for the provision of maternal and child health nutrition services are IFA, vitamin A, RUTF, F-75, and F-100, which are critical but are sometimes out of stock. (Supervisor, Savannah Region)

Logistical needs of the NoPs

The assessment examined gaps in the supply of each logistic to the NoPs needed for the provision of MCHN services for the next one year. This assessment was limited to the NoPs in seven of eight districts with established NoPs. The eight districts with established NoPs were East Mamprusi, West Mamprusi, Bawku West, Bawku Municipal, Nadowli Kaleo, Sissala East, Sagnarigu, and Yendi Municipal. However, the assessment excluded NoPs in the Bawku Municipality. Data collectors were not sent to Bawku due to the poor security situation in the area. There were two NoPs in each of the eight districts with established NoPs, giving a total of 16 NoPs. Because Bawku Municipal was left out, the assessment of gaps in the supply of logistics to the NoPs covered only 14 NoPs.

The gap in the supply of logistics to the NoPs was determined as follows: in each district, one of the two NoPs was randomly selected using the balloting approach. For each NoP sampled, the hub facility and one spoke facility were purposively sampled for data collection on their supply needs for the next one year. The gap in the supply of each logistic in the hub and spoke facilities in each district were then determined. They were used to determine the average gaps in supply for each logistic in the hub and spoke facilities. The average gap in the supply of each logistic for the hub facilities was then multiplied by the number of hub facilities in each district to determine the total gap in supplies for the hub facilities in the districts. The average gap in the supply of each logistic for spoke facilities was also multiplied by the number of spoke facilities in each district to determine the total gap in supplies for spoke facilities in the districts. The total gap for all hub facilities was then determined by summing the total gap for hub facilities in the seven districts. Similarly, the total gap for all spoke facilities was determined by summing the total gap for spoke facilities in the seven districts. The overall gap in the supplies of each logistic in all districts was then determined by summing the total gap for all hub facilities and the total gap for all spoke facilities.

Gaps in the supply of data capturing tools to the NoPs

In terms of the gaps in the supply of IYCF registers for children to NoPs for the next one year, a total deficit of 176 registers was recorded, with NoPs in Sagnarigu recording the highest deficit (28 registers), followed by Yendi and Mamprugu Moagduri with deficits of 26 registers each, and those in East Mamprusi, Bawku West, Sissala East, and Nadowli Kaleo districts recording the least deficits, of 24 registers each (table 7). A total deficit of 162 IYCF registers for pregnant women, 5,676 bin cards, and 102 ANC registers were recorded in the supply to the NoPs for the next one year. The total deficits in the supply of home visit registers, delivery registers, and outpatient department registers to the NoPs for the next one year were found to be 102, 74, and 120 pieces, respectively. Furthermore, a total deficit of 18,618 patient folders, 19,766 maternal and child health record books, and 74 child health and nutrition registers were recorded in the supply to the NoPs for the next one year.

Table 7. Gaps in the Supply of IYCF Register for Children

District	Gap in hub facility	Gap in spoke facility	# of hub facili-ties	Gap in hub facilities (Av gap in hub facilities x number of hub facili-ties)	# of spoke facilities	Gap in spoke facilities (Av gap in spoke facilities x number of spoke facilities)	Total gap in hub and spoke facilities
East Mamprusi	-2	-3	2	8	8	16	24
Bawku West	3	-3	2	8	8	16	24
Sissala East	9	1	2	8	8	16	24
Nadowli Kaleo	0	1	2	8	8	16	24
Mamprugu Moagduri	-5	-5	2	8	9	18	26
Yendi	13	10	2	8	9	18	26
Sagna-rigu	3	1	2	8	10	20	28
Total gap	28	13	14	56	60	120	176

Gaps in the supply of equipment to the NoPs

In terms of the gap in the supply of cold boxes to NoPs for the next one year, a total deficit of 148 pieces was recorded, with NoPs in Sagnarigu recording the highest deficit of 24 pieces, followed by those in Yendi and Mamprugu Moagduri with deficits of 22 pieces each, and NoPs in East Mamprusi, Bawku West, Sissala East, and Nadowli Kaleo districts recording the least deficit of 20 pieces each (table 8). A total deficit of 88 sterilizers, 148 thermometers, 88 digital weighing scales, and 148 delivery kits were recorded in the supply to the NoPs for the next one year. The total deficits in the supply of hanging scales, BP apparatus, glucometer machine, and glucometer strips to the NoPs for the next one year were found to be 74, 88, 134, and 62,004 pieces, respectively. A total deficit of 41,146 Hb testing strips, 88 Hb testing machines, and 88 height boards were recorded in the supply to the NoPs for the next one year.

Table 8. Gaps in the Supply of Cold Box to NoPs

District	Gap in hub facility	Gap in spoke facility	# of hub facili-ties	Gap in hub facilities (Av gap in hub	# of spoke facilities	Gap in spoke facilities (Av gap in spoke facilities	Total gap in hub and spoke

				facilities x number of hub facili-ties)		x number of spoke facilities)	facilities
East Mamprusi	-2	1	2	4	8	16	20
Bawku West	0	1	2	4	8	16	20
Sissala East	-6	5	2	4	8	16	20
Nadowli Kaleo	2	1	2	4	8	16	20
Mamprugu Moagduri	0	0	2	4	9	18	22
Yendi	5	2	2	4	9	18	22
Sagnarigu	4	2	2	4	10	20	24
Total gap	11	12	14	28	60	120	148

Conclusions

Huge training gaps exist in the technical areas of MCHN services. Almost all regions recorded low numbers of all cadre of health workers who had received training in the past three years compared with the significantly high numbers who need training in the various areas of MCHN services.

As to MCHN logistical needs, huge gaps exist in the supply of data capturing tools, commodities, and equipment needed for the next one year across all 55 districts in northern Ghana. The gaps exist in the supply of all data capturing tools, commodities, and equipment assessed and in all regions. There are also significant deficits in the supply of all different types of data capturing tools and equipment needed for the provision of MCHN services by the NoPs for the next one year. The supply of almost all logistics needed for the provision of MCHN services to the districts are not regular because most districts were observed to record a zero balance of a significant number of the supplies in the past one year.

District officials confirmed that the training areas and supplies identified and assessed were very appropriate because they fit into the priority training and supply needs of the districts for the effective provision of MCHN services.

Guided by these findings, USAID Advancing Nutrition will plan to conduct training in the 38 districts in some areas of MCHN service delivery based on the training needs identified in the districts. USAID Advancing Nutrition will also provide some of the supplies needed for effective service delivery to the 55 districts. However, the project is not in a position to address the gap in supply needs for the NoPs as this is not part of its scope. We recommend therefore that other USAID implementing partners be supported to help fill the gap. This should be well coordinated with the districts to ensure that the NoPs are not overstocked.

Appendix 1: Number of Frontline Health Workers Trained/Not Trained in Nutrition Technical Areas in the 38 New Districts

No.	District	IYCF		APC		MCHRB		RCEL	
		Trained	Not Trained	Trained	Not Trained	Trained	Not Trained	Trained	Not Trained
1.	Binduri	0	260	2	258	0	260	0	260
2.	Bole	0	297	0	409	1	408	0	409
3.	Bolgatanga East	0	227	0	221	0	227	0	227
4.	Bolgatanga	0	514	0	514	0	514	0	514
5.	Bongo	0	528	0	528	0	528	0	528
6.	Builsa North	1	211	1	216	1	221	0	222
7.	Builsa South	0	229	32	229	2	229	0	229
8.	Bunkpurugu Nakpanduri	57	461	69	457	108	226	0	260
9.	Central Gonja	0	294	0	294	13	281	0	294
10.	Chereponi	3	301	0	304	23	281	0	304
11.	East Gonja	18	168	0	186	19	167	0	186
12.	Jirapa	29	574	1	602	2	601	1	602
13.	Kassena-Nankana Municipal	17	205	16	210	72	150	0	222
14.	Kassena-Nankana West	0	503	36	467	1	502	0	503
15.	Kpandai	0	250	0	250	5	245	0	250
16.	Kumbungu	0	391	0	391	7	384	0	391
17.	Lambussie Karni	31	259	0	290	0	290	0	290
18.	Lawra	21	282	0	303	21	282	0	303
19.	Nabdam	0	241	0	300	0	240	0	240
20.	Nandom	46	118	0	176	44	166	0	174
21.	Nanumba North	0	125	0	135	22	104	0	126
22.	Nanumba South	0	179	0	179	12	167	0	179
23.	North East Gonja	1	209	1	209	1	209	1	209
24.	North Gonja	0	139	0	139	9	130	0	139
25.	Pusiga	2	164	1	165	3	163	1	165
26.	Saboba	1	307	0	308	17	285	0	308
27.	Savelugu	0	340	0	320	0	320	0	320
28.	Sawla-Tuna-Kalba	0	188	0	123	15	171	0	188
29.	Talensi	0	274	0	274	0	274	1	273
30.	Tamale	0	407	0	407	0	407	0	407
31.	Tatale Sanguli	0	234	0	234	6	228	0	234

No.	District	IYCF		APC		MCHRB		RCEL	
		Trained	Not Trained	Trained	Not Trained	Trained	Not Trained	Trained	Not Trained
32.	Tolon	0	497	1	496	4	495	0	497
33.	Wa	50	1,157	0	1,213	0	1,213	0	1213
34.	Wa West	26	228	0	254	45	209	0	254
35.	West Gonja	0	280	0	319	34	285	0	316
36.	West Mamprusi	9	627	7	621	31	597	0	563
37.	Yunyoo-Nasuan	0	135	0	135	22	113	0	135
38.	Zabzugu	0	273	0	273	34	239	0	273
	Overall Total	312	12,076	167	12,409	574	11,811	4	11,851

Appendix 2: Equipment and Data Capturing Material Needs of All 55 Districts

EQUIPMENT

Equipment.xlsx

DATA CAPTURING TOOLS

Data Capturing
Tools.xlsx

Appendix 3: Data Collection Tools

USAID Advancing Nutrition

Rapid Assessment of Nutrition Training and Logistical Needs of 55 Districts in Northern Ghana

Data Collection Tool - Training Needs

Region:……………………………………………….. District:…………………………………………..
Total # of health facilities:…………………………… Date:………………………………………………

For each training area listed in the table below, ask the questions related to the number of each cadre of health staff trained in the past 3 years and the number who need to be trained, and complete the table accordingly.

Item	Critical cadre of health workers	Number trained in the past 3 years	Number who need to be trained
Infant and young child feeding (IYCF)			
Community-based management of acute malnutrition (CMAM-IPC)			
Community-based management of acute malnutrition (CMAM-OPC)			
Anemia prevention and control (APC)			
Maternal and child health record book			
Responsive care and early learning (RCEL)			

Item	Critical cadre of health workers	Number trained in the past 3 years	Number who need to be trained
Integrated social services			

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Rapid Assessment of Nutrition Training and Logistical Needs of 55 Districts in Northern Ghana

Data Collection Tool - Data Capturing Tools

Region:……………………………………….   District:……………………………………..
Total # of health facilities:…………………………   Date:……………………………………………

For each data capturing tool listed in the table below, ask the questions related to the quantities required, in stock, in use, received, and expected, and complete the table accordingly.

Item	IYCF register for children	IYCF register for pregnant women	Maternal and child health record book	Child health and nutrition register	Bin cards	ANC regis-ter	Home visit register	Delivery register
Quantity required (in the next 1 year) - A								
Quantity in stock - B								
Quantity in use - C								
Quantity received from G2G in the past 1 year - E								
Quantity received from other sources in the past 1 year - F								
Quantity expected from G2G in the next 1 year - G								

Item								
Quantity expected from other sources in the next one year - H								
Total quantity available - D (B+C)								
Gap in supply – I = A- [(B+C) + (G+H)]								

USAID Advancing Nutrition

Rapid Assessment of Nutrition Training and Logistical Needs of 55 Districts in Northern Ghana

Data Collection Tool - Equipment

Region:…………………………………………. District:…………………………………...
Total # of health facilities:……………………… Date:…………………………………………

For each equipment item listed in the table below, ask the questions related the quantities required, in stock, in use, received, and expected, and complete the table accordingly.

Item	Handy mea-sures	Hb strips	Hb machi nes	MUAC tapes	Electro-nic scale	Hang-ing scale	Food model s	Heigh t board s
Quantity required (in the next 1 year) - A								
Quantity in stock - B								
Quantity in use - C								
Quantity received from G2G in the past 1 year - E								
Quantity received from other sources in the past 1 year - F								
Quantity expected from G2G in the next 1 year - G								

Quantity expected from other sources in the next one year - H							
Total quantity available - D = (B+C)							
Gap in supply – I= A- [(B+C) + (G+H)]							

USAID Advancing Nutrition

Rapid Assessment of Nutrition Training and Logistical Needs of 55 Districts in Northern Ghana

Data Collection Tool - Commodities

Region:………………………………………. District:…………………………………...
Total # of health facilities:………………………… Date:………………………………………………

For each commodity listed in the table below, ask the questions related to the quantities required, in stock, in use, received, and expected, and complete the table accordingly.

Item	RUTF	F-100	F-75	Iron-Folic Acid Tablet (IFA)	Vitamin A
Quantity required (in the next 1 year) - A					
Quantity in stock - B					
Quantity in use - C					
Quantity received from G2G in the past 1 year - E					
Quantity received from other sources in the past one year - F					

Quantity expected from G2G in the next 1 year - G								
Quantity expected from other sources in the next one year - H								
Total quantity available - D = (B+C)								
Gap in supply – I= A-[(B+C) + (G+H)]								

USAID Advancing Nutrition

Rapid Assessment of Nutrition Training and Logistical Needs of 55 Districts in Northern Ghana

Assessment of NoPs

Data Collection Tool - Equipment

Region:…………………………………………. District:……………………………………..
Total # of health facilities:………………………… Date:……………………………………

For each equipment item listed in the table below, ask the questions related the quantities required, in stock, in use, received, and expected, and complete the table accordingly.

Item	Cold Box	Steril izer	There mome ter	Weighi ng scales	Delive ry kit	Other	Other	Other
Quantity required (in the next 1 year) - A								
Quantity in stock - B								
Quantity in use - C								
Quantity received from G2G in the past 1 year - E								
Quantity received from other								

sources in the past 1 year - F								
Quantity expected from G2G in the next 1 year - G								
Quantity expected from other sources in the next one year - H								
Total quantity available - D = (B+C)								
Gap in supply – I= A- [(B+C) + (G+H)]								

USAID Advancing Nutrition

Rapid Assessment of Nutrition Training and Logistical Needs of 55 Districts in Northern Ghana

Assessment of NoPs

Data Collection Tool – Data Capturing Tools

Region:…………………………………….. District:…………………………………..
Total # of health facilities:………………………… Date:……………………………………………

For each data capturing tool mentioned, ask the questions related the quantities required, in stock, in use, received, and expected, and complete the table accordingly.

Item	Name of tool	Name of tool	Name of tool	Name of tool	Name of tool	Name of tool	Name of tool	Name of tool
Quantity required (in the next 1 year) - A								
Quantity in stock - B								
Quantity in use - C								

Quantity received from G2G in the past 1 year - E								
Quantity received from other sources in the past 1 year - F								
Quantity expected from G2G in the next 1 year - G								
Quantity expected from other sources in the next one year - H								
Total quantity available - D = (B+C)								
Gap in supply – I= A- [(B+C) + (G+H)]								

USAID ADVANCING NUTRITION

RAPID ASSESSMENT OF NUTRITION TRAINING AND LOGISTICAL NEEDS OF 55 DISTRICTS IN NORTHERN GHANA

KEY INFORMANT INTERVIEW GUIDE
FOR FACILITY, DISTRICT, AND REGIONAL HEALTH STAFF

1. In which areas of MCHN would you say your health staff in the facility/district/region need training capacity building? Probe and list all areas mentioned.

2. For each training area mentioned above, why is it a priority area for training for your health staff?

3. Kindly rank the following areas of MCHN in order of priority for training for your health staff. Explain the reasons for your ranking.

— IYCF (Infant and Young Child Feeding)

— GMP (Growth Monitoring and Promotion)

— CMAM IPC (Community-Based Management of Acute Malnutrition) (Inpatient Care)

— CMAM OPC (Community-Based Management of Acute Malnutrition) (Outpatient Care)

— Anemia prevention and control (APC)

— Responsive care and early learning (RCEL)

— Maternal and child health record book (MCHRB)

— Integrated social services

4. Which MCHN data capturing tools would you say are supply priorities that your health facility/district/region need? Probe and list all mentioned.

5. For each MCHN data capturing tool mentioned above, why it is a priority for your health facility/district/region?

6. Kindly rank the following MCHN data capturing tools in order of priority for your facility/district/region. Explain the reason for your ranking.

— IYCF children register

— IYCF pregnant women register

— Child health and nutrition register

— Maternal and child health record book

— Home visit register

— ANC register

— Delivery register

— Bin cards

7. Which MCHN equipment items would you say are supply priorities for your health facility/district/region? Probe and list all mentioned.

8. For each MCHN equipment item mentioned above, why it is a priority for your health facility/district/region?

9. Kindly rank the following MCHN equipment items in order of priority for your facility/district/region. Explain the reason for your ranking.

— Handy measures

— MUAC tape

— Hb testing strips

— Hb machine

— Height boards

— Electronic scale

— Hanging/salter scale

— Food models

10. Which MCHN commodities would you say are priorities for your health facility/district/region? Probe and list all mentioned.

11. For each MCHN commodity mentioned above, why it is a priority for your health facility/district/region?

12. Kindly rank the following MCHN commodities in order of priority for your facility/district/region. Explain the reason for your ranking.

- RUTF
- F-75
- F-100
- IFA
- Vitamin A

13. What are the different types of weighing scales you use?

14. What are the challenges of each weighing scale?

Which type of scale would you recommend be provided to your facility/district/region? Explain your answer.