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Frontline Nutrition Services

Roles, Responsibilities, and Pre-Service Training

DECEMBER 2022

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Recommended Citation

USAID Advancing Nutrition. 2022. *Frontline Nutrition Services: Roles, Responsibilities, and Pre-Service Training.* Arlington, VA: USAID Advancing Nutrition.

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Acknowledgments

This report would not be possible without the support and input from key stakeholders in Bangladesh, Democratic Republic of Congo, Ghana, Kyrgyz Republic, and Malawi. In Bangladesh, we relied on Shimul Koli Hossain who conducted the review and helped prepare the report. Mala Ali Mapatano and Roger Baulana conducted the review and helped prepare the report on the Democratic Republic of Congo. Amos Laar assisted with the review and report writing in Ghana. Tursun Mamyrbaeva conducted the review and helped prepare the report on the Kyrgyz Republic and Chawanangwa Jere assisted with the review and report writing in Malawi. Lastly, this analysis was led by Sascha Lamstein, with contributions from Amanda Yourchuck, Ann Miceli, Kristen Devlin, Tori O'Halloran, and Courtney Meyer from USAID Advancing Nutrition. This work would not have been possible without the support of the USAID Advancing Nutrition staff in Ghana, particularly Selorme Azumah, and in the Kyrgyz Republic, namely Nazgul Abazbekova, Aida Shambetova, and Damira Abdrahmanova. We would also like to recognize the leadership provided by Lindy Fenlason, Erin Milner, Elaine Gray, Taskeen Chowdhury, Emma Din, Lutuf Abdul-Rahman, Aida Estebesova, Violet Orchardson of USAID.

Acronyms

AIDS	acquired immunodeficiency syndrome
BFHI	Baby-Friendly Hospital Initiative
CHN	community health nurse
CHPS	Community-based Health Planning and Services
CTC	community therapeutic care
DCSA	disease control surveillance assistant
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DRC	Democratic Republic of Congo
EHO	environmental health officer
FAP	Feldsher-Obstetrical Ambulatory point
FWV	family welfare visitor
GMP	growth monitoring and promotion
HIV	human immunodeficiency virus
HSA	health surveillance assistant
IYCF	infant and young child feeding
JSI	JSI Research & Training Institute, Inc.
KR	Kyrgyz Republic
MAT	Medical Assistants' Training
MNCH	maternal, newborn, and child health
MoH	Ministry of Health
MSCE	Malawi School Certificate of Education
MSP	Ministère de la Santé publique
NIPORT	National Institute of Population Research and Training
NR-NCDs	nutrition-related noncommunicable diseases
PHC	primary health care
PHN	public health nurse
PNDS	Plan National de Développement Sanitaire (National Health Development Plan)
PRONANUT	Programme National de Nutrition (National Nutrition Program)
PSNMN	Plan Stratégique National Multisectoriel en Nutrition (National Multi-Sectoral Nutrition Strategic Plan)
RCEL	responsive care and early learning
RN	registered nurse (A2 infirmier titulaire)

RNAP	registered nurse assistant, preventive
SACMO	sub-assistant community medical officer
SAM	severe acute malnutrition
STI	sexually transmitted infection
SBA	skilled birth attendant (A2 accoucheuse)
SPRING	Strengthening Partnerships, Results, and Innovations in Nutrition Globally
TON	technical officer in nutrition
UH & FWC	Union Health and Family Welfare Centers
UHC	universal healthcare coverage
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
VCT	voluntary counseling and testing
WHO	World Health Organization

Executive Summary

A skilled workforce is critical for the provision of nutrition services at the frontline or primary healthcare level and, ultimately, achieving better health outcomes. Ensuring a workforce has these competencies entails implementing a variety of approaches to build and reinforce skills, including mentorship, continuing education, in-service training, as well as high quality, updated, and evidence-based pre-service training. Investing in pre-service training is an especially important and sustainable approach to improving nutrition services at scale.

It is imperative that governments, professional associations, donors, and implementing partners who develop and update pre-service curricula get the most out of this investment. To support that goal, USAID Advancing Nutrition conducted a landscape analysis of nutrition content within the pre-service training of selected cadres in Bangladesh, the Democratic Republic of Congo (DRC), Ghana, Malawi, and the Kyrgyz Republic (KR). Our aim with this analysis was to assess pre-service training curricula across five distinct contexts and to draw attention to technical areas where governments and professional associations might get the most benefit from strengthening nutrition content for that specific cadre.

Together with country stakeholders and key informants, we worked to identify the frontline health workers primarily responsible for providing nutrition services at the frontline, their nutrition-related roles and responsibilities, and which nutrition-related competencies their pre-service training curricula covers.

The process was not without its challenges. Not all countries have standardized curricula readily available, enforced, or adopted. It was often difficult to determine, from a list of objectives or illustrative topics, which competencies a curriculum addressed and which skills a student might adequately develop upon completion of the coursework. Furthermore, stating an objective or mentioning a topic does not ensure that an instructor addresses it when teaching the course or that a student develops all related competencies.

Further, we found that, across these distinct contexts, there is significant variability in how health workers provide nutrition services and which cadres are responsible for doing so. We also discovered potential inconsistencies in how roles are described across key documents, including policies, protocols, job descriptions, required qualifications, and certification tools.

The pre-service training curricula for these cadres often did not fully support development of nutrition competencies needed to execute the roles described. Few of the curricula reviewed appeared to address management of undernutrition or thinness among adults, breastfeeding, adolescent nutrition, or delivery of nutrition services in the context of emergencies.

In collaboration with our counterparts in each country, we discussed the findings from our analysis of pre-service training curricula and developed recommendations for governments and professional associations working at the national level to take into consideration as they make decisions about where to invest time and resources for revision of pre-service training. Our findings shed some light on competencies that the pre-service curricula may not address and serve as a jumping off point for countries to undertake further, deeper reviews and consider updates to pre-service training curricula, job descriptions, or beyond. Our analysis underscored the need for tools and processes tailored to the specific needs of each country and cadre. Our findings also suggested that model pre-service training lesson plans and materials on priority nutrition topics, with guidance on adaptation to country context, could be a valuable next step to make updating pre-service curricula for nutrition more straightforward for global actors such as the WHO, UNICEF, USAID, or projects such as USAID Advancing Nutrition.

Introduction

A skilled workforce is critical for the provision of nutrition services at the frontline or primary care level and, ultimately, achieving better health outcomes. For frontline providers of nutrition services to detect potential nutrition issues; support treatment; and facilitate prevention through counseling, supplementation, and treatment of underlying issues, educational institutions must equip them with the necessary competencies. The literature suggests "despite some progress, efforts to alleviate malnutrition, whether undernutrition or overweight/obesity, are hampered by countries' lack of capacity in public health nutrition" (Delisle et al. 2017, 385). Ensuring a highly qualified workforce that has strong nutrition competencies entails implementing a variety of approaches to build and reinforce skills, including quality pre-service training, in-service training, mentorship, and continuing education.

The World Health Assembly acknowledges the importance of workforce development in the *2014 Comprehensive Implementation Plan for Maternal, Infant and Young Child Nutrition*, which calls for setting "international competency standards, specific to the development of the public health nutrition workforce" and supporting "revisions of curricula for pre-service and in-service training of all levels of health workers" (WHO 2014, 17). As Becker et al. (2022, 1) explain, "When nutrition is not adequately addressed in the curricula, health workers may not be equipped with the knowledge, skills, and confidence required to deliver nutrition services in their work."

Pre-service training is the formal training required to obtain a professional certification before providing specific services. With the foundational competencies from pre-service training, individuals meet the minimum requirements to perform their roles, and then they can reinforce and build upon these competencies as they grow professionally. Research has identified scaling up pre-service training as a way to strengthen human resources and make progress in preventing and managing malnutrition (Jackson and Ashworth 2015). Improving the content of standardized, national pre-service training curricula has the potential to reach every newly hired staff member serving in key roles.

The process of revising national pre-service training curricula, however, requires a significant commitment and resources, both time and funding. It is therefore imperative that governments, professional associations, donors, and implementing partners who develop and revise pre-service curricula get the most out of this investment.

USAID Advancing Nutrition conducted a landscape analysis of the pre-service training of selected cadres of health workers in Bangladesh, the Democratic Republic of Congo (DRC), Ghana, Malawi, and the Kyrgyz Republic (KR). We identified the frontline health workers primarily responsible for providing nutrition services at the frontline, their nutrition-related roles and responsibilities, and the nutrition-related competencies their pre-service training curricula covers.

This report presents the findings from that analysis. The recommendations from reviewing and strengthening pre-service training can guide stakeholders, particularly governments and professional associations, as they make decisions about where to invest time and resources for nutrition capacity strengthening.

Methods

USAID Advancing Nutrition conducted our analysis of pre-service training in Bangladesh, the Democratic Republic of Congo, Ghana, Malawi, and the Kyrgyz Republic. USAID selected these countries in collaboration with USAID Mission and government counterparts. Table 1 presents selected nutrition statistics for these countries below.

Table 1. Key Nutrition Statistics for the Selected Countries

Indicator	Bangladesh	DRC	Ghana	KR	Malawi
Children under Five					
Stunting	28%	41.8%*	17.5%*	11.8%§	40.9%
Wasting	9.8%	6.4%*	6.8%*	2%-	0.6%
Underweight	23%	23.1%	12.6%	1.8%	12.8%
Overweight	2.4%	3.8%*	1.4%*	6.9%§	3.8%
Obesity	0.8%	-	0.3%	1.7%	-
Women of Reproductive Age					
Anemia	Pregnant women: 42.2% Non-pregnant women: 36.5%	Pregnant women: 46.5% Non-pregnant women: 41.9%	Pregnant women: 47.2% Non-pregnant women: 34.5%	Pregnant women: 36.3% Non-pregnant women: 35.8%	Pregnant women: 39.3% Non-pregnant women: 30.6%
Underweight	21.2% (women 18+)	12.3% (women 18+)	6.6% (women 18+)	3.7% (women 18+)	8.3% (women 18+)
Overweight	24.3% (women 18+)	34.2% (women 18+)	43.3% (women 18+)	50.8% (women 18+)	33.7% (women 18+)
Obesity	6.2% (women 18+)	11.6% (women 18+)	19.3% (women 18+)	21.4% (women 18+)	11.0% (women 18+)
Nutrition Practices					
Ever breastfed	98.5%	98.7%	98.7%	99%	99%

Indicator	Bangladesh	DRC	Ghana	KR	Malawi
Early initiation of breastfeeding (within 1 hour of birth)	46.6%	46.9%*	52%*	81%§	76.2%+
Exclusive breastfeeding	62.6%	53.6%*	42.9%*	45.6%§	59.4%+
Continued breastfeeding (at 1 year)	95.6%*	92%¶	90.4%§	77.4%§	95.2%+
Minimum dietary diversity	33.8%	15.2%*	26.1%*	59.8%§	22.8%+
Minimum meal frequency	65.3%	34.0%*	40.7%*	75%§	28.8%+
Minimum acceptable diet	26.9%	8%*	13%*	42.9%§	8%+

Sources: UNICEF, WHO, and World Bank 2020; NCD RisC 2017; WHO 2019; UNICEF 2020.
Note: The data in this table is from 2019; except for those with ¶ (2013), + (from 2015), * (from 2017), § (from 2018).

We conducted this work in collaboration with consultants from each country. At multiple stages in the process, we consulted key stakeholders from each country. We began our analysis in each country with a review of policies to get a sense of the priority given to nutrition services, nutrition service providers, and capacity strengthening of those providers. Find the specific documents reviewed for each country in annex 2.

Our next step was to identify the health workers who met the following criteria:

- trained prior to employment at an academic institution
- require professional certification
- provide services at the frontline or primary care level
- serve populations prioritized for nutrition services (e.g., pregnant and lactating women, children less than two years old).

Based on our review of government documents (government policies, laws, strategies, protocols, and guidelines) describing the structure of the health system as well as national job descriptions and in consultation with key stakeholders, we selected two cadres in each country for our review of pre-

service curricula. We focused on health workers primarily responsible or best placed for delivering frontline nutrition services.

USAID Advancing Nutrition's (2020) Tool for Updating Pre-Service Training guided our review of pre-service training (see also annex 1). We developed the tool in late 2020. It includes a comprehensive list of competencies—knowledge, attitudes, and skills—developed based on globally recognized guidance documents. These include the *Competency Verification Toolkit: Ensuring Competency of Direct Care Providers to Implement the Baby-Friendly Hospital Initiative* (WHO and UNICEF 2020) and *Nutrition Core Competencies for Health Cadres and Undergraduate Nutritionists In Ethiopia* developed by the U.S. Global Health Initiative and Feed the Future Initiative's Empowering New Generations to Improve Nutrition and Economic Opportunities project, (USAID ENGINE 2012). We also sought input from a team of experts. The final tool includes 84 competencies that we agreed cadres required for the successful delivery of essential frontline nutrition services:

- assessment of nutritional status (8 competencies)
- management of wasting among children and adolescents (6 competencies)
- management of undernutrition or thinness among adults (8 competencies)
- management of micronutrient deficiencies and anemia (4 competencies)
- healthy living (8 competencies)
- general infant and young child nutrition (7 competencies)
- breastfeeding (11 competencies)
- complementary feeding (6 competencies)
- responsive care (2 competencies)
- maternal nutrition (2 competencies)
- adolescent nutrition (3 competencies)
- delivery of nutrition services in the context of common illnesses and nutrition-related noncommunicable diseases (NR-NCDs) (4 competencies)
- delivery of nutrition services in the context of emergencies (2 competencies)
- behavior change communication and counseling (5 competencies)
- management of nutrition services (8 competencies).

It is important to mention that since responsive care (and early learning) is a new concept for frontline service delivery, practitioners do not always couple it with nutrition services. We have included this area in our review and consider it relevant for cadres responsible for providing nutrition services because the evidence clearly shows that integrated nutrition and caregiver interventions result in improved early childhood development outcomes compared (WHO 2020; USAID Advancing Nutrition 2022). Experiences integrating responsive care and early learning (RCEL) with nutrition also reveal challenges in relying solely on in-service training opportunities to build knowledge and skills around nurturing care practices (USAID Advancing Nutrition 2022). Thus, linking RCEL with nutrition throughout the health system is essential for delivering more integrated, quality services to improve child outcomes.

Based on our review of job descriptions, roles, and responsibilities (derived from certification requirements and service delivery protocols), we then determined if any competencies included in the tool were not relevant or required for a cadre to fulfill their responsibilities.

Finally, we reviewed the standardized, national curriculum for the pre-service training required for each of the cadres selected. These curricula include a list of required courses, intended learning outcomes, and indicative content for each course. Since time and funding limited this analysis, we only reviewed curricula and not detailed lesson plans, which each instructor teaching each course typically develops and/or adapts. Then, to the best of our ability, we determined the extent to which—not at all, somewhat, or very well—the curricula addresses each competency relevant to that cadre.

We considered a competency addressed if it was directly or indirectly included in a learning objective or mentioned as a topic of one of the required courses. While we made an effort to standardize determinations of whether a competency was undetermined, addressed, or not addressed, the teams conducting the analysis were different in each country, and so too were the curricula contents and level of detail. Therefore, while we present our findings for all countries side by side, our intention is not to compare, but to draw attention to the need (or lack thereof) to strengthen nutrition content in pre-service training and to illustrate findings that country stakeholders might use as a jumping off point for further, deeper reviews and possible updates to pre-service training curricula.

Findings

Policy Environment for Nutrition, Nutrition Services, and Workforce Capacity Strengthening

Strengthening the quality of nutrition services and the performance of health workers requires a strong policy environment. The foundation generally includes policies endorsed by the government, which relevant ministries recognize and/or sign, and prioritized interventions that reflect best practices and respond to country needs and priorities. These ministries must define a standard of care for nutrition services, identify or assign responsibility to specific health workers, and establish plans for supporting them (SPRING 2017). Plans for support might include developing and/or revising job descriptions, job aids, in-service or on-the-job training packages, pre-service training curricula, mentorship or supportive supervision programs, and/or quality improvement activities.

A review of national nutrition policies conducted by the USAID-funded Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project in 2017 found that only three of the five national nutrition plans (table 2) mentioned the training or capacity strengthening of service providers. Only Malawi mentioned the roles or job descriptions of service providers.

Table 2. Topics Included in National Nutrition Policies

Topic	Bangladesh	DRC	Ghana	KR	Malawi
Supportive supervision	✗	☑	✗	✗	☑
Quality improvement	✗	☑	☑	✗	☑
Training or capacity strengthening of service providers	✗	☑	☑	✗	☑
Defining role or job descriptions of service providers	✗	✗	✗	✗	☑

Through our review, we found that the *Bangladesh Strategic Investment Plan of Health, Nutrition, and Population Sector Program* (2016–2021) (MoHFW 2016, 25) calls for the establishment of a "high quality health workforce available to all through public and private health service providers". The *Second National Plan of Action for Nutrition* (2016–2025) (MoHFW 2017) calls on the Bangladesh National Nutrition Council to develop a training strategy that includes updating pre- and in-service training curricula and describes capacity strengthening methods.

In its *National Health Development Plan (Plan National de Développement Sanitaire* 2019–2022 [PNSD]), the DRC commits to improving the availability and retention of qualified human resources for health (MSP 2018). As part of this process, the PNSD mentions activities to strengthen pre-service training, such as developing a review process and accreditation system for training institutions and elaborating a national training plan to ensure courses are in line with local needs.

The Government of Ghana's National Nutrition Policy calls for integrating nutrition interventions within existing facility and community based maternal, newborn, and child health services; enhancing nutrition content in pre-service and continuous education for all nutrition service providers; and strengthening capacity for delivering behavior change communication to promote optimal nutrition (MoH and GHS 2016). In addition, six of the 28 indicators for measuring progress in Ghana's *Roadmap for Attaining Universal Healthcare Coverage 2020–2030* are nutrition-related. It proposes strengthening human resource capacity at the primary health care (PHC) level and suggests that professional training be "integrated into mainstream tertiary academic education to align certification and licensing" (MoH, Ghana 2020a).

The Government of the Kyrgyz Republic acknowledges the significance of nutrition, especially the role of health workers in promoting health and growth of the nation. In its Food Security and Nutrition Program (2019–2023), the Kyrgyz government prioritizes strengthening the human potential of health workers and creating a sustainable demand for healthy nutrition among the population (Government of the Kyrgyz Republic 2019). Similarly, the development of an updated high-quality primary health care system is a key element of the Public Health Protection and Health Care System Development Program for 2019–2030 (MoH 2018). According to the program document, this will require reforming nursing education, regulating the professional activities of medical workers, and involving professional medical associations in continuous professional development.

In Malawi, the *National Multi-Sector Nutrition Policy 2018–2022* includes among its policy priority areas the creation of an enabling environment, which, the plan states, will require increasing the government allocation of human resources for nutrition service delivery (2019). The *Multi-Sector Nutrition Education and Communication Strategy II 2021–2025* goes a step further to include in its strategic priorities a component for strengthening the capacity of service providers on nutrition education and communication at all levels as part of the strengthening of the enabling environment (MoH 2021). However, the only nutrition services included in the country's Essential Health Package, as set out in the *Health Sector Strategic Plan II 2017–2022*, include supplementation for children and pregnant women and deworming and management of acute malnutrition services for children (2017).

Consistent with the earlier findings from the SPRING project (2017), we found that while the documents mention nutrition, few provide insight into the specific roles and responsibilities of cadres providing frontline services. This might not come as a surprise, but it might be a missed opportunity, as clear expectations or understanding of responsibilities is one of several key factors that influence performance (SPRING 2017; Menon et al. 2014).

Cadres of Health Workers Responsible or Best Placed for the Provision of Frontline Nutrition Services

Many of the countries have complex health-service delivery structures, with several cadres responsible for delivering health services at the frontline or primary care level. At the frontline or primary care level, most health workers should be able to provide the full range of basic nutrition services to all clients—young and old, sick and well.

Through our document review and stakeholder interviews, we mapped out the cadres that provide frontline services in each country. While we had initially thought that the nurse would be the primary (and most abundant) provider of nutrition services at that level, in our five countries, we found a varied landscape of cadres of health workers responsible or best positioned for providing nutrition services at the frontline.

In each country, we started with a longer list of cadres, typically including medical and technical officers, nurses, as well as skilled birth attendants or midwives (table 1). Then, working together with local

counterparts and key stakeholders, we selected the following cadres for our deeper dive review of pre-service training curricula:

- **Bangladesh:** family welfare visitor (FWV) and sub-assistant community medical officer (SACMO)
- **DRC:** A2 *infirmier titulaire* (registered nurse [RN]) and A2 *accoucheuse* (skilled birth attendant [SBA])
- **Ghana:**[1] public health nurse (PHN), community health nurse (RNAP), and technical officer in nutrition (TON)
- **KR:** family doctor and family nurse
- **Malawi:** community health nurse (CHN) and health surveillance assistant (HSA).

Roles and Responsibilities of the Selected Cadres of Health Workers

Ideally, governments and professional associations should design standardized pre-service training curricula to ensure that the workforce has the competencies to carry out its roles and responsibilities. Therefore, ensuring that job descriptions align well with pre-service training curricula is a logical starting place for our work. We found that the level of specificity and the content of the roles and responsibilities articulated in the job descriptions[2] for our selected cadres varied significantly from country to country (table 3).

Most job descriptions (at least 7 out of the 10 we reviewed) mentioned something related to the assessment of nutritional status, management of wasting among children, healthy living (often sanitation and hygiene), general infant and young children nutrition, breastfeeding, behavior change communication and counseling, and management of nutrition services.

Few job descriptions reviewed mentioned the management of malnutrition or thinness among adults, management of micronutrient deficiencies and anemia, responsive care, maternal nutrition, adolescent nutrition, delivery of nutrition services in the context of common illnesses and NR-NCDs, or the delivery of nutrition services in the context of emergencies.

Nutrition-Related Competencies Relevant to the Selected Cadres of Health Workers

Based on each cadre's roles and responsibilities (national standardized job descriptions) we identified competencies in our list that are not relevant to or align with each cadre's job description (roles and responsibilities). See the first row of table 3. Since we developed the list of competencies with frontline nutrition services in mind, when in doubt (since job descriptions were sometimes high level, lacking specificity), we erred on the side of considering a competency as relevant. As a result, we might have considered some competencies relevant when they are not.

Indeed, we considered almost all of the competencies relevant for almost all of the cadres we selected. However, we did note that some aspects of certain competencies were not relevant but other aspects of the same competency were relevant. For instance, one of the competencies in the tool is "Ability to correctly determine if a client is anemic based on hemoglobin test results and clinical signs." However,

[1] In Ghana, we initially selected the RNAP and TON. However, we were unable to find a standardized curriculum for the RNAP until the very end of our review period. In the meantime, we reviewed the curriculum of the PHN. Since we completed the work, we included the findings from our review of all three curricula.

[2] We did not find standardized job descriptions in DRC; however, we did find the Ministry of Health 2006 *Health Zone Standards (Recueil des normes de la zone de santé)*, which details the services that an RN should provide. However, it does not describe the role of the SBA.

HSAs only need to be able to identify clinical signs of anemia—they are not responsible for performing hemoglobin testing. We considered this competency relevant to the HSA nonetheless.

Only the SBA in the DRC, the family nurse in KR, and the HSA in Malawi were responsible for less than 83 of the 84 competencies, according to our review of job descriptions and understanding of their roles and responsibilities. We did not consider several competencies relevant to the SBA:

- the diagnosis of anemia
- the assessment of clients for micronutrient deficiencies
- the development of feeding/eating plans following recovery from severe acute malnutrition (SAM)
- most competencies related to the management of undernutrition or thinness among adults
- a couple of competencies related to the management of nutrition services.

Table 3. Nutrition-Related Roles and Responsibilities Mentioned in the Job Descriptions, by Country, Cadre, and Topic Area

To develop this table, we reviewed the roles and responsibilities listed in the national job descriptions for each cadre and categorized them by topic area. Annex 2 includes additional detail on the specific roles and responsibilities of each cadre.

Topic Area	Bangladesh		DRC		Ghana			KR		Malawi	
	SACMO	FWV	RN	SBA*	PHN	TON	RNAP	Family Doctor	Family Nurse	CHN	HSA
Assessment of nutritional status	☑	☑	☑		✗	☑	✗	✗	☑	☑	☑
Management of wasting among children and adolescents	☑	☑	☑		✗	☑	✗	☑	✗	☑	☑
Management of undernutrition or thinness among adults	☑	☑	✗		✗	✗	✗	✗	✗	✗	✗
Management of micronutrient deficiencies and anemia	✗	✗	✗		✗	☑	✗	✗	✗	☑	☑
Healthy living**	☑	☑	☑		☑	☑	✗	☑	☑	✗	☑
General infant and young child nutrition	☑	☑	☑		✗	✗	✗	☑	☑	☑	☑
Breastfeeding	☑	☑	☑		✗	✗	✗	☑	☑	☑	☑
Complementary feeding	☑	☑	✗		✗	✗	✗	☑	☑	☑	☑

Topic Area	Bangladesh		DRC		Ghana			KR		Malawi	
	SACMO	FWV	RN	SBA*	PHN	TON	RNAP	Family Doctor	Family Nurse	CHN	HSA
Responsive care	✗	✗	☑		✗	✗	✗	✗	✗	✗	✗
Maternal nutrition	☑	☑	✗		✗	✗	✗	☑	☑	☑	☑
Adolescent nutrition	✗	✗	✗		✗	✗	☑	☑	☑	☑	☑
Delivery of nutrition services in the context of common illnesses and nutrition-related noncommunicable diseases	✗	✗	✗		✗	✗	✗	☑	☑	☑	☑
Nutrition services in the context of emergencies	✗	✗	✗		✗	✗	✗	✗	✗	✗	✗
Behavior change communication and counseling	☑	☑	✗		☑	☑	☑	✗	✗	☑	☑
Management of nutrition services***	☑	☑	✗		☑	☑	☑	✗	✗	☑	☑

* We did not identify a national job description for the SBA in the DRC.

** Examples of the roles and responsibilities related to healthy living included organizing cooking demonstrations (Malawi HSA); providing nutrition education and counseling to specialized groups and the general public (Ghana TON); and counseling on healthy living, personal hygiene, rational nutrition, breastfeeding, child care, active lifestyle, the use of high-quality drinking water, iodized salt, etc. (KR family doctor and family nurse).

*** Examples of the roles and responsibilities that we considered related to the management of nutrition services included the conduct of community assessments (Malawi HSA); report preparation (Bangladesh FWV and SACMO, Ghana RNAP); compliance with quality assurance guidelines (Ghana TON); and liaising with other agencies like social welfare to assist clients in need of support (Ghana RNAP).

However, given their place at the frontline, it might be wise to expand their scope of responsibilities. In the KR, we did not consider competencies related to the management of nutrition services relevant for the family nurse in the KR.

Finally, in Malawi, we felt that the ability to develop a feeding/eating plan following recovery from malnutrition was not relevant for HSAs. Our understanding is that HSAs provide counseling, but would not develop this type of plan. Likewise, we did not consider the ability to facilitate kangaroo mother care or help a mother manage milk expression relevant since nurses and other clinical staff support this.

Nutrition Competencies Addressed in Their Pre-Service Training Curricula

The pre-service training programs for the cadres we selected ranged from one (Malawi's HSA training) to 10 years in length (the KR's family doctor). The curricula for these programs were published as long ago as 2007 (Malawi's CHNs and DRC's RNs) and as recently as 2021 (Ghana's PHN and RNAP). Table 4 presents characteristics of these curricula.

We reviewed these curricula to determine the extent to which—not at all, somewhat, or very well—each curriculum addresses each competency for each cadre. Table 5 presents our findings from this review.

Unfortunately, in a number of cases, we were simply unable to determine if the curricula addressed some of the competencies based on the information provided. In DRC, for example, we were unable to determine if the curriculum for RNs addressed nine competencies or if the curriculum for SBAs addressed 20 competencies. We could not determine if the curriculum for the Diploma in Nutrition Programme for TONs addressed 18 competencies or if the RNAP curriculum addressed 16 competencies in Ghana. In the KR, we were unable to determine if either of the two curricula required for family doctors addressed 14 competencies. In Malawi, we were unable to determine if either of the two curricula required for CHNs addressed 16 competencies.

We found that the assessment of nutritional status, management of micronutrient deficiencies and anemia, healthy living, responsive care, maternal nutrition, and behavior change communication and counseling are the best addressed topics across the board (highest percentage addressed by the highest number of curricula).

However, there were a number of weaknesses (gaps) in the pre-service training curricula reviewed. Only five of the curricula we reviewed appeared to address 80 percent or more of the competencies related to the management of wasting in children and adolescents, breastfeeding, complementary feeding, or the management of nutrition services. Only four of the curricula covered at least 80 percent of the competencies related to management of undernutrition or thinness among adults. Less than four curricula appeared to address 80 percent or more of the competencies related to promotion of general infant and young child nutrition practices, adolescent nutrition, delivery of nutrition services in the context of common illnesses and NR-NCDs, or the delivery of nutrition services in the context of emergencies.

Table 4. Characteristics of the Pre-Service Training for Selected Cadres of Health Workers Providing Frontline Nutrition Services, by Country and Cadre

	Bangladesh		DRC		Ghana			KR		Malawi	
	SACMO	FWV	RN	SBA	PHN	TON	RNAP	Family Doctor	Family Nurse	CHN	HSA
Length of program	3 years + 1 year intern ship	7 months + 11 months practical training in health facility	4 years	4 years	3 years + 30 weeks practicum	3 years + 30 weeks practicum	2 years + 18 weeks practicum	10 years (6 years for the general medical degree + 2 years of residency + 2 years for the family doctor diploma)	6.5 years (2 years general nursing degree + 10 months internship + 3.5 years for the family nursing diploma)	3 years (2 years for the diploma in nursing + 1 year for the diploma in Community Health Nursing)	1 year
Date of last curriculum update	2009	2016	2007	2014–2015	2021	2019	2021	2021/2021	2019/2020	2016/2007	2021

Table 5. Nutrition-Related Competencies* Addressed, by Country, Cadres, and Topic Area**

Key:

= <40% of competencies somewhat addressed or well addressed

= 40–79% of competencies somewhat addressed or well addressed

= ≥ 80% of competencies somewhat addressed or well addressed

Topic Area (Number of Competencies)	Bangladesh		DRC		Ghana			KR		Malawi	
	SACMO	FWV	RN	SBA	PHN	TON	RNAP	Family Doctor	Family Nurse	CHN	HSA
Percent of competencies addressed (# addressed/ # relevant)	60% (50/84)	58% (49/84)	38% (32/84)	47% (36/76)	82% (69/84)	74% (62/84)	43% (36/83)	69% (57/83)	66% (52/79)	81% (68/84)	76% (61/80)
Assessment of nutritional status (8)	●	●	●	●	◆	◆	■	◆	◆	◆	◆
Management of wasting in children and adolescents (6)	◆	■	■	■	◆	●	■	◆	●	◆	◆
Management of undernutrition or thinness among adults (8)	■	■	■	■	◆	◆	■	■	■	◆	◆
Management of micronutrient deficiencies and anemia (4)	●	●	■	●	◆	◆	■	◆	◆	◆	◆
Healthy living (8)	●	◆	●	●	◆	◆	◆	◆	◆	◆	◆
General infant and young child nutrition practices (7)	●	●	●	●	◆	●	●	◆	◆	●	●

Topic Area (Number of Competencies)	Bangladesh		DRC		Ghana			KR		Malawi	
	SACMO	FWV	RN	SBA	PHN	TON	RNAP	Family Doctor	Family Nurse	CHN	HSA
Breastfeeding (11)	■	◆	■	◆	■	●	■	◆	◆	◆	■
Complementary feeding (6)	◆	◆	●	■	◆	■	■	◆	◆	●	●
Responsive care (2)	◆	◆	■	■	◆	■	◆	◆	◆	■	◆
Maternal nutrition (2)	●	◆	●	●	◆	◆	◆	◆	◆	●	◆
Adolescent nutrition (3)	■	●	■	■	◆	●	◆	■	■	●	■
Delivery of nutrition services in the context of common illnesses and NR-NCDs (4)	■	■	■	●	●	◆	●	●	■	◆	◆
Delivery of nutrition services in the context of emergencies (2)	■	■	■	■	■	■	■	●	■	◆	◆
Behavior change communication and counseling (5)	◆	●	◆	◆	●	●	●	■	◆	◆	◆
Management of nutrition services (8)	◆	●	●	●	◆	◆	◆	■	■	◆	●

* The USAID Advancing Nutrition (2020) Tool for Updating Pre-Service Training contains topic area competencies (see annex 1).
** For simplicity, if we could not determine if a curriculum addressed a competency, we grouped it in the "not addressed" category.

Limitations

We recognize the limitations of this exercise. Stating an objective or mentioning a topic does not ensure that an instructor in fact addresses it when teaching the course or that a practitioner develops a competency. Furthermore, our approach varied from country to country. While we made an effort to standardize the process, the teams conducting the analysis were different in each country and so too were the curricula contents and level of detail. Whether a curriculum addressed a competency or not was not always clear. For example, one of the topics in a course might be "infant and young child feeding" or "child nutrition". This makes it difficult to determine whether that included the "ability to counsel caregivers on the role that nutrition plays in child growth and development and the prevention and treatment of illness and disease," which is how we defined the competency in the tool. Therefore, each country team conducting the review made a judgment call on whether they would consider the competency not addressed, somewhat addressed, or very well addressed. Finally, as stated above, each curriculum varied in how instructors present concepts (depth and breadth). For all of these reasons, while we present our findings for the countries side by side, comparisons between countries are not appropriate in this context.

Conclusions

Our aim with this analysis was to assess pre-service training curricula across five distinct contexts and to draw attention to technical areas where governments and professional associations might get the most benefit from strengthening nutrition content for that specific cadre. We did not assess national structures, systems, and institutions that are critical for the success of the process of reviewing, revising, implementing, and adhering to standardized curricula.

The analysis brought to light the range of cadres who provide frontline nutrition services, the specific responsibilities assigned to them, and the pre-service training required of them. We also discovered potential inconsistencies and gaps across key documents describing cadre-specific responsibilities, including policies, protocols, job descriptions, pre-service training curricula, required qualifications, and certification tools.

The process of collecting and reviewing curricula was not without its challenges. It was often difficult to determine, from a list of objectives or illustrative topics, which competencies a curriculum addressed and which skills a student might adequately develop upon completion of the coursework. Since the goal of pre-service training is to develop foundational competencies that in-service or on-the-job training, mentorship, supportive supervision, and other methods then refine, we recognize that pre-service training needs to lay an adequate foundation in nutrition, rather than cover every known technical area. The quality of instruction and oversight; the manner in which an instructor teaches the course; and the student's focus, motivation, and openness to learn all affect the acquisition of competencies.

Across countries, the date of last revision was not clearly linked to quality of nutrition coverage. For example, despite the fact that the Ministry of Health last updated the curriculum for CHNs in Malawi in 2007, we found it addressed the most competencies. Whereas, the curriculum for RNs in the DRC, also published in 2007, had a number of gaps. Although the Ministry of Health published the curricula for both the PHN and RNAP in Ghana in 2021, the curriculum for the PHN was quite comprehensive in its coverage of nutrition competencies while the curriculum for the RNAP had many gaps in nutrition content; however, the curriculum was aligned with the current RNAP job description. We needed to review the specific content in a curriculum to determine whether revision might be appropriate; neither the date of last revision nor the duration of pre-service training were reliable indicators of coverage.

We also found that the content of the curricula reviewed varies significantly between countries, cadres, and their respective roles and responsibilities. However, few appeared to address management of

undernutrition or thinness among adults, breastfeeding, adolescent nutrition, or delivery of nutrition services in the context of emergencies. Several of these are notable gaps.

While malnutrition among adults is not very high, ranging from 3.7 percent among women (18+) in the KR to 12.3 percent in DRC, breastfeeding practices are concerning. Early initiation of breastfeeding (within 1 hour of birth) is as low as 46.6 percent in Bangladesh and exclusive breastfeeding among children under six months of age is as low as 42.9 percent in Ghana. Continued breastfeeding at one year of age is high in most countries, except in the KR where it is only 77.5 percent. This is despite the globally recognized and widely appreciated role of breastfeeding in ensuring the health and growth of young children. Furthermore, even in those curricula that appear to address breastfeeding via the *Baby Friendly Hospital Initiative (BFHI) Training Course for Maternity Staff* (WHO and UNICEF 2020a) updates are necessary; the WHO and UNICEF recently published the *Competency Verification Toolkit: Ensuring Competency of Direct Care Providers to Implement the Baby-Friendly Hospital Initiative* (WHO and UNICEF 2020b). It is unlikely they or any other pre-service training curricula will have integrated this new content.

Adolescents aged 10–19 years represent over 16 percent of the world's population, according to the World Health Organization (WHO 2022a), and an even greater percentage in these countries.[3] Yet, only the curricula for Ghana's RNAP and PHN cadres appeared to address all three competencies related to adolescent nutrition in our tool.

Despite the fact that the number of climate-related disasters, people living in areas affected by political conflict, and the people who are displaced continues to rise (OCHA 2021), only the curricula reviewed for Malawi's CHN and HSA appeared to address the two competencies included in the tool that pertain to the provision of nutrition services in the context of emergencies.

A Summary of the Key Findings

- We found a wide variety of cadres who provide frontline nutrition services and nutrition responsibilities required of them.
- Inconsistencies identified between cadre-specific job descriptions and pre-service training curricula suggest review and updates are necessary to meet education goals.
- Notable gaps exist in the nutrition content of the pre-service training curricula reviewed, particularly related to the management of undernutrition or thinness among adults, breastfeeding, adolescent nutrition, and the delivery of nutrition services in the context of emergencies.
- Only the curricula for Ghana's RNAP and PHN cadres appeared to address all three competencies related to adolescent nutrition, a key population for nutrition interventions.
- Only the curricula we reviewed for Malawi's CHN and HSA appeared to address the two competencies that pertain to the provision of nutrition services in the context of emergencies.

Finally, while our findings shed some light on the situation—both strengths and weaknesses—we see them as a first step or a jumping off point from which ministries and training institutes might take the following steps:

1. Use our findings to determine the need for and the scope of more in-depth reviews of pre-service training curricula and perhaps even job descriptions and certification processes.

[3] According to WHO, Bangladesh: 18%, DRC: 24%, Ghana: 21%, KR: 18%, and Malawi: 25%. See WHO (2022b).

2. Ensure alignment of competencies across key documents describing cadre-specific responsibilities, including policies, protocols, job descriptions, pre-service training curricula, required qualifications, and certification tools.
3. Require that course descriptions in standardized curricula specify the competencies that the course will develop by the completion of the course and describe the teaching methods that instructors should use to develop those competencies.
4. Integrate global guidelines and training materials, such as the WHO Baby-Friendly Hospital Initiative Training Course for Maternity Staff, the Manage Small and Nutritionally at Risk Infants under Six Months and Their Mothers Care Pathway Package, and the Training Guide for Community-Based Management of Acute Malnutrition.
5. Develop model pre-service training lesson plans and materials, with guidance on adaptation to country context, on specific nutrition topics such as the management of undernutrition or thinness among adults, breastfeeding counseling and support, adolescent nutrition, the delivery of nutrition services in the context of emergencies, and the provision of nutrition services in the context of common illnesses and NR-NCD.

References

BBS (Bangladesh Bureau of Statistics) and UNICEF Bangladesh. 2019. *Bangladesh Multiple Indicator Cluster Survey 2019, Survey Findings Report.* Dhaka, Bangladesh: BBS and UNICEF.

Bangladesh NNC (National Nutrition Council) and MoHFW (Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh). 2021. *Training Strategy and Guidelines for Human Resource Capacity Development on Multi-Sector Nutrition.* Dhaka: Bangladesh NNC and MoHFW.

Becker, G.E. J. Cashin, T.T. Nguyen, and P. Zambrano. 2022. "Expanding Integrated Competency-Focused Health Worker Curricula for Maternal Infant and Young Child Nutrition." *Education Science*. 12: 518. https://doi.org/10.3390/educsci12080518

College of Health and Well-Being. 2019. *Diploma in Nutrition*. Kintampo: Department of Family Health.

Delisle, H. R. Shrimpton, S. Blaney, L. Du Plessis, S. Atwood, D. Sanders, and B. Margetts. 2017. "Capacity-Building for A Strong Public Health Nutrition Workforce in Low-Resource Countries." *Bulletin of the World Health Organization.* 95: 385–388. https://doi.org/10.2471%2FBLT.16.174912

GSS (Ghana Statistical Service). 2018. *Multiple Indicator Cluster Survey (MICS 2017/18), Survey Findings Report.* Accra, Ghana: GSS.

Government of the Democratic Republic of Congo. 2018. *Loi Cadre N° 18/035 du 13 décembre 2018 fixant les principes fondamentaux relatifs à l'organisation de la santé publique.* Kinshasa: MSP.

Government of the Kyrgyz Republic. 2008. *The Law of the Kyrgyz Republic No. 263.* Bishkek: Government of the Kyrgyz Republic

Government of the Kyrgyz Republic. 2019. *ПРАВИТЕЛЬСТВО КЫРГЫЗСКОЙ РЕСПУБЛИКИ ПОСТАНОВЛЕНИЕ от 27 июня 2019 года № 320 Об утверждении Программы продовольственной безопасности и питания в Кыргызской Республике на 2019–2023 годы.* Bishkek: The Council of Food Security and Nutrition of the Kyrgyz Republic.

Government of Malawi Department of Nutrition, HIV, and AIDS. 2018. *National Multi-Sector Nutrition Policy 2018–2022.* Lilongwe: Ministry of Health.

Government of Malawi Department of Nutrition, HIV, and AIDS. 2021. *Eat Well to Live Well: Malawi's Guide to the Prevention and Management of Common Diet and Lifestyle Related Non-Communicable Diseases*. Lilongwe: Ministry of Health.

Government of the Republic of Malawi. 2017. *Health Sector Strategic Plan (HSSP) II 2017–2022.* Lilongwe: MoH.

Government of the People's Republic of Bangladesh. 1972. *Constitution of the People's Republic of Bangladesh (Article 18 (1)).* Dhaka: National Legislative Bodies/National Authorities.

INS (Institut National de la Statistique). 2018. *Enquête par grappes à indicateurs multiples, 2017–2018, rapport de résultats de l'enquête*. Kinshasa, République Démocratique du Congo: INS.

IPHN (Institute of Public Health Nutrition) and MoHFW (Directorate General of Health Services, Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh). 2015. *National Strategy on Prevention and Control of Micronutrients Deficiencies (2015–2024).* Dhaka: IPHN.

IPHN (Institute of Public Health Nutrition), MoHFW (Directorate General of Health Services, Ministry of Health and Family Welfare), Government of the People's Republic of Bangladesh. 2017. *National Guidelines for Community Based Management of Acute Malnutrition in Bangladesh.* Dhaka: IPHN.

Jackson, A., & A. Ashworth. 2015. "Capacity-Building in the Management of Moderate Acute Malnutrition." *Food and Nutrition Bulletin*, 36(1 Suppl): S47–S52. https://doi.org/10.1177/15648265150361S108

LGS (Local Government Service). 2017. *Medium Term Development Plan (2018–2021) for the Office of the Head of the Local Government Service—Final Draft*. Accra: LGS.

Menon, Purnima, Namukolo M. Covic, Paige B. Harrigan, Susan E. Horton, Nabeeha M. Kazi, Sascha Lamstein, Lynnette Neufeld, Erica Oakley, and David Pelletier. 2014. "Strengthening Implementation and Utilization of Nutrition Interventions through Research: A Framework and Research Agenda." *Annals of the New York Academy of Sciences* 1332(1): 39–59. doi.org/10.1111/nyas.12447.

MoH (Ministry of Health, Government of the Kyrgyz Republic). 2011. *MoH Order No. 54 on the Organization of Primary Health Care.* Bishkek: MoH.

MoH (Ministry of Health, Government of the Kyrgyz Republic). 2016. *MoH Order No. 144 (26.02.2016) On the Organization of Protection, Support, and Promotion of Breastfeeding in Young Children in Maternity Hospitals (Departments), Children's Hospitals, General Medical Practice Centers, Family Medicine/Groups of Family Doctors, Feldsher-Obstetrical Ambulatory Point (FAPs) of the Kyrgyz Republic.* Bishkek: MoH.

MoH (Ministry of Health, Government of the Kyrgyz Republic). 2019a. *MoH Order No. 33 on Surveillance of Healthy Children 0–18 Years Old at the Primary Care Level Health Care.* Bishkek: MoH.

MoH (Ministry of Health, Ghana) and GHS (Ghana Health Service). 2005a. *Job Descriptions for Allied Health Staff.* Accra: MoH and GHS.

MoH (Ministry of Health, Ghana) and GHS (Ghana Health Service). 2005b. *Job Descriptions for Clinical. Nursing, and Midwifery and Pharmacy Staff.* Accra: MoH and GHS.

MoH (Ministry of Health, Republic of Ghana). 2011. *Human Resources for Health (HRH) Country Profile.* Accra: MoH.

MoH (Ministry of Health, Republic of Ghana). 2014a. *National Community Health Planning and Services (CHPS) Policy: Theme: Accelerating Attainment of Universal Health Coverage and Bridging the Access Inequity Gap.* Accra: MoH.

MoH (Ministry of Health, Republic of Ghana). 2014b. *Staffing Norms for The Health Sector of Ghana: A Technical Report.* Accra: MoH.

MoH (Ministry of Health, Republic of Ghana). 2016a. *Ghana Ministry of Health—Referral Policy and Guidelines*. Accra: MoH.

MoH (Ministry of Health, Republic of Ghana). 2016b. *Ghana National Healthcare Quality Strategy (2017–2021).* Accra: MoH.

MoH (Ministry of Health, Malawi). 2016. *Community-Based Management of Acute Malnutrition 2nd Edition.* Lilongwe, Malawi: MoH.

MoH (Ministry of Health, Malawi). 2017a. *National Community Health Strategy 2017–2022.* Lilongwe: MoH.

MoH (Ministry of Health, Malawi). 2017b. *National Guidelines on Nutrition Care, Support, and Treatment (NCST) for Adolescents and Adults. Second edition.* Lilongwe, Malawi: MoH.

MoH (Ministry of Health, Malawi). 2017c. *Role Clarity Guidelines for Community Health Workers 2017–2022.* Lilongwe: MoH.

MoH (Ministry of Health, Kyrgyz Republic). 2018. *Programme of the Kyrgyz Republic Government on Public Health Protection and Health Care System Development for 2019–2030: Healthy Person—Prosperous Country (Health 2030)*. Bishkek: MoH.

MoH (Ministry of Health, Kyrgyz Republic). 2019a. *MoH Order No. 33 on Surveillance of Healthy Children 0–18 Years Old at the Primary Care Level Health Care*. Bishkek: MoH.

MoH (Ministry of Health, Kyrgyz Republic). 2019b. *MoH Order No. 567/1 on the Approval of State Educational Standards for Specialties of Secondary Vocational Education*. Bishkek: MoH.

MoH (Ministry of Health, Kyrgyz Republic). 2020a. *MoH Order No. 28 on the Approval of the Catalog of Nursing Competencies.* Bishkek: MoH.

MoH (Ministry of Health, Kyrgyz Republic). 2020b. *MoH Order No. 42 on the Approval of the Professional Standard "Nursing."* Bishkek: MoH

MoH (Ministry of Health, Kyrgyz Republic). 2020c. *MoH Order No. 902 on the Approval of the Standard Job Description of a Family Doctor and a Family Nurse*. Bishkek: MoH

MoH (Ministry of Health, Kyrgyz Republic). 2020d. *MoH Order No. 993 on the Introduction of Updated Standards for the Assessment of Physical Development in Children from 0 to 17 Years*. Bishkek: MoH

MoH (Center for eHealth of the Ministry of Health of the Kyrgyz Republic). 2020e. *Health of the Population and Activities of Healthcare Organizations in the Kyrgyz Republic*. Bishkek: Center for eHealth of the Ministry of Health of the Kyrgyz Republic. http://cez.med.kg/%d0%b7%d0%b4%d0%be%d1%80%d0%be%d0%b2%d1%8c%d0%b5-%d0%bd%d0%b0%d1%81%d0%b5%d0%bb%d0%b5%d0%bd%d0%b8%d1%8f-%d0%b8-%d0%b4%d0%b5%d1%8f%d1%82%d0%b5%d0%bb%d1%8c%d0%bd%d0%be%d1%81%d1%82%d1%8c-%d0%be%d0%b7/]

MoH (Ministry of Health, Republic of Ghana). 2020a. *Ghana's Roadmap for Attaining Universal Healthcare Coverage 2020–2030*. Accra: MoH.

MoH (Ministry of Health, Republic of Ghana). 2020b. *National Health Policy: Ensuring Healthy Lives for All* Revised Edition. Accra: MoH.

MoH (Ministry of Health, Republic of Ghana). 2020c. *National Human Resource Policy and Strategies for Health*. Accra: MoH.

MoH (Ministry of Health, Republic of Ghana). 2021a. *Curriculum for the Public Health Nursing (PHN) Programme.* Accra, Ghana: Nursing and Midwifery Council.

MoH (Ministry of Health, Republic of Ghana). 2021b. *Curriculum for Registered Nurse Assistant Preventive (RNAP) Programme.* Accra, Ghana: Nursing and Midwifery Council.

MoH (Ministry of Health, Malawi). 2021. *Multi-Sector Nutrition Education and Communication Strategy (NECS) II 2021–2025.* Lilongwe: MoH.

MoH (Ministry of Health) and GHS (Ghana Health Service), Government of Ghana. 2016. *National Nutrition Policy.* Accra: MoH and GHS.

MoHFW (Directorate General of Health Services, Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh). n.d. *Capacity Building Manual on Upazila Health Management for Upazila Health Manager and Service Care Providers, Community Based Healthcare.* Dhaka: MoHFW.

MoHFW (Ministry of Health and Family Welfare), Government of the People's Republic of Bangladesh. 2011. *Bangladesh National Health Policy.* Dhaka: MoHFW.

MoHFW (Directorate General of Family Planning, Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh). 2014. *Union Health and Family Welfare Center Operation Manual.* Dhaka: MoHFW.

MoHFW (Ministry of Health and Family Welfare), Government of the Republic of Bangladesh. 2015a. *Bangladesh Health Workforce Strategy.* Dhaka: MoHFW.

MoHFW (Ministry of Health and Family Welfare), Government of the People's Republic of Bangladesh. 2015b. *National Nutrition Policy.* Dhaka: MoHFW.

MoHFW (Ministry of Health and Family Welfare), Government of the People's Republic of Bangladesh. 2016. *Health, Nutrition, and Population Strategic Investment Plan (HNPSIP) 2016–2021*. Dhaka: MoHFW.

MoHFW (Ministry of Health and Family Welfare) 2017. *Second National Plan of Action for Nutrition (2016–2025).* Dhaka: MoHFW.

MoHFW (Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh). 2019a. *Bangladesh Advocacy Plan for Nutrition (2019–2025) & Framework for its Operationalization.* Dhaka: MoHFW.

MoHFW (Ministry of Health and Family Welfare), Government of the People's Republic of Bangladesh, 2019b. *Bangladesh National Strategy for Community Health Workers (2019–2030).* Dhaka: MoHFW.

MPSMRM (Ministère du Plan et Suivi de la Mise en œuvre de la Révolution de la Modernité), MSP (Ministère de la Santé Publique) et ICF International, 2014. *Enquête Démographique et de Santé en République Démocratique du Congo 2013–2014.* Rockville, Maryland, USA : MPSMRM, MSP et ICF International.

MSP (Ministère de la Santé Publique). 2006. *Recueil des Normes de la Zone de Santé*. Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2009. *Référentiel de Compétences infirmières du niveau secondaire* Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2013a. *Alimentation du Nourrisson et du jeune Enfant—Module de Formation.* Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2013b. *Module de Formation: Alimentation du Nourrisson et du Jeune Enfant dans les situations d'urgence Manuel d'Orientations opérationnelles*. Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2014. *Référentiel de Compétences de l'accoucheuse du niveau secondaire.* Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2015. *Consultation préscolaire (CPS) manuel : Manuel d'orientation.* Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2016a. *Informations utiles sur la Mise en œuvre de la Nutrition à Assise Communautaire (NAC).* Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2016b. *Plan Stratégique National Multisectoriel en Nutrition (PSNMN) 2016–2020 Tome I : Stratégie.* Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2016c. *Plan Stratégique National Multisectoriel en Nutrition (PSNMN) 2016–2020 Tome II : Opérationnalisation.* Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2016d. *Protocole National de Prise en Charge Nutritionnelle des Personnes Vivant avec le VIH.* Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2016e. *Protocole National de Prise en Charge Intégrée de la Malnutrition Aiguë.* Kinshasa: MSP.

MSP (Ministère de la Santé Publique). 2018. *Plan National de Développement Sanitaire recadré pour la période 2019–2022 : Vers la couverture sanitaire universelle.* Kinshasa: MSP.

NCD RisC (NCD Risk Factor Collaboration). 2017. "Worldwide Trends in Body-Mass Index, Underweight, Overweight, and Obesity from 1975 to 2016: A Pooled Analysis of 2416 Population-Based Measurement Studies in 128·9 Million Children, Adolescents, and Adults." *The Lancet.* 390:2627–42. https://doi.org/10.1016/S0140-6736(17)32129-3

NDPC (National Development Planning Commission). 2014. *Medium-Term National Development Policy Framework Ghana Shared Growth and Development Agenda II, 2014–2017*. Accra: NDPC.

NIPORT (National Institute of Population Research and Training), and ICF. 2020. *Bangladesh Demographic and Health Survey 2017–18*. Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT and ICF.

NSC (National Statistical Committee of the Kyrgyz Republic), MoH (Ministry of Health [Kyrgyz Republic]), and ICF International. 2013. *Kyrgyz Republic Demographic and Health Survey 2012*. Bishkek, Kyrgyz Republic, and Calverton, Maryland, USA: NSC, MoH, and ICF International.

NSO (National Statistical Office). 2021. *Malawi Multiple Indicator Cluster Survey 2019–20, Survey Findings Report*. Zomba, Malawi: NSO.

OCHA (United Nations Office for the Coordination of Humanitarian Affairs) 2021. "Global Humanitarian Overview 2022." Accessed December 12, 2022. https://www.unocha.org/sites/unocha/files/Global%20Humanitarian%20Overview%202022.pdf.

SPRING (Strengthening Partnerships, Results, and Innovations in Nutrition Globally). 2017. *Raising the Status and Quality of Nutrition Services within Government Systems*. Arlington, VA: SPRING project. https://www.spring-nutrition.org/publications/briefs/raising-status-and-quality-nutrition- services-within-government-systems.

USAID. 2021a. "Bangladesh: Nutrition Profile". Accessed November 7, 2022. https://www.usaid.gov/sites/default/files/documents/Copy_of_tagged_Bangladesh-Nutrition-Profile.Pdf.

USAID. 2021b. "Malawi: Nutrition Profile". Accessed November 7, 2022. https://www.usaid.gov/sites/default/files/documents/Copy_of_tagged_Malawi-Nutrition-Profile.pdf.

USAID Advancing Nutrition. 2020. *Strengthening Nutrition Competencies for Nurses: A Tool for Updating Pre-Service Training.* Arlington, VA: USAID Advancing Nutrition.

USAID Advancing Nutrition. 2022. *Situational Analysis of Early Childhood Care and Development Services in Ghana: Final Report.* Arlington, VA: USAID Advancing Nutrition.

USAID ENGINE (Empowering New Generations to Improve Nutrition and Economic Opportunities), and Save the Children. 2012, December. "Nutrition Core Competencies for Health Science Cadres and Undergraduate Nutritionists in Ethiopia." Accessed September 9, 2022. https://pdf.usaid.gov/pdf_docs/PA00KWJS.pdf

World Bank. 2022. "World Bank Indicators." Accessed November 1, 2022. https://data.worldbank.org/indicator/.

WHO (World Health Organization). 2014. *Comprehensive Implementation Plan on Maternal, Infant, and Young Child Nutrition.* Geneva: WHO.

WHO (World Health Organization). 2019. "Global Health Observatory Data Repository/World Health Statistics." Accessed August 2, 2022. https://www.who.int/data/gho/data/indicators.

WHO (World Health Organization). 2020. *Improving Early Childhood Development: WHO Guidelines.* Geneva: WHO.

WHO (World Health Organization). 2022a. "Adolescent Data". Accessed November 6, 2022. https://platform.who.int/data/maternal-newborn-child-adolescent-ageing/adolescent-data.

WHO (World Health Organization). 2022b. "Indicators." Accessed November 6, 2022. https://platform.who.int/data/maternal-newborn-child-adolescent-ageing/indicator-explorer-new/mca/adolescent-population-as-percentage-of-total-population.

WHO (World Health Organization) and GHWA (Global Health Workforce Alliance). 2008. *Country Case Study, Ghana: Implementing A National Human Resources for Health Plan*. Geneva: WHO.

WHO (World Health Organization) and UNICEF (the United Nations Children's Fund). 2020a. *Baby-Friendly Hospital Initiative Training Course for Maternity Staff: Customisation Guide.* Geneva: World Health Organization. https://www.who.int/publications/i/item/9789240008915.

WHO (World Health Organization) and UNICEF (the United Nations Children's Fund). 2020b. *Competency Verification Toolkit: Ensuring Competency of Direct Care Providers to Implement the Baby-Friendly Hospital Initiative.* Geneva: World Health Organization. https://www.who.int/publications/i/item/9789240008854.

Additional Documents Reviewed

Britto, P.R., S.J. Lye, A.K. Yousafzai, S.G. Matthews, T. Vaivada, R. Perez-Escamilla, et al. 2017. "Nurturing Care: Promoting Early Childhood Development." *The Lancet* 389(10064): 91–102. https://doi.org/10.1016/s0140-6736(16)31390-3

Drislane, F. W., A. Akpalu, and H.H. Wegdam. 2014. "The Medical System in Ghana." *The Yale Journal of Biology and Medicine*, 87(3), 321–326. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4144286/

Escribano-Ferrer B., F. Cluzeau, D. Cutler, C. Akufo, and K. Chalkidou. 2016. "Quality of Health Care in Ghana: Mapping of Interventions and the Way Forward." *Ghana Medical Journal.* 50(4):238–247. doi.org/10.4314/gmj.v50i4.7.

GHS (Ghana Health Service). 2005. *Imagine Ghana Free of Malnutritio*n. Accra: GHS.

Lu, C., M.M. Black, and L.M. Richter. 2016. "Risk of Poor Development in Young Children in Low-Income and Middle-Income Countries: An Estimation and Analysis at the Global, Regional, and Country Level." *The Lancet Global Health* 4: e916–922. https://doi.org/10.1016/s2214-109x(16)30266-2

MoHFW (Directorate General of Health Services, Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh). 2022. "Job Circulars." Accessed November 6, 2022. https://drive.google.com/file/d/1ZRPyJKYJOVY-ApSNKrGRL-Q2TG7E6rym/view?usp=sharing.

MoH (Ministry of Health, Republic of Ghana). 2007. *Human Resource Policies and Strategies for the Health Sector, 2007–2011*. Accra: MoH.

NSC (National Statistical Committee of the Kyrgyz Republic) and UNICEF. 2014. *Kyrgyzstan Multiple Indicator Cluster Survey Final Report*. Bishkek, Kyrgyzstan: NSC.

UNICEF. 2020. "Global Databases: Infant and Young Child Feeding." Accessed November 1, 2022. http://data.unicef.org/nutrition/iycf.

UNICEF, WHO (World Health Organization), and World Bank. 2020. "Joint Child Malnutrition Estimates Expanded Database: Stunting, Wasting, and Overweight." Accessed August 3, 2022. https://data.unicef.org/resources/dataset/malnutrition-data.

USAID. 2019. *Systems for Health (S4H): Evaluation of Accomplishments and Lessons Learned*. Washington, D.C.: USAID.

WHO (World Health Organization). 2022. "Noncommunicable Diseases." Accessed November 1, 2022. https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases.

Annex 1. Tool for the Review of Pre-Service Curricula

Annex 1. Review of
Pre-Service Training C

Annex 2. Findings from and Recommendations for the Five Countries

Bangladesh

Introduction

This report is based on work undertaken by USAID Advancing Nutrition and a local consultant. Our work began with the identification of relevant government documents (e.g., job descriptions, policies, and service delivery protocols) that articulated priority nutrition services, as well as the roles and responsibilities of professional/certified health workers to provide those services at the frontline (primary health care level). To find relevant documents and key information needed, we consulted with the Bangladesh Nursing and Midwifery Council, Bangladesh National Nutrition Council, Directorate General of Family Planning (DGFP), Directorate General of Health Services (DGHS), Institute of Public Health Nutrition, National Institute of Population Research and Training (NIPORT), and State Medical Faculty of Bangladesh. Ultimately, we reviewed the following documents:

- *Bangladesh Advocacy Plan for Nutrition 2019–2025 and Framework for its Operationalization* (MoHFW 2019a)
- *Bangladesh Health Workforce Strategy* (MoHFW 2015a)
- *Bangladesh National Strategy for Community Health Workers (2019–2030)* (MoHFW 2019b)
- *Capacity Building Manual of Upazila Health Management for Upazila Health Manager and Service Care Providers* (MoHFW n.d.)
- *Health, Nutrition, and Population Strategic Investment Plan (2016–2021)* (MoHFW 2016)
- *National Guidelines for Community Based Management of Acute Malnutrition in Bangladesh* (IPHN and MoHFW 2017)
- *National Health Policy* (MoHFW 2011)
- *Bangladesh National Nutrition Policy* (MoHFW 2015b)
- *Second National Plan of Action for Nutrition (2016–2025)* (MoHFW 2017)
- *National Strategy on Prevention and Control of Micronutrients Deficiencies (2015–2024)* (IPHN and MoHFW 2015)

Nutrition Indicators for Bangladesh

Children under Five:

Stunting: 30.7%

Wasting: 14.1%

Underweight: 23%

Low birthweight: 26.4%

Overweight: 2.5%

Obesity: 0.8%

Women of Reproductive Age*:

Prevalence of Anemia:

Pregnant women: 42.2%

Non-pregnant women: 36.5% (WHO)

Prevalence of thinness among women of reproductive age (15 49 years): 12%

Coverage of iron for pregnant women (for at least 90 days): 46%

Prevalence of being overweight among women of reproductive age (15 49 years): 32%

Infant and Young Child Feeding:

Breastfeeding Practices

Children ever breastfed: 98.5%

Children still breastfed at 1 year: 93%

Children breastfed within 1 hour of birth: 46.6%

Complementary Feeding Practices (6 23 Months):

Minimum dietary diversity: 33.8%

Minimum meal frequency: 65.5%

Minimum adequate diet: breastfed children 27.8%, non breastfed children: 16.6%

Sources: WHO 2022b; BBS and UNICEF Bangladesh 2019; NIPORT & ICF 2020; USAID 2021a

- *Training Strategy and Guidelines for Human Resource Capacity Development on Multi-Sector Nutrition* (Bangladesh NNC and MoHFW 2021)
- *Union Health and Family Welfare Center Operation Manual* (MoHFW 2014).

Policy Environment for Nutrition, Nutrition Services, and Workforce Capacity Strengthening

The Government of Bangladesh recognizes the importance of nutrition for the health and growth of the nation. The Constitution of Bangladesh (Article 18 (1)) affirms: "... the State shall regard raising the level of nutrition and improvement of public health as among its primary duties" (1972). Furthermore, three of the eight objectives included in its *Strategic Investment Plan of Health, Nutrition, and Population Sector Program (2016–2021)* (MoHFW 2016) are relevant to the delivery of quality nutrition services:

- Establish a high quality health workforce that is available to all through public and private health service providers.
- Improve equitable access to and utilization of quality health, nutrition, and family planning services.
- Promote healthy lifestyle choices within a healthy environment.

While the *National Health Policy* (2011) identifies nutrition services as a key component of primary and emergency health services, the *Health Workforce Strategy* (2015a), which describes overall knowledge and skill development of the health workforce, does not mention nutrition specifically. The *Second National Plan of Action for Nutrition* (2016–2025) acknowledges that building and developing capacity at all levels is essential for successful implementation of the plan (2017). It calls on the Bangladesh National Nutrition Council to develop a training strategy that includes updating pre- and in-service training curricula to strengthen nutrition content. Determine the number of health workers for community clinics and union health centers to employ, identifying unfilled posts, assessing skills, and identifying training needs "so that the ratio between health workers and beneficiaries is maintained and nutrition services can be scaled up" (IPHN and MoHFW 2017).

Health Workers Primarily Responsible for Providing Nutrition Services

We reviewed the job descriptions for six cadres of health workers (table 6). We sought to identify the roles that would have the greatest influence on the delivery of frontline nutrition services. We took into consideration direct mentions of nutrition services (e.g., growth monitoring and promotion [GMP]) as well as services indirectly related to nutrition or nutrition services (e.g., report preparation).

Of the six cadres, we identified five that play a key role in the frontline delivery of nutrition services. Of those, two stood out for this review: the family welfare visitor and the sub-assistant community medical officer. Both met all of our selection criteria: trained prior to employment at an academic institution, requires professional certification, provides frontline services, serves nutrition priority populations, and has a job description, which specifically mentions the provision of nutrition services.

FWVs almost exclusively work in Union Health and Family Welfare Centers (UH & FWC) and in the Maternal and Child Health units of Upazila Health Complexes. While SACMOs working under the DGHS work in other types of health facilities, we focused on those working in UH & FWCs.

Figure 1. Mapping of Cadres that Provide Frontline Services and Supervision Structures

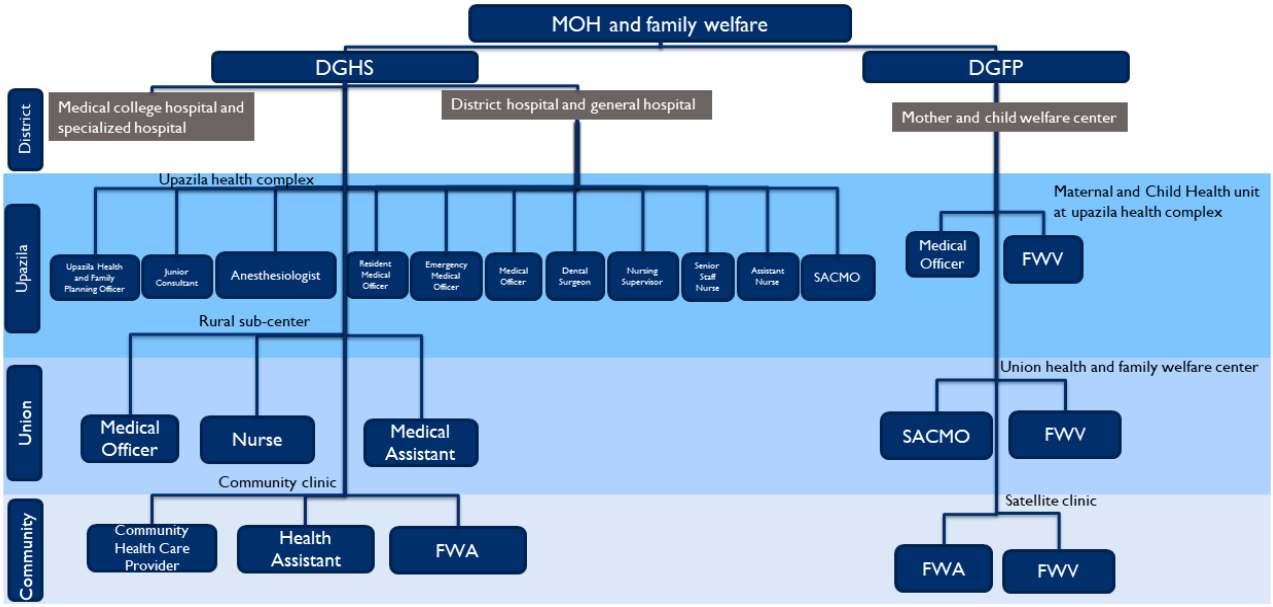


Table 6. Criteria for Selection of Cadres of Frontline or Primary Care Health Workers in Bangladesh

	Community Healthcare Provider	Health Assistant	Family Welfare Assistant	FWV	SACMO	Nurse
Trained prior to employment at an academic institution	✗ 2 months at upazila level	✗ 10 days at upazila level	✗ 2 months at NIPORT	☑	☑	☑
Requires professional certification	✗	✗	✗	☑	☑	☑
Provides frontline/primary care services	☑	☑	☑	☑	☑	✗
Serves nutrition priority populations	☑	☑	☑	☑	☑	☑
Job description mentions the provision of nutrition services	☑	☑	☑	☑	☑	✗

According to the documents we were able to identify, the Government of Bangladesh has created 6,362 FWV positions and 8,809 SACMO positions (2,500 under DGFP and 5,309 under DGHS). However, 2,605 of those FWV positions and 2,358 SACMO positions were vacant according to individuals contacted at each institution.[4] According to the *UH & FWC Operation Manual* (MoHFW 2017), both the SACMOs and FWVs who work at the union level are responsible for conducting the following nutrition-related activities:

- growth monitoring and promotion
- identification, treatment, and referral of malnutrition among children, adolescents, pregnant and lactating women
- pregnancy weight monitoring
- provision of antenatal and postnatal care
- nutrition education to the mothers and caregivers
- breastfeeding support
- report preparation.

In addition, SACMOs provide nutrition education to the students/adolescents in schools/satellite clinics. According to the national job description, SACMOs also organize different activities for the provision of maternal, neonatal, child health, family planning, and nutrition services at union level and both SACMOs and FWVs provide nutrition counseling to pregnant women.

SACMOs primarily provide services to under five children, adolescent boys, and adult males at the UH & FWC level since most SACMOs are male. However, they provide services during satellite clinic days, which includes providing services to pregnant and lactating mothers, adolescent girls, and women at the UH & FWCs.

Pre-Service Training Required for the Selected Cadres

Despite having very similar roles and responsibilities at the UH & FWCs, the pre-service training requirements to be an FWV and SACMO are different (see table 7).

Table 7. Characteristics of the Pre-Service Training Curricula Reviewed for Selected Cadres of Health Workers Providing Frontline Nutrition Services

	SACMO	FWV
Degree/certificate earned	Medical Assistants' Training (MAT)	Family Welfare Visitors' Basic Course
Institutions offering degree/program	Public and private MAT schools	Family Welfare Visitors' Training Institutes and Regional Training Centers under the National Institute of Population Research and Training

[4] SACMO data sent by assistant chief, Management Information Systems, DGHS and the data of FWV sent by assistant director (monitoring), DGFP.

	SACMO	FWV
Length of program	3 years diploma degree + 1 year internship	18 months, which includes 11 months practical training in health facility
Title of pre-service education curriculum	"Curriculum for Medical Assistant Training Course"	"Course Directory for FWVs' Basic Training"
Date of last update of pre-service education curriculum	2009	2016
Objectives of pre-service education curriculum	The curriculum includes only the overarching goal: "to produce medical assistants with required knowledge, skill, and attitude to provide promotive, preventive, and first line curative care to the community." It did not state specific objectives, except in relation to subjects or courses.	The curriculum does not include an objective.
Courses with nutrition-related content	● Basic Community Health and Medical Ethics ● Basic Anatomy and Physiology ● Basic Medicine and Pediatric ● Basic Obstetrics and Gynecology ● Basic Community Medicine and Health Management	● Classification of Food ● Nutrition Assessment including GMP ● Types, Identification, Management, and Referral of Malnutrition ● Identification and Management of Protein-Energy Malnutrition and Micronutrients Deficiency ● Breastfeeding and Infant and Young Child Feeding (IYCF) ● Nutrition in Growth and Development ● Nutrition Education
Curriculum includes lesson plans	No	No
Curriculum describes teaching methods	Yes, mentions teaching methods and aids for each section, and indicates the time expected to be spent during each subject in lecture,	No

	SACMO	FWV
	tutorial, field visits, and practice.	
Curriculum requires an internship or practicum	Yes	Yes

Nutrition Competencies Addressed in the Pre-Service Training Curricula Reviewed

The *Curriculum Review Tool* developed by USAID Advancing Nutrition in 2021 identifies 84 competencies relevant to the delivery of frontline nutrition services. Based on the documents we reviewed, we considered all of those competencies relevant for the FWV and SACMO given their place of work and the frontline nature of the services they provide, the populations they serve, and the roles and responsibilities described in the *UH & FWC Operation Manual* (2014). We then determined if the curricula addressed these competencies for each cadre. See table 3 for an overview of the competencies addressed in each curriculum by topic area.

The SACMO's MAT curriculum addressed 60 percent (50 out of 84) of the nutrition-related competencies. We were unable to determine if the curriculum addressed three of the competencies for SACMOs: knowledge of operational guidance for assessing nutritional status, knowledge of operational guidance on management of micronutrient deficiencies and anemia, and knowledge of nutrition-related policies and programs for the general populations.

The MAT curriculum does not provide significant detail on what is covered, but appears to address management of wasting among children and adolescents, complementary feeding, responsive care, behavior change communication and counseling, and management of nutrition services. However, the curriculum does not address a number of key competencies related to—

- the assessment of nutritional status
- treatment of and recovery from malnutrition or thinness among adults
- management of micronutrient deficiencies and anemia
- healthy living
- general infant and young children nutrition
- breastfeeding
- maternal nutrition
- adolescent nutrition
- the delivery of nutrition services in the context of common illnesses and NR-NCDs
- the delivery of nutrition services in the context of emergencies.

According to the UH & FWC Operation Manual (MoHFW 2017), SACMOs should provide breastfeeding support, the MAT curriculum does not appear to address following competencies related to breastfeeding:

- knowledge of ways a birthing facility should support breastfeeding

- ability to support breastfeeding within the first hour, including promoting immediate and uninterrupted skin-to-skin contact
- ability to facilitate kangaroo mother care
- ability to help (including through demonstration) a mother achieve comfortable and safe positions for breastfeeding and an effective and comfortable latch
- ability to help a mother manage milk expression
- ability to help mothers and caregivers if a mother is not feeding her baby directly at the breast
- ability to help a mother to breastfeed a low-birth-weight or sick baby
- knowledge of nutrition-related policies and programs for pregnant and lactating women.

Finally, while the curriculum largely addresses behavior change communication and counseling, we did not see mention of how to help clients identify and achieve their nutrition goal is not.

When it came to the FWV, the pre-service training was significantly shorter, but we determined that the curriculum addressed a similar number of competencies as the MAT curriculum: 58 percent (49 out of 84). Again, we were unable to determine if the curriculum addressed three of the competencies for the FWV: knowledge of the operational guidance for assessing nutritional status; the ability to manage nutrition services; and the ability to plan for and manage nutrition commodities, equipment, medicines, and other inputs.

The curriculum for the FWV basic course covers competencies related to healthy living, breastfeeding, complementary feeding, responsive care, and maternal nutrition. The curriculum covers some competencies related to measuring anthropometry and conducting clinical assessments, it does not cover the measurement of waist circumference, laboratory tests for measurement of micronutrient deficiencies, or dietary history, nor does it appear to explain how to determine Z-scores or body mass index.

Specifically, the curriculum does not address the following competencies needed for the delivery of comprehensive, quality nutrition services—

- assessment of nutritional status
- management of wasting among children or adolescents
- management of undernutrition or thinness among adults
- management of micronutrient deficiencies and anemia
- general infant and young children nutrition
- adolescent nutrition
- delivery of nutrition services in the context of common illnesses and NR-NCDs
- delivery of nutrition services in the context of emergencies
- behavior change communication and counseling
- management of nutrition services.

Some of the competencies the curriculum does not appear to address include the following:

- ability to counsel caregivers on different types of disabilities, possible effects on children's nutritional requirements and status, and when to seek additional support
- ability to counsel caregivers on nutrition-related practices based on growth trends
- ability to counsel caregivers on how recognize feeding cues and early signs of hunger
- knowledge of how to implement the International Code of Marketing of Breast-Milk Substitutes
- ability to counsel caregivers on active, responsive (feeding cues/early signs of hunger), developmentally-appropriate, and age-appropriate feeding practices.

Table 8. Nutrition-Related Competencies Addressed,[5] by Topic Area

Key:

 = <40% of competencies somewhat addressed or well addressed

 = 40–79% of competencies somewhat addressed or well addressed

 = ≥ 80% of competencies somewhat addressed or well addressed

Topic Area (Number of Competencies)	SACMO	FWV
Overall (84)	**60% (50/84)**	**58% (49/84)**
Assessment of nutritional status (8)		
Management of wasting among children and adolescents (6)		
Management of undernutrition or thinness among adults (8)		
Management of micronutrient deficiencies and anemia (4)		
Healthy living (8)		
General infant and young children nutrition (7)		
Breastfeeding (11)		
Complementary feeding (6)		
Responsive care (2)		
Maternal nutrition (2)		

[5] For simplicity, if we could not determine if a curriculum addressed a competency, we grouped it in the "not addressed" category.

Topic Area (Number of Competencies)	SACMO	FWV
Adolescent nutrition (3)	■	●
Delivery of nutrition services in the context of common illnesses and nutrition-related noncommunicable diseases (4)	■	■
Delivery of nutrition services in the context of emergencies (2)	■	■
Behavior change communication and counseling (5)	◆	●
Management of nutrition services (8)	◆	●

Recommendations that Emerged

The recommendations that emerged from this review and discussions with key stakeholders are as follows:

SACMOs

According to government documents, the SACMO is responsible for providing nutrition services. The MAT curriculum does address a number of nutrition-related competencies; however, there are quite a few competencies relevant to the roles and responsibilities of the SACMO that the curriculum does not address well, if at all.

While it is possible that, in practice, the curriculum covers some of these topics and develops the necessary competencies, it did not appear to be the case during our review. For this reason, we recommend **reviewing and revising the MAT curriculum.** We would recommend increasing the nutrition content (both theory and practice) covered during the MAT program. More is needed in a number of areas, but particularly related to—

- the assessment of nutritional status
- management of undernutrition or thinness among adults
- management of micronutrient deficiencies and anemia
- healthy living
- general infant and young children nutrition
- breastfeeding
- maternal nutrition
- adolescent nutrition
- delivery of nutrition services in the context of common illnesses and nutrition-related noncommunicable diseases
- delivery of nutrition services in the context of emergencies.

Given the challenges, we faced in determining if a curriculum addressed a competency or not, we would also recommend **developing a more detailed curriculum or lesson plans** for training students to serve as SACMOs to ensure that it prepares them for their assigned responsibilities.

FWVs

Our findings indicate that the FWV basic course covers topics related to breastfeeding, complementary feeding, responsive care, as well as maternal nutrition. It covers some competencies related to nutrition assessment, but certainly not all necessary competencies. While it is possible that, in practice, instructors cover some of these topics and students develop the necessary competencies, it did not appear to be the case during our review of the curriculum. Therefore, we recommend **reviewing and revising the FWV basic course curriculum** to ensure that the pre-service training prepares them for their assigned responsibilities. The curriculum could benefit from additional content related to—

- assessment of nutritional status
- management of wasting among children and adolescents
- management of undernutrition or thinness among adults
- management of micronutrient deficiencies and anemia
- general infant and young children nutrition
- adolescent nutrition
- delivery of nutrition services in the context of common illnesses and nutrition-related noncommunicable diseases
- delivery of nutrition services in the context of emergencies
- behavior change communication and counseling
- management of nutrition services.

Finally, while we do know that the FWV pre-service training includes 7 months in the classroom and 11 months of practical training in a health facility, we know little about the training techniques employed. We recommend **adding a variety of teaching techniques to the curriculum** and possibly **developing more detailed lesson plans and job aids** as a supplement.

Crosscutting

While national job descriptions do exist for the SACMO and FWV, they include very little mention of nutrition-related responsibilities. The *Capacity Building Manual of Upazila Health Management for Upazila Health Manager and Service Care Providers* (MoHFW 2011) suggests that SACMOs and FWVs are responsible for providing the same services at the union level, their pre-service training differs significantly, particularly in that the SACMO training lasts more than twice as long as that of the FWV.

Therefore, we recommend **aligning the curricula for SACMOs and FWVs with their roles and responsibilities**. This might involve revising the roles and responsibilities of these two cadres and/or revising their pre-service training.

We also believe that it would be useful to **update standard national job descriptions**, **reinforce roles and responsibilities in national policies and guidelines**, and **disseminate widely**. Understanding one's responsibilities is a critical factor influencing health worker performance.

The Democratic Republic of Congo

Introduction

This report is based on work undertaken by USAID Advancing Nutrition and a team of two local consultants. To identify the health workers primarily responsible for providing nutrition services in DRC, we reviewed national policies and strategies related to health and nutrition services and human resources. We reviewed the following documents:

- *Plan National de Développement Sanitaire (PNDS) recadré pour la période 2019–2022: vers la couverture sanitaire universelle* (MSP 2018)
- *Plan Stratégique National Multisectoriel en Nutrition* (PSNMN; National Multi-Sectoral Nutrition Strategic Plan) 2016–2020 Tome I : Stratégie (MSP 2016b)
- *Plan Stratégique National Multisectoriel en Nutrition* (PSNMN) 2016–2020 Tome II : Opérationnalisation (MSP 2016c)
- *Recueil des normes de la zone de santé* (MSP 2006c)
- *Loi Cadre N° 18/035 du 13 décembre 2018 fixant les principes fondamentaux relatifs à l'organisation de la santé publique* (2018).

Of the six policy documents reviewed, only the first four listed above mention nutrition; none provided insight into the specific roles and responsibilities of cadres providing frontline services. In addition, based on consultation with stakeholders from the Ministry of Public Health (Ministère de la Santé publique [MSP]), we confirmed that the DRC does not have standardized job descriptions for its health workers. Therefore, to identify which cadres provide frontline nutrition services, we conducted further consultations with stakeholders to understand which cadres at the frontline provide which services. We also reviewed additional normative documents and protocols listed below to determine what nutrition services health workers should provide to communities:

- *Recueil des normes de la zone de santé* (MSP 2006)
- *Référentiel de compétences infirmières du niveau secondaire* (MSP 2009)
- *Référentiel de compétences de l'accoucheuse du niveau secondaire* (MSP 2014)
- *Protocole National de Prise en Charge Intégrée de la Malnutrition Aiguë*, Edition 2016 (MSP 2016d)
- *Informations utiles sur la Mise en œuvre de la Nutrition à Assise Communautaire* (MSP 2016a)

Key Nutrition Indicators for the DRC

Children under Five:

Stunting: 41.8%

Wasting: 6.5%

Underweight: 23.1%

Low birthweight: 7.1%

Women of Reproductive Age:

Prevalence of anemia among women of reproductive age: 38.4%

Prevalence of thinness among women of reproductive age (15 49 years): 14.4%

Prevalence of thinness among adolescent girls (15 19 years): 20.8%

Coverage of iron for pregnant women (for at least 90 days): 4.7%

Infant and Young Child Feeding:

Breastfeeding Practices

Children ever breastfed: 98.7%

Children still breastfed at 1 year: 88.2%

Children breastfed within 1 day of birth: 91.5%

Complementary Feeding Practices (6–23 Months):

Minimum dietary diversity: 15.2%

Minimum meal frequency: 34.1%

Minimum adequate diet: 8%

Sources: INS 2018; MPSMRM, MSP, et ICF 2014

- *Protocole National de Prise en Charge Nutritionnelle des Personnes Vivant avec le Virus Immunodéficience Humaine,* 2016 Edition (MSP 2016d)
- *Alimentation du Nourrisson et du Jeune Enfant dans les situations d'urgence Manuel d'Orientations opérationnelles* (MSP 2013b)
- *Alimentation du Nourrisson et du jeune Enfant—Module de* Formation (MSP 2013a)
- *Consultation préscolaire (CPS) manuel d'orientation* (MoH 2015)

Policy Environment for Nutrition, Nutrition Services, and Workforce Capacity Strengthening

The Democratic Republic of Congo adopted its first national nutrition policy in 2000, following the creation of the National Nutrition Program (*Programme National de Nutrition* [PRONANUT]). Further demonstrating its commitment to improving the nutritional status of its population, the country joined the Scaling Up Nutrition Movement in 2013, which led to the development of the PSNMN 2016–2020. The objective of the PSNMN is to improve the nutritional status of the population, with a focus on children 0–23 months of age, pregnant and lactating women, and adolescents by creating synergy between direct nutrition interventions and interventions across nutrition-sensitive sectors (MSP 2009).

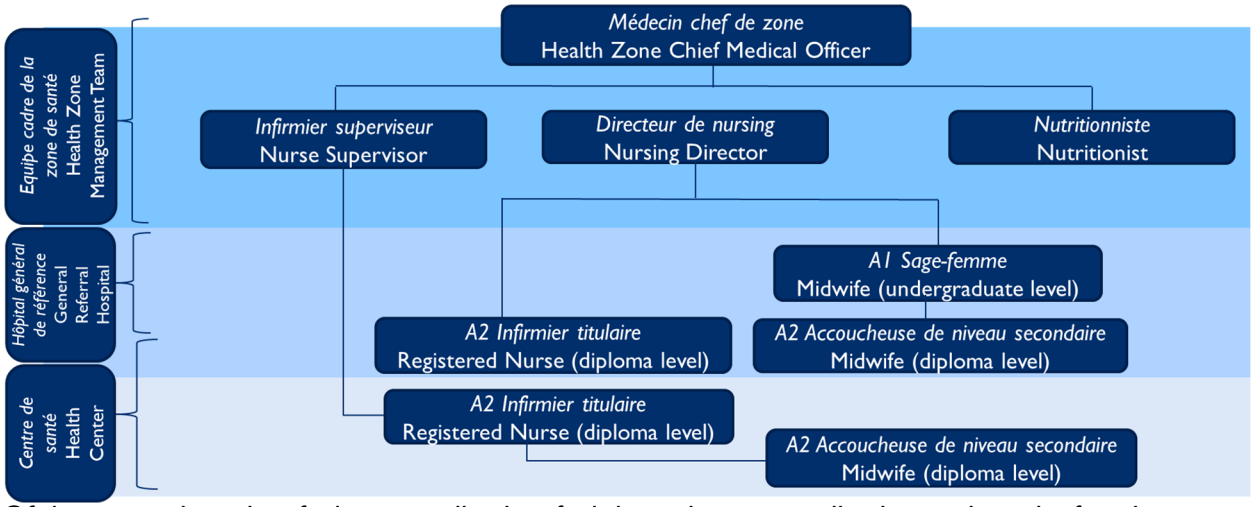
These commitments to nutrition are reinforced in the National Health Development Plan (*Plan National de Développement Sanitaire* 2019–2022 [PNSD]) which includes among its strategic objectives better coordination and integration by the MSP with other sectors to improve food security and nutrition. The PNSD also includes a commitment to improving the availability and retention of qualified human resources for health through, among other things, activities to strengthen pre-service training such as developing a review process and accreditation system for training institutions and elaborating a national training plan to ensure courses are in line with local needs.

Health Workers Primarily Responsible for Providing Nutrition Services

There are no standardized national job descriptions for health workers in DRC. To determine which cadres deliver nutrition services at the frontline or primary care level, we reviewed national protocols and training materials and consulted with officials from the MSP.[6] We cross-referenced this information with the MSP (2006) *Health Zone Standards* (*Recueil des normes de la zone de santé*), which details the services that should be provided at each health system level and some information about the types and number of staff that should be present at each level and facility type. Figure 2 summarizes the information we gathered about the health system structure at the health zone-level, including both service provision and supervisory roles.

[6] See Introduction section for the full list of documents reviewed.

Figure 2. Mapping of Cadres that Provide Frontline Services and Supervision Structures



Of the nine cadres identified, we initially identified three that potentially play a role in the frontline delivery of nutrition services: A1 sage-femme (undergraduate level midwife), the *A2 infirmier titulaire de niveau secondaire* (diploma level registered nurse) and the *accoucheuse de niveau secondaire* (diploma level midwife). After further review, we determined that only two of those cadres met our selection criteria (table 9): the A2 infirmier titulaire and the A2 accoucheuse. Both work at the health center where health workers provide frontline nutrition services.

Table 9. Criteria for Selection of Cadres of Frontline or Primary Health Care Workers in DRC

	A2 infirmier titulaire (RN)	A2 accoucheuse (SBA)
Trained prior to employment at an academic institution	☑	☑
Requires professional certification	☑	☑
Provides frontline/primary care services	☑	☑
Serves nutrition priority populations	☑	☑
Job description mentions the provision of nutrition services	✕ No national-level job descriptions available	✕ No national-level job descriptions available

A2 infirmiers titulaire work in both the health centers and general referral hospitals. According to the MSP 2006 *Health Zone Standards*, the A2 infirmier titulaire at the health center level provides the following nutrition-related services:

- growth and development monitoring for children under five years of age
- micronutrient supplementation (e.g., vitamin A, zinc)
- pre- and postnatal consultations
- special care for low birth weight babies (kangaroo mother care, assisted feeding)
- nutritional rehabilitation, including therapeutic and/or supplementary feeding
- anthropometric screening
- nutritional education.

The MSP 2006 *Health Zone Standards* do not mention the A2 accoucheuse and no national job descriptions in DRC makes it difficult to determine which nutrition competencies are relevant for this role. We assumed that they play an important role in pre- and postnatal care during which time nutritional status (particularly anemia) is an important consideration and nutrition counseling related to maternal diet and early breastfeeding practices is essential. In consultation with MSP officials, we came to understand that the A2 accoucheuses work primarily at health centers within maternity wards and provide supervisory support to community outreach groups (*cellules d'animation communautaire*). In some instances, they are also present at the hospital level where they work under the supervision of an undergraduate-level midwife (A1 sage-femme).

Pre-Service Training Required for the Selected Cadres

The A2 infirmier titulaire must complete the nursing training coursework to earn a Diploma of Technical Humanities of Health Sciences (*Diplôme des humanités techniques des sciences de santé*). The A2 accoucheuse must complete a four-year diploma-level degree earned at a nursing school. Table 10 provides a summary of the pre-service training curricula that we reviewed for these two positions.

Table 10. Characteristics of the Pre-Service Training Curricula Reviewed for Selected Cadres of Health Workers Providing Frontline Nutrition Services

	A2 infirmier titulaire	A2 accoucheuse
Degree/ certificate earned	Diploma of Technical Humanities of Health Sciences (*Diplôme des humanités techniques des sciences de santé*)	Diploma (Name or type of the degree not stated in the curriculum reviewed.)
Institutions offering degree/program	Secondary level nursing school (e.g., Institut des Techniques Médicales and Institut d'Enseignement Médical)	Secondary level nursing school (e.g., Institut des Techniques Médicales and Institut d'Enseignement Médical)
Length of program	4 years*	4 years*
Title of pre-service education curriculum	Nursing Training Reference Document *(Référentiel de formation infirmière)*	Secondary level (A2) Midwife Course *(Cours de l'accoucheuse A2)*

	A2 infirmier titulaire	A2 accoucheuse
Date of pre-service education curriculum	2007	2014–2015
Objectives of pre-service education curriculum (as stated in the documents reviewed)	The learner will be able to provide all interventions within the preventive, curative, health promotion, and rehabilitation fields: ● in complex and/or crisis or specialized situations (ear, nose, and throat; ophthalmology...) ● in a collaborative setting ● for one or more clients, the family and/or the community.	At the end of the training, the student must be able to— ● Establish professional communication. ● Make decisions on health issues posed by maternal, newborn, and child health (MNCH) targets. ● Carry out interventions to reach MNCH targets. ● Manage resources. ● Engage in professional development.
Courses with nutrition-related content	**Year 1:** Cours 2.3: Nutrition Cours 2.4: Épidémiologie/statistique (Epidemiology/Statistics) Cours 4.4: Techniques de soins (Care Techniques) Cours 4.5: Techniques de laboratoire (Laboratory Techniques) **Year 2:** Cours 2.1: Participation communautaire (Community Participation) Cours 2.2: Promotion de la santé (Health Promotion) **Year 3:** Cours 1.1: Pédagogie de l'animation (Pedagogy of Activity Facilitation) Cours 2.1: Santé de la Reproduction (Reproductive Health) Cours 3.3: Puériculture et Pédiatrie (Puericulture and Pediatrics) Cours 3.5: Obstétrique et soins (Obstetric Care) Cours 2.5: Pathologie et soins (Pathology and Care) Cours 5.1: Gestion du Centre de santé et l'unité de soins (Management	**Year 1:** *Cours Generaux (General Courses)* 3. Cours d'Éducation Physique (Physical Education) *Cours Fondamentaux (Basic Courses)* 1. Anatomie et physiologie (Anatomy and Physiology) 3. Technique de communication (Communication Techniques) 4. Introduction aux soins de santé primaires (Introduction to Primary Health Care) 5. Socio-anthropologie (Socio-Anthropology) *Cours Professionnels (Professional Courses)* 3. Pathologie générale (General Pathology) 5. Psychologie générale (General Psychology) 6. Technique de laboratoire (Laboratory Techniques) 7. Technique de soins (Care Techniques) 8. Nutrition 10. Technique d'assainissement (Sanitation Techniques)

	A2 infirmier titulaire	A2 accoucheuse
	of the Health Center and the Care Unit) **Year 4** Primarily internship	11. Administration **Year 2** *Cours Fondamentaux (Basic Courses)* 7. Pédagogie de l'Animation (Pedagogy of Activity Facilitation) 9. Soins de Santé Primaires (Primary Health Care) *Cours Professionnels (Professional Courses)* 11. Pathologies (Pathology) 13. Technique de laboratoire (Laboratory Techniques) 15. Puériculture (Puericulture) 17. Nursing Obstétrical (Obstetrical Nursing) 18. Obstétrique (Obstetrics) 20. Promotion nutritionnelle (Nutrition Promotion) **Year 3** *Cours Fondamentaux (Basic Courses)* 4. Démarche d'utilisation des Ordinogrammes (Approach to Using Flowcharts) 5. Santé de la reproduction (Reproductive Health) 6. Promotion de la santé (Health Promotion) *Cours Professionnels (Professional Courses)* 10. Obstétrique (Obstetrics) 13. Management/gestion des soins de santé primaires (Management of Primary Health Care Services) **Year 4** *Cours Fondamentaux (Basic Courses)* 4. Santé de la reproduction de l'enfant et de l'adolescent (Child and Adolescent Reproductive Health) 5. Promotion de la santé (Health Promotion)

	A2 infirmier titulaire	A2 accoucheuse
Curriculum includes lesson plans	No	No
Curriculum describes teaching methods	Yes (e.g., group discussions, demonstrations, and hands-on exercises)	Yes (e.g., individual and group work, practical sessions, case studies)
Curriculum requires an internship or practicum	Yes Year 1: 6 weeks Year 2: 10 weeks Year 3: 12 weeks Year 4: 31 weeks	Yes, but the curriculum does not mention the duration.

* This is after the completion of 10 years of education (six years of primary and four years in secondary).

Nutrition Competencies Addressed in the Pre-Service Training Curricula Reviewed

The *Curriculum Review Tool* developed by USAID Advancing Nutrition in 2021 identifies 84 competencies relevant to the delivery of frontline nutrition services. Based on available documentation of roles and responsibilities and consultations conducted, we considered all of those competencies relevant to the A2 infirmier titulaire's role and 76 of those competencies (90 percent) relevant or somewhat relevant to the A2 accoucheuse role.

We then determined if the curricula for each cadre addressed these competencies. After reviewing the curricula for the two cadres, which included course/learning objectives and indicative content, we determined that the pre-service training addresses 38 percent and 47 percent of relevant competencies overall required for A2 infirmiers titulaire and A2 accoucheuses, respectively.

For simplicity, if we could not determine if a curriculum addressed a competency, we grouped it in the "not addressed" category. For the A2 infirmier titulaire, we could not determine if the curriculum addressed nine of the 84 competencies. For A2 accoucheuses, we could not determine if the curriculum addressed 20 of the 76 relevant competencies. See table 11 for an overview of the competencies addressed in each curriculum by topic area.

Table 11. Nutrition-Related Competencies Addressed in the Curricula Reviewed, by Topic Area

Key:

= <40% of competencies somewhat addressed or well addressed

= 40–79% of competencies somewhat addressed or well addressed

= ≥ 80% of competencies somewhat addressed or well addressed

Topic Area (Number of Competencies)	A2 infirmier titulaire	A2 accoucheuse
Overall (84)	**38% (32/84)**	**47% (36/76)**
Assessment of nutritional status (8)	●	●
Management of wasting among children and adolescents (6)	■	■
Management of undernutrition or thinness among adults (8)	■	■
Management of micronutrient deficiencies and anemia (4)	■	●
Healthy living (8)	●	●
General infant and young children nutrition (7)	●	●
Breastfeeding (11)	■	◆
Complementary feeding (6)	●	■
Responsive care (2)	■	■
Maternal nutrition (2)	●	●
Adolescent nutrition (3)	■	■
Delivery of nutrition services in the context of common illnesses and nutrition-related noncommunicable diseases (4)	■	●
Delivery of nutrition services in the context of emergencies (2)	■	■
Behavior change communication and counseling (5)	◆	◆
Management of nutrition services (8)	●	●

Overall, both curricula could benefit from stronger nutrition content. For A2 infirmiers titulaire, the strongest topic area in the curriculum was behavior change communication and counseling (5 out of 5 topics addressed). However, the competencies the curriculum does not reflect are not specific to nutrition. Few—or in some cases none—of the competencies addressed related to several key topics, including management of wasting among children and adolescents, responsive care, maternal nutrition, adolescent nutrition, and the delivery of nutrition services in the context of emergencies. This means, for example, that the curriculum included no content on competencies related to maternal nutrition. There is very little detail about nutritional status and breastmilk, increased food intake, dietary diversity, and what foods to eat. The content underscores several times that women should not become obese but does not mention recommended weight gain and food intake during pregnancy. Furthermore, the curriculum, which the Ministry of Public Health last updated in 2007, contains content that no longer aligns with global best practices. For example, the complementary feeding section includes guidance for giving complementary foods from four months of age, whereas the global standard is to exclusively breastfeed infants up until six months of age. Overall, the nutrition content included is very general.

Our analysis of A2 accoucheuse pre-service training found that the curriculum best addressed breastfeeding (9 out of 11 topics addressed) and behavior change communication and counseling (4 out of 5 topics addressed). Once again, the curriculum addressed behavior change communication and counseling, but not explicitly related to nutrition. However, in other nutrition-related sections of the curriculum, courses refer back to some of these more general behavior change concepts. In contrast, the curriculum addressed no competencies related to the delivery of nutrition services in the context of emergencies. Other competencies that we determined the curriculum did not address were spread out among the other topics. The curriculum had minimal detail related to these other topic areas, so it was difficult to understand the extent to or way in which it addressed certain competencies. For example, the curriculum suggests that the A2 accoucheuses should be very familiar with the management micronutrient deficiencies and anemia, but we could not determine the specifics of what is in their scope beyond counseling pregnant women and caregivers as part of routine care. Content on nutrition for pregnant and lactating women also seemed limited, considering the important role the A2 accoucheuse plays in supporting this group. We also noted that the curriculum did not reference key national policies and standards of practice (e.g., for IYCF).

Recommendations that Emerged

Below we present recommendations that emerged from this analysis and discussions with key stakeholders. These recommendations require implementation support from several agencies, including several MSP departments, such as the *Direction Ressources Humaines* (Human Resources Department) and PRONANUT, and the agencies will need to coordinate their efforts well.

A2 Infirmier Titulaire

The A2 infirmier titulaire has a large role within the health system structure in DRC. Data on the current numbers of A2 infirmiers titulaire employed at the health center level are not available in the DRC. The MSP 2006 *Health Zone Standards* state that there should be two nurses per health center (one for consultations and one for care), which may require an increase in the number of nurses trained. If the MSP intends to meet this need by increasing the number of students training at the A2 infirmier level, having a revised, high-quality pre-service training curriculum will certainly have an impact on the quality of services delivered.

Based on our findings, **we suggest updating this curriculum**. The Ministry of Public Health last updated the curriculum more than 15 years ago and several topics were missing. Given that the National Health Development Plan includes a commitment to strengthening pre-service training, ensuring that the content used to train A2 infirmiers on these topics is **up-to-date** is an important step in meeting this national policy priority.

In addition, there are **several important gaps to address**. Content related to IYCF including breastfeeding, complementary feeding (how to introduce foods, active/reactive feeding), and responsive care needs to be strengthened along with content related to maternal nutrition, management of acute malnutrition, adolescent nutrition, obesity, nutrition for people with disabilities, and nutrition-related noncommunicable diseases. Once the Ministry of Public Health updates pre-service training, ensuring that the content of in-service training aligns will be a critical step.

A2 Accoucheuse

Without a standardized job description for the A2 accoucheuse, it was difficult for us to assess the importance of covering several topics during pre-service training. We were also unable to find data on the number of A2 accoucheuses available in DRC; however, the PNDS reports that midwives are rare, with only 2 midwives per 1,000 births (while the international standard is 6 to 1,000) (MSP 2018). The PNDS goes on to prioritize the training of additional clinical specialists with skills related to maternal and child health; the curriculum specifically mentions the management of essential newborn care and emergency obstetric and neonatal care. As the ministry has prioritized training of additional clinical specialists, this is the right time to **strengthen the nutrition content of their pre-service training curriculum** to measurably improve the quality of care.

Crosscutting

Several crosscutting recommendations emerged from our review of roles, responsibilities, and pre-service training curricula for the A2 infirmier titulaire and A2 accoucheuse:

- Once the Ministry of Public Health updates the existing pre-service training curriculum, consider **using the nutrition modules developed by PRONANUT** for in-service training to guide the content revisions, according to each cadre's roles and responsibilities.
- **Revisit how in pre-service training reflects nutrition** more broadly. For example, the inclusion of nutrition-related content appears to be ad hoc across the curriculum, rather than systematically integrated as a cohesive topic area across life stages. In addition, the curriculum could more strongly focus on the application of skills to nutrition service delivery, including behavior change communication and management, rather than taking a more general approach.
- Curricula updates also present an opportunity to **integrate content on DRC's focus on multi-sectoral nutrition** to ensure that frontline health workers are aware of the types of linkages and referrals they should be making with sectors providing preventative and supportive services (e.g., water, sanitation, and hygiene; food security; and social protection).
- We also recommend **introducing students to key national policies and standards of practice.** Update the training curricula to ensure that content is current and aligns with national job descriptions (if the MSP elaborates on them), guidelines, and multi-sectoral nutrition policies and plans.
- We recommend **developing national-level job descriptions** for the A2 infirmier titulaire and A2 accoucheuse as well as other health-service delivery cadres. Having clearly defined roles and responsibilities for each cadre will help ensure that preservice, in-service, and other professional development opportunities cover the right content. As part of this effort, we recommend establishing a timeline or developing a plan for periodically updating job descriptions. This process can trigger or inform updates to the pre-service training curricula needed to adequately prepare service providers to meet the needs of the population, fulfill their roles and responsibilities, and follow best global practice and policy directives.
- Lastly, the PNSD includes a strategy for **the development of a review process and accreditation system for training institutions and elaborating a national training plan**

to ensure courses are in line with local needs. These steps will be essential to ensuring A2 infirmiers titulaire and A2 accoucheuses complete their pre-service training with the right skills to effectively serve in their roles.

Ghana

Introduction

This report is based on work undertaken by USAID Advancing Nutrition with inputs from a local consultant. To identify the health workers primarily responsible for providing nutrition services in Ghana, we reviewed government documents (e.g., job descriptions, policies, and service delivery protocols) that articulated priority nutrition services as well as the roles and responsibilities of professional/certified health workers to provide those services at the frontline (primary health care level). We reviewed the following documents:

- *National Human Resource Policy and Strategies for Health* (MoH 2020c)
- *National Health Policy: Ensuring Healthy Lives for All*, Revised Edition (MoH 2020b)
- *Ghana's Roadmap for Attaining Universal Healthcare Coverage, 2020–2030* (MoH 2020a)
- *Ghana Ministry of Health—Referral Policy and Guidelines* (MoH 2016a)
- Ghana *National Healthcare Quality Strategy, 2017–2021* (MoH 2016b)
- *National Nutrition Policy* (MoH and GHS 2016)
- *Ghana Shared Growth and Development Agenda II, 2014–2017* (NDPC 2014)
- *National Community Health Planning and Services (CHPS) Policy: Accelerating Attainment of Universal Health Coverage and Bridging the Access Inequity Gap* (MoH 2014a)
- *Staffing Norms for the Health Sector of Ghana: A Technical Report* (MoH 2014b)
- *Human Resources for Health Country Profile* (MoH 2011)
- Country Case Study, Ghana: *Implementing a National Human Resources for Health Plan* (WHO and GHWA 2008)
- *Job Descriptions for Clinical, Nursing, and Midwifery and Pharmacy Staff* (MoH and GHS 2005b)
- *Job Descriptions for Allied Health Staff II* (MoH and GHS 2005a).

Nutrition Indicators for Ghana

Children under Five:

Stunting: 17.5%

Wasting: 6.8%

Underweight: 12.6%

Low birth weight: 14.2%

Overweight: 1.4%

Obesity: 0.3%

Women of Reproductive Age*:

Anemia: pregnant women: 47.2%, Non pregnant women: 34.5%

Underweight (women 18+): 6.6%

Overweight (women 18+): 43.3%

Obesity (women 18+): 19.3%

Infant and Young Child Feeding:

Breastfeeding Practices:

Children ever breastfed: 98.7%

Children exclusively breastfed: 42.9%

Children still breastfed at 1 year: 90.4%

Children breastfed within 1 hour of birth: 52%

Complementary Feeding Practices (6–23 Months):

Minimum dietary diversity: 23%

Minimum meal frequency: 40.7%

Minimum acceptable diet: breastfed children: 14.1%,

non-breastfed children: 6.1%

Sources: GSS 2018; WHO 2022b; NCD RisC 2017

Policy Environment for Nutrition, Nutrition Services, and Workforce Capacity Strengthening

The Government of Ghana has a National Nutrition Policy—published in 2016—which, in itself, is an acknowledgement of the importance given to improving the nutritional status of its population. The policy calls for integrating nutrition interventions within the existing facility and community-based maternal, newborn, and child health services; enhancing nutrition content in pre-service and continuous education for all nutrition service providers; and strengthening capacity for delivering behavior change communication to promote optimal nutrition.

In addition, Ghana's *Roadmap for Attaining Universal Healthcare Coverage (UHC) 2020–2030* recognizes that "dietary deficiency related conditions including undernutrition, anemia, obesity, and micronutrient deficiencies will be given adequate attention at the primary level" (MoH, Ghana 2020a, 7). Of the 28 indicators mentioned for measuring progress towards UHC, six relate to nutrition:

1. prevalence of anemia among children of school going age
2. prevalence of stunting among children under five
3. prevalence of moderate to severe wasting among children under five
4. obesity in adult population ages 24–60
5. prevalence of type 2 diabetes in children and adolescents
6. prevalence of hypertension in persons less than 60 years.

The roadmap prioritizes growth monitoring, dietary supplementation, prevention and treatment of hypertension and diabetes, as well as efforts to increase availability of water, sanitation, and hygiene services as essential primary preventive services.

In addition, it proposes focusing human resource development on the primary health care level, suggesting that professional training be "integrated into mainstream tertiary academic education to align certification and licensing" (MoH, Ghana 2020a, 13).

Further supporting the need to strengthen training, one of the five strategic objectives included in the *2020 National Health Policy: Ensuring Healthy Lives for All* is to "encourage the adoption of healthy lifestyles" (MoH 2020b, 18). The policy notes that "the available trained (professional) health workforce is inadequate in number (quantity), inappropriate in mix (skills/competencies and quality), and inequitably distributed (coverage)" (21). However, it does not mention pre-service training.

The *Ghana National Healthcare Quality Strategy (2017–2021)* calls for training health workers in the requisite clinical skills and in quality improvement methods (2016b). It suggests using protocols and guidelines in pre-service training programs and employing supportive supervision to keep staff up-to-date on the implementation of priority health interventions. It summarizes health-system priority issues and population health priorities; however, it does not include nutrition. In fact, the document only mentions nutrition three times.

Although the strategy is somewhat outdated, it is worth noting that three of the policy objectives included in the *Ghana Shared Growth and Development Agenda II, 2014–2017* are directly or indirectly related to nutrition (2014):

- Bridge the equity gaps in access to health care and nutrition services and ensure sustainable financing arrangements that protect the poor.
- Improve access to quality maternal, neonatal, child, and adolescent health services.

- Prevent and control the spread of communicable and noncommunicable diseases and promote healthy lifestyles.

Ghana's 2018–2021 *Medium Term Development Plan* (LGS 2017) does not include any policy objectives related to nutrition nor any mention of nutrition or nutrition topics such as breastfeeding, diet, or feeding.

Health Workers Primarily Responsible for Providing Nutrition Services

Ghana has a complex health-service delivery structure, with many cadres of health workers. Through our document review and stakeholder interviews, we were able to map the cadres that may provide frontline nutrition services (figure 3). We then identified six cadres that stood out as potentially relevant for this review (table 12): the midwife; the enrolled nurse; the public health nurse; the technical officer, nutrition; the nutrition officer; and the registered nurse assistant, preventive (RNAP, formerly the community health nurse).

Figure 3. Mapping of Cadres that Provide Frontline Services and Supervision Structures

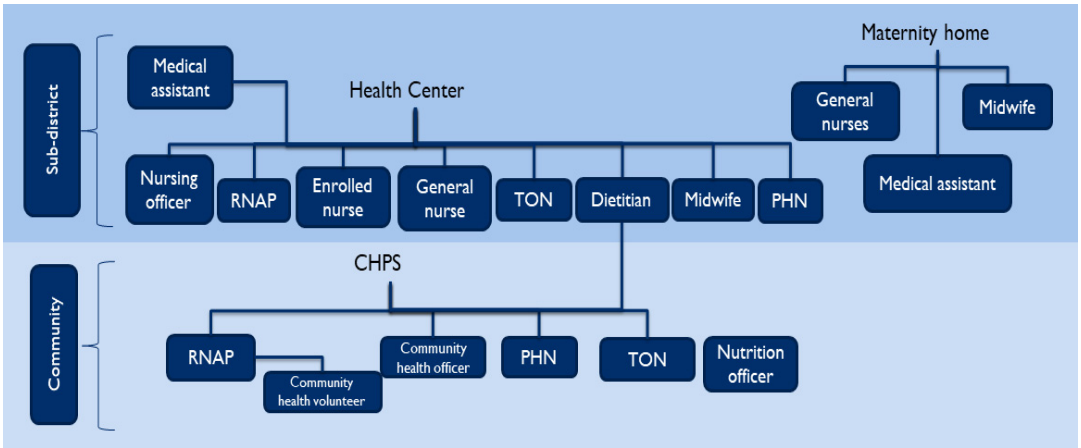


Table 12. Characteristics of Cadres of Frontline or Primary Health Care Workers in Ghana

Selection Criteria	Midwife	Enrolled Nurse	PHN	TON	Nutrition Officer	RNAP
Trained prior to employment at an academic institution	☑	☑	☑	☑	☑	☑
Requires professional certification	☑	☑	☑	☑	☑	☑
Provides frontline/primary care services	✕	✕	✕	✕	☑	☑
Serves nutrition priority populations	✕	☑	☑	☑	☑	☑

Selection Criteria	Midwife	Enrolled Nurse	PHN	TON	Nutrition Officer	RNAP
Job description mentions the provision of nutrition services	☑	☑	✕	☑	☑	☑

Of the six cadres, we identified four that play a key role in the frontline delivery of nutrition services: PHN, TON, nutrition officer, and the RNAP. Of those, two stood out for a more in depth review: nutrition officer and the RNAP. These cadres met all of our selection criteria: trained prior to employment at an academic institution, requires professional certification, provides frontline services, serves nutrition priority populations, and has a job description, which specifically mentions the provision of nutrition services. Initially, we were unable to find a standardized curriculum for either; however, we did find curricula for the PHN and TON and given their role in service provision began our review with those. Eventually, we were able to collect and review the curriculum for the TON and, thus, included the PHN, TON, and RNAP in our report.

The PHN, according to the Ministry of Health document, *Job Descriptions for Clinical, Nursing, Midwifery, and Pharmacy Staff* (MoH and GHS 2005b), has nine responsibilities, six of which we considered related to frontline nutrition services:

- Assist in the development of patient caseload/catchment population and implementation of care programs.
- Undertake family planning and outreach services.
- Undertake child welfare clinic, home, and school health services.
- Play active role in periodic community mobilization in the catchment area.
- Trace defaulters (clients in treatment for human immunodeficiency virus [HIV]/acquired immunodeficiency syndrome [AIDS], tuberculosis, diabetes, etc.) in the community.
- Undertake pre and post voluntary counseling and testing for HIV and AIDS as well as counseling on health-related issues (patients newly diagnosed with tuberculosis and diabetes).

The purpose of the nutrition officer and the TON are similar. According to the job descriptions for Allied Health staff (MoH and GHS 2005a), the nutrition officer should "ensure the attainment and maintenance of good nutrition of the population through the implementation of nutrition policies" (76) while the TON is expected to "ensure the nutritional well-being for the population in the district/community" (90). The nutrition officer and TON have similar responsibilities related to implementing nutrition policies, interventions, activities, and programs. All of their duties and responsibilities relate to frontline nutrition services. However, the nutrition officer is responsible for monitoring trends in malnutrition in the community, coordinates activities with relevant agencies, and ensures that "emerging issues in specific areas in nutrition are adequately incorporated into the training programme of health service staff and other relevant institutions" (76). The TON is not responsible for those tasks, but is responsible for—

- assisting in assessing and monitoring the nutrition situation at the community levels
- participating in nutrition surveys in the district/community
- providing nutrition education and counseling to specialized groups and the general public

- rehabilitating malnourished children in feeding centers in the district (90).

The RNAP—still referred to as the CHN in MoH job descriptions (2005b)—has 11 primary responsibilities, which are quite similar to those of the PHN. Although these do not explicit mention nutrition, but we considered eight of them related to frontline nutrition services:

- Assist in developing patient caseload/catchment population profile and identify, prioritize, and implement programs of care, planning, and carrying out maternal and child health activities.
- Participate in health education activities.
- Assist in the running of family planning, postnatal, and child welfare clinics.
- Counsel individuals with special problems during child welfare clinics and refer to the appropriate person.
- Conduct school hygiene inspection.
- Assist in ensuring continuity of care by tracing defaulters; making follow-ups visits to clients with tuberculosis or HIV/AIDS, elderly clients, or low birth weights babies; and advising them accordingly.
- Assist in the deliveries during home visits when the need arises.
- Liaise with other agencies like social welfare to assist clients in need of support.

Pre-Service Training Required for Those Health Workers

Table 13 presents the pre-service training requirements for these cadres. As mentioned above, the Allied Health Professions Council identifies two similar, but different cadres, the nutrition officer, and the TON (MoH 2005a). The former requires a degree in nutrition or related discipline such as home science or biochemistry and at least one-year national service or internship in a recognized health facility. The latter requires a diploma in nutrition (community health) and at least one-year national service or internship in a recognized health facility. We searched for a national/standardized curriculum for the degree in nutrition, required to serve as a nutrition officer, and for the diploma in nutrition, required for the position of TON. However, we were only able to gain access to one curriculum—the curriculum for a diploma in nutrition (sometimes referred to as the Diploma Community Nutrition Programme) from the College of Health and Well-Being in Kintampo (2019). Interestingly, the document refers somewhat interchangeably to the "technical officers (nutrition)" and the "nutrition officer", stating that the "rationale of the programme is to produce qualified Officers" (4), shortly thereafter explaining that the programme "aims at training qualified Nutrition Officers" (4).

Thus, our analysis focuses on two three-year diploma-level programs, the Diploma in Public Health Nursing required for the PHN and Diploma in Community Nutrition for the TON and one two-year certificate-level program, the Certificate of Community Health Nursing, which the RNAP requires. All of the curricula reviewed have been updated in the past two years.

The curriculum we reviewed for the PHN does not specify prerequisites. It includes 28 specific objectives of the PHN's Diploma in Public Health Nursing Programme (MoH 2021a). Several of them suggest the importance of nutrition but only one explicitly mentions nutrition:

1. Assess nutrition needs and resources and assist the community to identify appropriate interventions.
2. Impart knowledge and principles of health to patients and clients.

3. Contribute to and promote primary health care services and community-based health planning and services in the community.
4. Conduct community diagnosis, plan, implement, and evaluate community programs towards preventive, promotive, and rehabilitative services.
5. Plan and conduct health promotion programs based on community diagnosis and prevailing health issues.
6. Provide family planning; voluntary counseling and testing (VCT); sexually transmitted infections (STIs)/HIV and AIDS; adolescent, maternal, and child health services.
7. Plan and implement school health programs.

The curriculum we reviewed for the TON's Diploma in Community Nutrition Programme indicates two modes of admission. The first is direct entry for applicants 16–35 years of age with minimum scores from the Secondary School Certificate and West African Secondary School Certificate Examination. The second is post-basic entry for experienced applicants with a certificate as a field technician; nurse assistant, preventive; nurse assistant, clinical; or health records assistant. The curriculum seeks to train "people to acquire the right competencies to undertake effective nutrition interventions, ensure optimal infant health though appropriate infant feeding practices in health and disease, good maternal nutritional status, and general well-being of the populace through effective delivery of nutrition services and assist with the management of health units" (College of Health and Well-Being 2019, 4). Specifically, it expects graduates to be able to perform the following functions:

1. Carry out nutrition needs assessment and survey, analyze, and interpret results.
2. Plan and execute, monitor, and evaluate nutrition intervention programs.
3. Recognize, manage, and refer where necessary, clients with nutritional disorders.
4. Provide nutrition guidance to policy makers in formulating appropriate policies and interventions.
5. Conduct research in nutrition and health.

Later in the curriculum, it also mentions seven more functions:

1. Provide technical and administrative support in delivery of nutrition services.
2. Coordinate nutrition activities.
3. Supervise the collation and analysis of nutrition data.
4. Produce nutritional reports.
5. Develop research proposals on identified nutrition issues.
6. Ensure adequate logistics for nutrition activities.
7. Provide technical support during training and nutrition surveys.

Finally, like the curriculum for the PHN, the curriculum for Certificate of Community Health Nursing required for the RNAP does not indicate requirements for entry into the program. The curriculum seeks to "produce a cadre of professionals who would assist in providing preventive nursing services in the community" (MoH 2021) who are able to perform 16 functions. None of those mentions nutrition directly, but many are similar to the objectives of the PHN curriculum, broad and likely to involve nutrition service delivery. For example—

- Contribute to and promote primary health care services/CHPS in the community.

- Assist in the conduct of community diagnosis, planning, implementing, and evaluating community programs towards preventive, promotive, and rehabilitative services.
- Assist in the planning and conduct of health promotion programs.
- Assist in the provision of family planning; VCT; STIs/HIV and AIDS; adolescent, maternal and child health services.
- Assist in the planning and implementation of school health programs.

Table 13. Characteristics of the Pre-Service Training Curricula Reviewed for Selected Cadres of Health Workers Providing Frontline Nutrition Services

	PHN	TON	RNAP
Professional registration	**Nursing and Midwifery Council**	**Allied Health Professionals Council**	**Nursing and Midwifery Council**
Degree/certificate earned	Diploma in Public Health Nursing	Diploma in Community Nutrition	Certificate of Community Health Nursing
Pre-service education institutions	College of Health and Well-Being in Kintampo	Korle Bu Public Health Nursing School in Accra and the University of Health and Allied Sciences in Ho	23 training colleges
Pre-service education length	3 years plus 30 weeks practicum	3 years plus 30 weeks practicum	2 years plus 18 weeks practicum
Title of pre-service education curriculum reviewed	Curriculum for the Public Health Nursing Programme	Curriculum for the Diploma in Nutrition Programme	Curriculum for the Registered Nurse Assistant Preventive Programme
Date curriculum updated	2021	2019	2021
Number of nutrition-related objectives of the curriculum	1 out of 28	12 out of 12 (functions and/or responsibilities)	0 out of 16
Number of nutrition-related courses or subjects	21 (11 with extensive nutrition content) 48 courses total (including practical) MIP 111: Microbiology and Infection Prevention/Control	29 (17 with extensive nutrition content) 45 courses total (including practical) DCHD 121: Basic Nutrition DCHD 111: Communication Skills I	16 (6 with extensive nutrition content) 31 courses total (including practical) Introduction to Human Anatomy and Physiology Community Nursing I Health Promotion

	PHN	TON	RNAP
	TCM 111: Professional Adjustment in Public Health Nursing Intra-Semester and Vacation Practicum I (Basic Nursing) PHN 122: Personal and Environmental Health PHN 124: Principles and Practice of Public Health Nursing I BHS 122: Behavioural Sciences Intra-Semester and Vacation Practicum II (Public Health Nursing) Inter-Semester and Vacation Practicum II PHN 211: Principles and Practice of Public Health Nursing II PHN 213: Principles of Disease Management and Control I MMN 211: Medicine and Medical Nursing CTM 211: Complementary, Traditional/Alternative Medicine, Pharmacology, and Pharmacovigilance STA 211: Statistics Intra-Semester and Vacation Practicum III (Public Health, Medical, and Surgical Nursing) Inter-Semester and Vacation Practicum III PHN 224: Health Promotion NAD 222: Nutrition and Dietetics RES 222: Research Methods Intra-Semester and Vacation Practicum IV	DCHD 231: Medical Sociology DCHD 101: Practicum I DCHD 112: Communication skills II HCHD 203: Health Psychology DBSD 162: Biochemistry II DCHD 102: Practicum I (continued) DCHD 241: Primary health care (CHPS) DCHD 201: Practicum 2 DCHD 212: Health Promotion DCHD 222: Community Nutrition DCHD 232: Food Science DCHD 230: Nutritional Status Assessment DCHD 202: Practicum 2 (continued) DCND 331: Dietetics I DHID 371: Health Systems Management I DCHD 321: Family Health DCND 341: Nutritional Surveys DCMD 311: Basic Medicine I DCHD 351: Growth Monitoring and Promotion DCHD 361: Nutritional Rehabilitation DCHD 301: Practicum 3 DCHD 312: Dietetics II DHID 372: Health Systems Management II DCHD 332: Contemporary Issues in Nutrition DCHD 302: Public Health Seminar DCHD 392: Project work	Personal and Environmental Health Introductory Child Health Introductory Nutrition Community Nursing Practicum Community Nursing Practicum (continued) Community Nursing II Introductory Principles of Disease Management and Control I Introductory Obstetric Nursing Community Nursing Practicum III Community Nursing Practicum II (continued) Introductory Principles of Disease Management and Control II Introductory Health Services and Supply Chain Management Introductory Statistics

	PHN	TON	RNAP
	(Mental and Public Health Nursing) Inter-Semester and Vacation Practicum IV OBS 311: Obstetric Nursing PHN 313: Client/Family Centred Care Study CBR 311: Community-Based Rehabilitation PHN 317: Principles of Disease Management Intra-Semester and Vacation Practicum V (Obstetric and Public Health Nursing) Inter-Semester and Vacation Practicum V PHN 324: Adolescent Sexual and Reproductive Health		
Lesson plans included in curriculum	✗ (list of content)	✗ (list of content)	✗ (list of content)
Priority competencies included in curriculum	☑	☑	☑
Teaching methods described in curriculum	☑	☑	☑

Nutrition Competencies Addressed in the Pre-Service Training Curricula Reviewed

The *Curriculum Review Tool* developed by USAID Advancing Nutrition in 2021 identifies 84 competencies relevant to the delivery of frontline nutrition services. Based on their job descriptions, their places of work, and the populations they serve, we consider all of those competencies relevant for the PHN and nutrition technical officer. The only competency we thought was not relevant for the RNAP was the ability to identify and address barriers to provision of effective, high quality, equitable nutrition services using a quality improvement or other similar approach. We then determined if the curriculum addressed these competencies for each cadre. See table 14 for an overview of the competencies addressed in each curriculum by topic area.

We determined that the curriculum for the PHN at least somewhat addressed 69 (82 percent) of the nutrition-related competencies that we were looking for. The curriculum addressed quite well the competencies related to the assessment of nutritional status, management of wasting among children and adolescents, management of micronutrient deficiencies and anemia, healthy living, responsive care, maternal and adolescent nutrition. It also covered, although less extensively, from what we could

ascertain, management of wasting among children and adolescents, general infant and young children nutrition, complementary feeding, and management of nutrition services. However, despite the globally recognized and widely appreciated role of breastfeeding in ensuring the health and growth of young children, it did not appear to us that the curriculum addressed the following competencies related to breastfeeding:

- knowledge of how to implement the International Code of Marketing of Breast-Milk Substitutes
- ability to facilitate kangaroo mother care
- ability to help a mother achieve comfortable and safe positions for breastfeeding and an effective and comfortable latch
- ability to help a mother manage milk expression
- ability to help mothers and caregivers if a mother is not feeding her baby directly at the breast
- ability to help a mother to breastfeed a low-birth-weight or sick baby
- ability to help a mother prevent and/or address common breastfeeding problems.

In addition, while the PHN job description does not call out these competencies specifically, we note a few that might be useful:

- ability to develop a feeding/eating plan following recovery from SAM/wasting
- knowledge of nutrition-related policies and programs for people living with HIV/AIDS
- ability to counsel clients on nutrition in the context of HIV and AIDS
- ability to provide nutrition services in the context of NR-NCDs
- ability to counsel clients on nutrition in a culturally appropriate, client-centered way
- ability to help clients identify and achieve their nutrition goals.

We considered 62 (74 percent) of the nutrition-related competencies addressed in the curriculum for the Diploma in Nutrition Programme for the TON. As was the case with the curriculum for the PHN, this curriculum addressed the assessment of nutritional status, management of wasting among children and adolescents (with the exception of a few competencies), management of undernutrition or thinness among adults, management of micronutrient deficiencies and anemia, healthy living, maternal nutrition, and management of nutrition services.

This curriculum better addressed breastfeeding as well as the delivery of nutrition services in the context of common illnesses and NR-NCDs. However, it seemed clear to us that the curriculum did not address the following five competencies:

- knowledge of how to implement the International Code of Marketing of Breast-Milk Substitutes
- ability to counsel caregivers on different types of disabilities, possible effects on children's nutritional requirements and status, and when to seek additional support
- ability to monitor feeding/eating developmental milestones and notice feeding/eating warning signs
- ability to counsel caregivers on the relationship between optimal nutrition and early childhood development, developmental milestones, nurturing care, responsive feeding, and early stimulation

- ability to counsel clients on nutrition in a culturally appropriate, client-centered way that demonstrates respect for social, cultural, and economic differences.

Based on the information included in the curriculum, it appeared that there were gaps in the Diploma in Nutrition Programme related to management of wasting among children and adolescents, management of undernutrition or thinness among adults, breastfeeding, complementary feeding, delivery of nutrition services in the context of emergencies, and behavior change communication and counseling.

Of the 83 competencies we considered relevant for the RNAP, we found that the curriculum addressed only 36 (43 percent). The curriculum did a good job covering healthy living, responsive care, maternal nutrition, adolescent nutrition, and management of nutrition services. While the curriculum may align with the current RNAP job description, it is worth noting the gaps, which we identified in the following areas:

- assessment of nutritional status
- management of wasting among children and adolescents
- management of undernutrition or thinness among adults
- management of micronutrient deficiencies and anemia
- general infant and young children nutrition
- breastfeeding
- complementary feeding
- delivery of nutrition services in the context of common illnesses and NR-NCDs
- delivery of nutrition services in the context of emergencies
- behavior change communication and counseling.

Table 14. Nutrition-Related Competencies Addressed,[7] by Topic Area

Key:

■ = <40% of competencies somewhat addressed or well addressed

● = 40–79% of competencies somewhat addressed or well addressed

◆ = ≥ 80% of competencies somewhat addressed or well addressed

Topic Area (Number of Competencies)	PHN	TON	RNAP
Overall (84)	**82% (69/84)**	**74% (62/84)**	**43% (36/83)**
Assessment of nutritional status (8)	◆	◆	■

[7] For simplicity, if we could not determine if a curriculum addressed a competency, we grouped it in the "not addressed" category. We could not determine if the Diploma in Nutrition Programme curriculum for the TON addressed 18 competencies or if the curriculum for the RNAP addressed 16 competencies.

Topic Area (Number of Competencies)	PHN	TON	RNAP
Management of wasting among children and adolescents (6)	◆	●	■
Management of undernutrition or thinness among adults (8)	◆	◆	■
Management of micronutrient deficiencies and anemia (4)	◆	◆	■
Healthy living (8)	◆	◆	◆
General infant and young children nutrition (7)	◆	●	●
Breastfeeding (11)	■	●	■
Complementary feeding (6)	◆	■	■
Responsive care (2)	◆	■	◆
Maternal nutrition (2)	◆	◆	◆
Adolescent nutrition (3)	◆	●	◆
Delivery of nutrition services in the context of common illnesses and nutrition-related noncommunicable diseases (4)	●	◆	●
Delivery of nutrition services in the context of emergencies (2)	■	■	■
Behavior change communication and counseling (5)	●	●	●
Management of nutrition services (8)	◆	◆	◆

Recommendations that Emerged

National policy in Ghana is supportive of strengthening the competencies of health workers to provide frontline nutrition services through pre-service training. Generally, the curricula reviewed are quite comprehensive and could be a good example for other countries to follow. The recommendations that emerged from this analysis and in discussions with key stakeholders are as follows:

PHN

First, given the role of the PHN at the frontline, we believe that the Government of Ghana should review the PHN's duties and responsibilities and revise the curriculum to ensure that they reflect the nutrition activities they routinely conduct, such as assessment, treatment, and promotion.

Second, the curriculum for Diploma in Public Health Nursing does a good job of covering nutrition-related competencies. However, the objectives do not reflect the important role of nutrition in the certification. We would recommend adding competencies explicitly related to the delivery of nutrition services to the objectives of the curriculum for the Diploma in Public Health Nursing.

Finally, the curriculum could benefit from additional content related to the following content areas:

- breastfeeding
- behavior change communication and counseling
- delivery of nutrition services in the context of emergencies
- delivery of nutrition services in the context of common illnesses and NR-NCDs.

As mentioned before, proper breastfeeding is critical for children's growth and development, which makes gaps in this area particularly important. In addition, given that an estimated 19.3 percent of adult women (aged 18 years and over) in Ghana are living with obesity and 7.6 percent have been diagnosed with diabetes (NCD RisC 2017) makes it of greater importance that frontline health workers understand why and how to deliver nutrition services in the context of common illnesses and NR-NCDs.

TON

First, we would strongly recommend reviewing the duties and responsibilities of the nutrition officer and the TON. They currently appear to be very similar in national job descriptions (MoH 2005a). They might perform more effectively in their roles if the differences were more clearly defined. This helps ensure that each cadre develops the specific skills needed for their role, and is able to apply those skills on the job.

Second, despite the similarities in their duties and responsibilities, the qualifications for the two positions appear different in the job descriptions (MoH 2005a). It would be helpful to clarify these qualifications and better align them with national curricula and their corresponding certifications (diplomas, degrees).

Third, despite the difference in qualifications required for the two positions, the curriculum we reviewed referred interchangeably to the nutrition officer and the TON. We understand that multiple cadres may require the same degree or diploma; however, each role should have a unique set of skills to bring to the work and the curriculum for their pre-service training should include topics and techniques that will help them develop those skills. While the qualifications suggest a difference in what the roles require, the curriculum reviewed does not. We recommend reviewing the standardized curricula and their certifications to ensure that they align with the qualifications required for each cadre of health workers. This may require a simple revision to the certification required for the nutrition officer or TON or the revision of the standardized curricula.

Finally, there were a number of competencies that we thought the curriculum did not address and others that we couldn't determine whether they were from the information included in the curriculum. It might be useful to more explicitly state what should be covered related to general infant and young children nutrition; management of wasting among children and adolescents; management of undernutrition or thinness among adults; adolescent nutrition; and behavior change communication and counseling.

RNAP

As with the PHN, given the role of the RNAP and place of work—at the frontline—we recommend, first, including or more explicitly stating nutrition-related responsibilities such as nutrition assessment, treatment, and promotion in the RNAP's job description.

Relatedly, we also recommend adding more details to the pre-service training curriculum where we were unable to determine if the curriculum addressed the competencies related to the assessment of nutritional status, breastfeeding, and complementary feeding. Expand it to address and build more nutrition-related competencies related to general infant and young children nutrition, breastfeeding, nutrition services in the context of emergencies, and behavior change communication and counseling.

Crosscutting

All of the curricula reviewed covered the eight competencies needed related to healthy living, the two competencies included in the tool related to maternal nutrition, and the eight competencies related to the management of nutrition services. However, they all could benefit from more content on the delivery of nutrition services in the context of emergencies.

The Kyrgyz Republic

Introduction

This report is based on work undertaken by USAID Advancing Nutrition and a local consultant. To identify the health workers primarily responsible for providing nutrition services in the Kyrgyz Republic, we articulated priority nutrition services as well as the roles and responsibilities of professional/certified health workers to provide those services at the frontline (primary health care level). We reviewed the following documents:

- *The Law of the Kyrgyz Republic No. 263* (2008)
- *The Program for the Protection of Public Health and the Development of the Healthcare System for 2019–2030* (MoH 2018)
- *No. 320 On Approval of the Food Security and Nutrition Programme in the Kyrgyz Republic for 2019–2023* (2019)
- *Order No. 54 on the Organization of Primary Health Care* (MoH 2011)
- *Order No. 144 on the Organization of Protection, Support, and Promotion of Breastfeeding in Young Children in Maternity Hospitals (Departments), Children's Hospitals, General Medical Practice Centers, Family Medicine/Groups of Family Doctors, Feldsher-Obstetrical Ambulatory Point (FAPs) of the Kyrgyz Republic* (MoH 2016)
- *Order No. 33 on Surveillance of Healthy Children 0–18 Years Old at the Primary Care Level Health Care* (MoH 2019a)
- *Order No. 567/1 on the Approval of State Educational Standards for Specialties of Secondary Vocational Education* (MoH 2019b)
- *Order No. 28 on the Approval of the Catalog of Nursing Competencies* (MoH 2020a)
- *Order No. 42 on the Approval of the Professional Standard "Nursing"* (MoH 2020b)

Nutrition Indicators for Kyrgyz Republic

Children under Five:

Stunting: 11.8%

Wasting: 2%

Underweight: 1.8%

Low birthweight: 4.5%

Overweight: 6.9%

Obesity: 1.7%

Women of Reproductive Age (15–49 Years)*:

Prevalence of anemia: pregnant women: 36.3%, non-pregnant: 35.8%

Prevalence of underweight: 3.7%

Coverage of iron for pregnant women (for at least 90 days): 45%

Prevalence of overweight: 50.8%

Prevalence of obesity: 21.4%

Prevalence of diabetes: 13.2%

Infant and Young Child Feeding:

Breastfeeding Practices

Children ever breastfed: 99%

Children still breastfed at 1 year: 77.4%

Children breastfed within 1 hour of birth: 81%

Complementary feeding practices (6 23 months):

Minimum dietary diversity: 59.8%

Minimum meal frequency: 75%

Minimum acceptable diet: breastfed children: 49.4%, non-breastfed children: 32.4%

Sources: GSS 2018; NSC, MoH, and ICF 2013; NCD RisC 2017; WHO 2019

- *Order No. 902 on the Approval of the Standard Job Description of a Family Doctor and a Family Nurse* (MoH 2020c)
- *Order No. 993 on the Introduction of Updated Standards for the Assessment of Physical Development in Children from 0 to 17 Years* (MoH 2020d)
- *Order No. 1357/1 on the Approval of the State Educational Standard of Higher Professional Education in the Specialty "General Medicine"* (MoH 2021b).

Policy Environment for Nutrition, Nutrition Services, and Workforce Capacity Strengthening

The Government of the Kyrgyz Republic acknowledges the significance of nutrition, especially the roles and responsibilities of health workers, in promoting health and growth of the nation. In the Food Security and Nutrition Program (2019–2023), the Government articulates a goal of "ensuring everyone's right to a healthy diet at all stages of their life cycle and scientifically based nutrition information to improve knowledge about healthy nutrition and eating behavior (practice)" (2019, 9). To do this, the Kyrgyz Government identified several relevant priorities to the delivery of quality nutrition services including—

- expanding and supporting an enabling policy environment for improving nutrition
- improving the quality and coverage of specific nutrition measures
- strengthening the human potential of health workers and creating a sustainable demand for healthy nutrition among the population.

The development of an updated high-quality primary health care system is a key element of the *Public Health Protection and Health System Development Program for 2019–2030* (MoH 2018). It includes three nutrition-related goals—

1. Reduce iodine deficiency and iron deficiency anemia among women and children.
2. Reduce the prevalence of stunting among children under five years of age to 7 percent.
3. Reduce the consumption of tobacco, alcohol, salt, and sugar.

In regards to noncommunicable diseases, many of which are nutrition-related, the program calls for—

- development and implementation of NCD surveillance
- development and implementation of packages of preventive services at the population level, including standards for their provision in NCDs
- development of an information and communication strategy aimed at to change the composition of products and ensure a reduction in the consumption of salt and trans fats by the population
- development and implementation of mechanisms for financing preventive services at the population level
- development and implementation of mechanisms to promote personal responsibility of citizens for their own health and the health of others
- development and approval of the concept of rational and healthy nutrition of the population
- development of training programs for nurses on the management of NCDs at the PHC level.

The Public Health Protection and Health System Development (MoH 2018) uses an integrated approach with tasks such as—

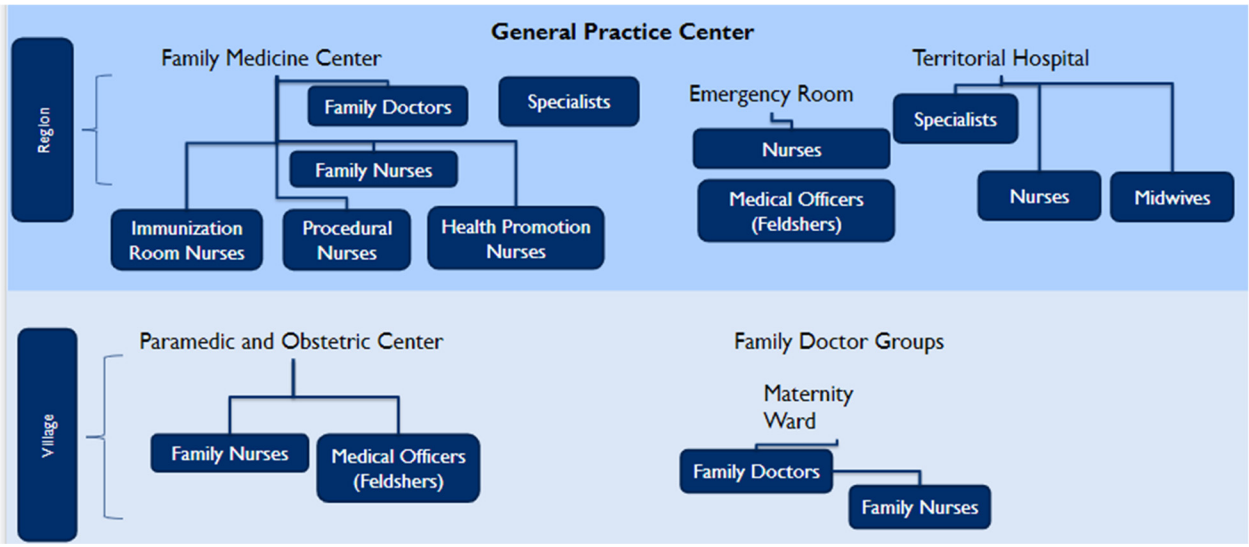
- creating an effective PHC model that includes services for prevention, early detection of diseases and management/management of cases of diseases, and other obligations of the State around the right to access health services
- improving continuity and coordination between PHC and secondary and tertiary level organizations to ensure an integrated and patient-oriented approach in the provision of services
- improving the quality and coverage of PHC services
- strengthening human resources to provide qualified PHC services.

According to the program document, this also requires increasing the availability of medical personnel in remote regions with an emphasis on providing family doctors, public health workers, and emergency medical services. Completing the reform of the higher medical education system, including reforming nursing education in accordance with the new requirements and needs of healthcare is critical. In addition, mechanisms for regulating the professional activities of medical workers need improvement through the involvement of professional medical associations and continuous professional development.

Health Workers Primarily Responsible for Providing Nutrition Services

We reviewed the job descriptions for five cadres of health workers: clinical officer or feldsher, general practice nurse, midwife, family nurse, and family doctor (table 15). Of the five cadres, we identified two that stood out for this review—the family doctor and the family nurse. Both met all of our selection criteria: trained prior to employment at an academic institution, requires professional certification, provides frontline services, serves nutrition priority populations, and has a job description that mentions the provision of nutrition services. In addition, these two cadres provide the vast majority of frontline health services, according to key informants consulted.

Figure 4. Mapping of Cadres that Provide Frontline Services and Supervision Structures



These 2 cadres almost exclusively work in family medical centers (49 in total), general practice centers (20 in total), and family doctor groups (662 in total). It is in these facilities where health workers provide the following nutrition-related services:

- prevention (includes counseling on dietary practices)

- care for pregnant women (includes counseling on dietary practices and iron supplementation)
- postpartum care (includes counseling on dietary practices and breastfeeding)
- breastfeeding promotion
- nutrition counseling for children under five years of age
- monitoring the nutritional status of children 0–17 years of age
- management of children with malnutrition, iron deficiency anemia, and other nutritional deficiencies.

In addition, family nurses work in the 1,073 paramedic and obstetric centers (commonly referred to as FAPs) and rural health centers where many similar services are provided in villages throughout the Kyrgyz Republic. Both cadres conduct home visits and well child visits.

According to the 2022 Order № 902 of the Ministry of Health *Approval of the Standard Job Description of a Family Doctor and a Family Nurse* (2020c), the family nurse is responsible for the following nutrition-related tasks:

- monitoring and evaluating the nutrition, care, and development of healthy children under 18 years of age
- conducting early detection of developmental difficulties in young children and sends them to a family doctor
- screening of the population on risk factors and early detection of noncommunicable diseases
- advising and teaching the formation of a healthy lifestyle, personal hygiene, rational nutrition, breastfeeding, child care, active lifestyle, the use of high-quality drinking water, iodized salt, etc.

In addition, the 2018 Order № 28 of the Ministry of Health (2020a) provides a catalog of competencies for the family nurse. 2020 Order № 42 (2020b) provides another list of competencies (performance or demonstration of competencies), and several other orders articulate the required competencies, standards, and responsibilities of the nurse.

Similarly, there are lists of competencies and responsibilities for the general practice doctor and pediatrician. However, the family doctor, according to the 2022 Order № 902 of the Ministry of Health on *the Approval of the Standard Job Description of a Family Doctor and a Family Nurse* (2020c), is responsible for the following:

- supervising pregnant women
- monitoring and evaluating the development of children under seven years of age, including the identification of developmental difficulties in young children, in accordance with the established requirements
- treating adult patients with identified non-communicable diseases in accordance with clinical protocols
- guiding children under five years of age with the most common diseases
- advising the population on a wide range of issues related to the prevention of diseases.

Table 16. Characteristics of Cadres of Frontline or Primary Health Care Workers in Kyrgyz Republic

Criteria for Selection	Family Doctor	Family Nurse	General Medical Doctor	Midwife	General Practice Nurse	Clinical Officer/ Feldsher
Trained prior to employment at an academic institution	☑	☑	☑	☑	☑	☑
Requires professional certification	☑	☑	☑	☑	☑	☑
Provides frontline/ primary care services	☑	☑	☑	☑	☑	☑
Serves nutrition priority populations	☑	☑	☑	☑	☑	☑
Job description mentions the provision of nutrition services	☑	☑	☑	☑	☑	☑

According to the documents we were able to identify, the Government of Kyrgyz Republic has created 2,176 family doctor positions and 6,164 family nurse positions. A report from 2020 (MoH 2020e) indicated that 81.8 percent of the family doctor positions and 92.7 percent of the family nurse positions had been filled.

Pre-Service Training Required for Those Health Workers

Table 17 presents the pre-service training requirements to be a family doctor and family nurse. In both cases, the "family" classification requires completion of a postgraduate training program. To earn a family doctor diploma, a medical doctor who has already earned a diploma of higher medical education after six years of study must complete an additional two-year training program. To earn a family nursing diploma, a general practice nurse (who has already earned a diploma of secondary specialized education after two years and 10 months of study) must complete an additional 3.5 years of training for the family nurse diploma.

Table 17. Characteristics of the Pre-Service Training Curricula Reviewed for Selected Cadres of Health Workers Providing Frontline Nutrition Services

	Family Doctor	Family Nurse
Pre-graduate educational institutions	**Medical degree:** Kyrgyz State Medical Academy, Osh State University, and the Kyrgyz-Russian Slavic University **Family doctor diploma:** Kyrgyz State Institute of Retraining and Advanced Training	**Nursing degree:** 19 public and private colleges[8] **Family nurse diploma:** Kyrgyz State Institute of Retraining and Advanced Training
Duration of training before the start of service	**Medical degree:** 6 years + 2 years residency **Family doctor diploma:** 2 years	**Nursing degree:** 2 years + 10 months **Family nurse diploma:** 3.5 years
Name of the pre-graduate education curriculum (date of update)	**Medical degree:** Basic educational program for the Faculty of Medicine (2021) **Family doctor diploma:** Family doctor postgraduate degree program (2021)	**Nursing degree:** Basic educational program for Nursing (2019) **Family nurse diploma:** Nursing in family medicine (2020)
Objectives of the curriculum	Across all curricula, the overarching goal is to develop general and special competencies, universal and subject-specific competencies that contribute to the social mobility and stability in the labor market, readiness for postgraduate training with subsequent implementation of professional activities in the chosen field. The curricula do not state specific objectives, except in relation to courses.	
Nutrition-related courses	**Medical degree:** Facility Therapy Hospital Therapy Polyclinic Therapy Propaedeutics of Childhood Diseases **Family doctor diploma:** Work program and curriculum Postgraduate training of doctors of narrow specialties General medical practice	**Nursing degree:** Nursing in Pediatrics Nursing in Therapy with a Course of Primary Emergency Care A Healthy Person and His Environment with Social Patronage Pediatrics with Childhood Infections **Family nursing diploma:** Program and Curriculum of Primary Specialization "Nursing in Family Medicine"
Includes lesson plans	**Medical degree:** Yes **Family doctor diploma:** No	**Nursing degree:** Yes **Family nursing diploma:** Yes

[8] All colleges align their curricula with that of the Bishkek Medical College.

	Family Doctor	Family Nurse
Includes a list of competencies that need to be developed	**Medical degree:** Yes **Family doctor diploma:** Yes	**Nursing degree:** Yes **Family nursing diploma:** Yes
Describes teaching methods	**Medical degree:** No **Family doctor diploma:** No	**Nursing degree:** Yes **Family nursing diploma:** Yes

Nutrition Competencies Addressed in the Pre-Service Training Curricula Reviewed

The *Curriculum Review Tool* developed by USAID Advancing Nutrition in 2021 identifies 84 competencies relevant to the delivery of frontline nutrition services. Based on the documents we reviewed and our knowledge of the health system in the Kyrgyz Republic, we considered 83 of those relevant for the family doctor and 79 of them to be relevant to the family nurse. We then determined if the curriculum for each cadre addressed these competencies. See table 3 for an overview of the competencies addressed in each curriculum by topic area.

We then determined that the curricula address 69 percent (57 out of 83) of nutrition-related competencies if an individual completes the general medicine and family doctor programs. The pre-service training of family doctors covers the assessment of nutritional status, management of wasting among children and adolescents, management of micronutrient deficiencies and anemia, healthy living, general infant and young child nutrition, breastfeeding, complementary feeding, responsive care, maternal nutrition, behavior change communication and counseling, and management of nutrition services.

In addition, the curricula for family doctors do not cover adolescent nutrition. Indeed, there are no guidelines in the Kyrgyz Republic for the treatment of severe malnutrition in adolescents or adults. It also does not address competencies needed for the delivery of nutrition services in the context of common illnesses and nutrition-related noncommunicable diseases, the delivery of nutrition services in the context of emergencies, and the management of nutrition services.

The curricula at least somewhat address 66 percent (52 out of 79) of the relevant, nutrition-related competencies for general nursing and family nursing programs. As is true for the family doctor training, the curricula for family nurses covers—

- assessment of nutritional status
- management of micronutrient deficiencies and anemia
- healthy living
- general infant and young children nutrition
- breastfeeding
- complementary feeding
- responsive care
- maternal nutrition.

The pre-service training for family nurses also addresses the competencies related to behavior change communication and counseling, except for one (the ability to help clients identify and achieve their nutrition goals).

The curricula do not fully address the management of wasting among children and adolescents, the management of undernutrition or thinness among adults, adolescent nutrition, the delivery of nutrition services in the context of common illnesses and NR-NCDs, the delivery of nutrition services in the context of emergencies, or management of nutrition services.

Table 18. Nutrition-Related Competencies Addressed,[9] by Topic Area

Key:

= <40% of competencies somewhat addressed or well addressed

= 40–79% of competencies somewhat addressed or well addressed

= ≥ 80% of competencies somewhat addressed or well addressed

Topic Area	Family Doctor	Family Nurse
Overall (84)	**69% (57/83)**	**66% (52/79)**
Assessment of nutritional status (8)	◆	◆
Management of wasting among children and adolescents (6)	◆	●
Management of undernutrition or thinness among adults (8)	■	■
Management of micronutrient deficiencies and anemia (4)	◆	◆
Healthy living (8)	◆	◆
General infant and young children nutrition (7)	◆	◆
Breastfeeding (11)	◆	◆
Complementary feeding (6)	◆	◆
Responsive care (2)	◆	◆
Maternal nutrition (2)	◆	◆
Adolescent nutrition (3)	■	■

[9] For simplicity, if we could not determine if a curriculum addressed a competency, we grouped it in the "not addressed" category.

Topic Area	Family Doctor	Family Nurse
Delivery of nutrition services in the context of common illnesses and nutrition-related noncommunicable diseases (4)	●	■
Delivery of nutrition services in the context of emergencies (2)	●	■
Behavior change communication and counseling (5)	■	◆
Management of nutrition services (8)	■	■

Recommendations that Emerged

In general, we found the curricula to be quite comprehensive. However, in collaboration with key stakeholders, we identified a few recommendations for strengthening the pre-servicing training for these cadres to ensure that they have all of the competencies needed for delivering frontline nutrition services.

Family Doctor

We would recommend expanding and/or strengthening the pre-service training of family doctors to ensure that it covers relevant competencies related to—

- management of wasting or thinness among adults
- adolescent nutrition
- delivery of nutrition services in the context of common illnesses and NR-NCDs
- delivery of nutrition services in the context of emergencies
- behavior change communication and counseling
- the management of nutrition services (supervision of facility- and community-based workers and volunteers, collaboration with other health workers, engagement with relevant community actors, data collection, management, reporting, and use, and supply chain management).

Family Nurse

We would recommend expanding and/or strengthening the pre-service training of family nurses in those same areas. However, their training appears to need less related to behavior change communication and counseling, but may need additional content regarding the management of moderate acute malnutrition and SAM among children.

Crosscutting

In addition to our recommendations to expand the curricula to include a few new areas related to nutrition, our analysis revealed the existence of numerous valid orders (*pricaz*) that list competencies, standards, requirements, and/or responsibilities for each cadre of health workers. While the lists are relatively consistent, they are not entirely the same. This made it hard for us to determine which competencies from our list are relevant for each cadre and, one can assume, challenges professors designing lesson plans to ensure that students develop all of the priority competencies. Since a clear understanding of roles and responsibilities is a key factor affecting health worker performance, we

would recommend that the government revise or develop one pricaz with a complete, harmonized list of competencies, performance standards, and responsibilities for the family doctor and family nurse.

Second, while the responsibilities of the family doctor and family nurse are standard, the educational pathways toward becoming a family doctor or nurse are not entirely so. As a result, not all family doctors and family nurses are the same. Family doctors trained as a pediatrician before earning the family doctor certificate will have stronger child-related nutrition competencies than a family doctor with a degree in general medicine. Likewise, family nurses trained as midwives will have only the 3.5 years of training for the family nursing degree to prepare them for the responsibilities of family nurse and may not have some of the basic competencies that a nurse has. To ensure standard competency in key nutrition areas, those without relevant training prior to the family degree program may need some additional courses. For example, the midwife may need to spend more time learning about complementary feeding and adolescent nutrition.

Malawi

Introduction

This report is based on work undertaken by USAID Advancing Nutrition and a local consultant. To identify the health workers primarily responsible for providing nutrition services in Malawi, we reviewed national policies and strategies related to health and nutrition services and human resources. To find all relevant documents, we consulted with key stakeholders. We reviewed the following documents:

- *Health Sector Strategic Plan II 2017–2022* (2017)
- *National Community Health Strategy 2017–2022* (MoH 2017a)
- *Role Clarity Guidelines for Community Health Workers 2017–2022* (MoH 2017c)
- *National Multi-Sector Nutrition Policy 2018–2022* (2019)
- *Multi-Sector Nutrition Education and Communication Strategy II 2021–2025* (MoH 2021)
- *Eat Well to Live Well: Malawi's Guide to the Prevention and Management of Common Diet and Lifestyle Related Non-Communicable Diseases* (2021)

Nutrition Indicators for Malawi

Children under Five:

Stunting: 35.5%

Wasting: 2.6%

Underweight: 12.8%

Low birthweight: 13.9%

Women of Reproductive Age*:

Prevalence of anemia among women of reproductive age: pregnant: 33%, non-pregnant: 20.9%

Prevalence of thinness among women of reproductive age (15 49 years): 7%

Prevalence of thinness among adolescent girls (15 19 years): 13%

Coverage of iron for pregnant women (for at least 90 days): 33%

Infant and Young Child Feeding:

Breastfeeding Practices

Children ever breastfed: 99%

Children still breastfed at 1 year: 95.2%

Children breastfed within 1 day of birth: 92.7%

Complementary Feeding Practices (6 23 Months):

Minimum dietary diversity: 17.3%

Minimum meal frequency: 36.8%

Minimum adequate diet: 8.7%

Source: NSO 2021; *USAID 2021b

Policy Environment for Nutrition, Nutrition Services, and Workforce Capacity Strengthening

The Government of Malawi, in its *Health Sector Strategic Plan II* 2017–2022, recognizes nutrition as a determinant of social and environmental risk factors (2017). According to the *National Multi-Sector Nutrition Policy* (MSNP) 2018–2022, the Government of Malawi has committed to strengthening the country's nutrition response through the scale-up of evidence-based interventions aligned with national and global development priorities and commitments (2019). Specifically, the policy sets out the following expected outcomes:

1. improved adolescent, maternal, and child nutrition and health
2. reduced prevalence of overweight and nutrition-related NCDs among the general population
3. reduced nutrition-related mortality among children under the age of five years, and the general population
4. improved enabling environment for effective coordination and implementation of nutrition-sensitive and -specific interventions.

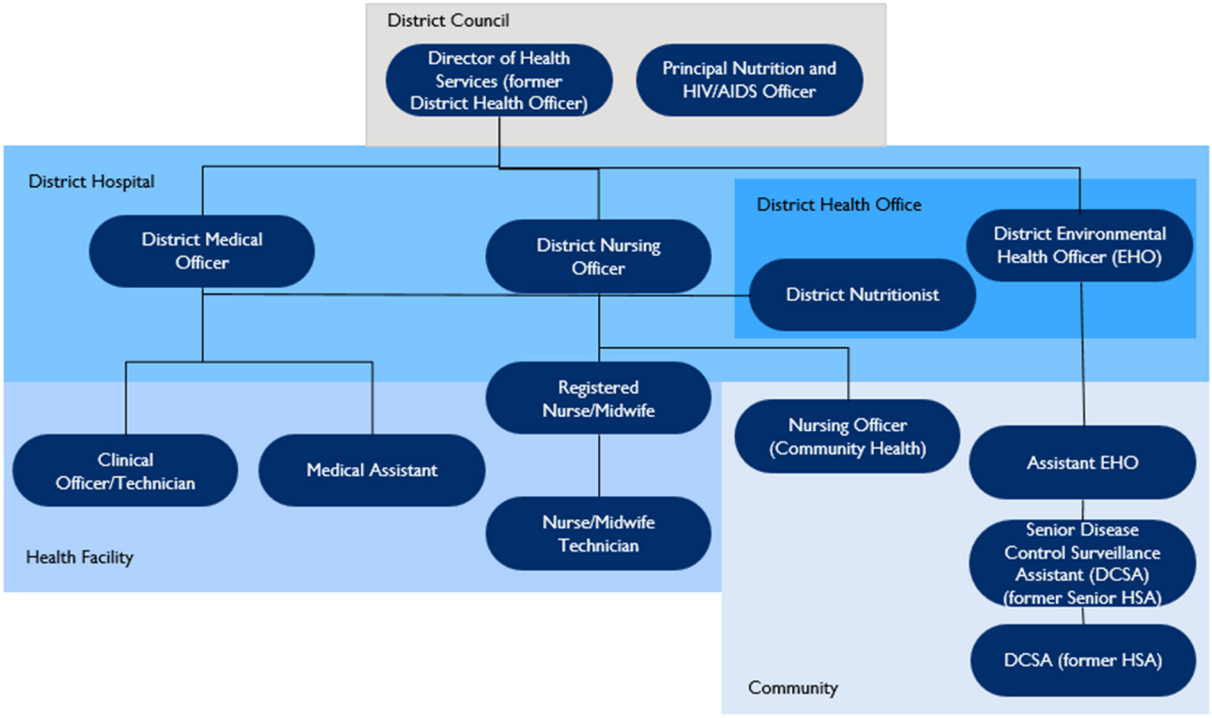
The country's Essential Health Package includes several nutrition services as set out in the *Health Sector Strategic Plan II 2017–2022*, including supplementation for children and pregnant women and deworming and management of acute malnutrition services for children (2017).

The MSNP also includes among its policy priority areas the creation of an enabling environment, which the plan states will require increasing the government allocation of human resources for nutrition service delivery. The *Multi-Sector Nutrition Education and Communication Strategy II* 2021–2025 goes a step further to include in its strategic priorities a component for building the capacity of service providers on nutrition education and communication at all levels as part of the strengthening of the enabling environment (MoH 2021).

Health Workers Primarily Responsible for Providing Nutrition Services

Malawi has a complex health-service delivery structure, with several cadres responsible for delivering health services at the frontline or primary care level. Through our document review and stakeholder interviews, we were able to map the cadres that provide frontline services (figure 5). We also included supervision structures, as many of these roles require the same basic pre-service training.

Figure 5. Mapping of Cadres that Provide Frontline Services and Supervision Structures



We reviewed the job descriptions for all 14 cadres included in figure 5. We reviewed both the service delivery and supervisory roles related to the delivery of frontline nutrition services. We took into consideration direct mentions of nutrition services (e.g., growth monitoring) as well as services indirectly related to nutrition or nutrition services (e.g., supervision of ward rounds, knowing that some wards include wasting cases). Of the 14 cadres reviewed, we identified eight that play a role in the frontline delivery of nutrition services.

While several cadres met our selection criteria for further review (table 19), in consultation with the Ministry of Health we selected two cadres that stood out for this review: the community health nurse and the HSA.[10]

[10] The formal title of the CHN is nursing officer (community health). The current formal title of the HSA is disease control surveillance assistant and will soon change to community health assistant once the new certification program begins. We will refer to them as HSAs and CHN for the purpose of this report.

Table 19. Criteria for Selection of Cadres of Frontline or Primary Care Health Workers in Malawi

	Clinical Officer/ Technician	Medical Assistant	Registered Nurse/ Midwife	Nurse/ Midwife Technician	Community Health Nurse	Assistant Environmental Health Officer	Senior Health Surveillance Assistant	Health Surveillance Assistant
Trained prior to employment at an academic institution	☑	☑	☑	☑	☑	☑	☑ New 12-month curriculum[11]	☑ New 12-month curriculum
Requires professional certification	☑	☑	☑	☑	☑	✗	✗	☑
Provides frontline/ primary care services	☑	☑	☑	☑	☑	✗	☑	☑
Serves nutrition priority populations	☑	☑	☑	☑	☑	☑	☑	☑
Job description mentions the provision of nutrition services	☑ Indirect	✗	☑ Indirect	☑ Indirect	☑ Indirect	✗	☑ Direct	☑ Direct

[11] The Ministry of Health will soon certify HSAs under a new curriculum: Certificate in Community Health. This certification program has yet to be initiated and only mentions the training of HSAs, not senior HSAs. However, we assume they will also eventually certify senior HSAs, as this is a promotional post from being an entry-level HSA.

We selected these two cadres because they work closer to the frontline. Both the CHN and the HSA are part of the community health team. CHNs provide services at the health center, health post, and conduct outreach. They are also responsible for mentoring HSAs working at the community and household levels. HSAs as well as senior HSAs are active at all community points of care including health centers, health posts, communities, and households. They also conduct outreach and work with the group village head and the Community Health Action Group.

The job descriptions for the CHN and HSA provide minimal detail about the nutrition services they provide. The job description for the CHN does not mention any nutrition-specific activities. The job description for the HSA has just one nutrition-related responsibility, which is to monitor growth. However, the *Role Clarity Guidelines for Community Health Workers 2017–2022* (MoH 2017c) provides a detailed description of tasks for each cadre. This document lists 61 detailed tasks for the CHN, of which 10 relate to nutrition, and 262 detailed tasks for HSAs, of which 67 relate to nutrition. Both cadres are also responsible for many other tasks that relate indirectly to nutrition but contribute to the prevention of malnutrition in the community. Common tasks described for the two cadres include—

- nutritional screening for pregnant women and children under five
- micronutrient supplementation for pregnant women and children under five
- management of outpatient wasting treatment services
- promotion of nutrition messages and/or nutrition education.

Pre-Service Training Required for the Selected Cadres

To work as a CHN, an individual must first earn a three-year Diploma in Nursing (Generic). A one-year Diploma in Community Health Nursing then follows this. It is important to note that although two degrees are required to qualify as a CHN, both are at the diploma level.

Until recently, to work as an HSA an individual was only required to have a Junior Certificate of Education and an orientation to HSA activities. However, in June 2021 the MoH released a new one-year training program for earning a Certificate in Community Health that will be required for new HSAs to further professionalize the cadre.[12] Training of HSAs under this new program has not yet started. Table 20 provides a summary of the pre-service training required for health facilities to employ someone as a CHN and HSA.

Table 20. Characteristics of the Pre-Service Training Curricula Reviewed for Selected Cadres of Health Workers Providing Frontline Nutrition Services

	CHN	HSA
Degree/certificate earned	Diploma in Community Health Nursing	Certificate in Community Health
Institutions offering degree/program	Malawi College of Health Sciences	Not yet defined—curriculum not yet implemented.
Length of program	12 months	12 months (49 weeks of study)

[12] Under the new certificate program, the Ministry of Health will refer to HSAs as community health assistants but it is our understanding that they will have the same job description as the HSA. Note that in the HSA's current job description, the title for this role is disease control surveillance assistant. However, HSA is most commonly used in policy documents, reports, and in common parlance. Therefore, we will use the cadre name HSA throughout this document.

	CHN	HSA
	Prerequisite: 3-year Diploma in Nursing (Generic)	
Title of pre-service education curriculum	One Year Advanced Diploma in Community Health Nursing Curriculum	Generic Curriculum Certificate in Community Health
Date of pre-service education curriculum	2007	2021
Objectives of pre-service education curriculum	To train nurses who will provide promotive, preventive, curative, and rehabilitative care to individuals' families, groups, and communities in any health care setting.	Produce community health workers trained to provide promotive, preventive, educative, surveillance, basic curative, and rehabilitative services at community level in Malawi.
Courses with nutrition-related content	● CHN 101: Community Health Nursing I Theory ● CHN 102: Community Health Nursing II Practical ● ENV 101: Environmental Health ● EPDI 102: Epidemiology, Communicable and Non Communicable Diseases ● IPCC 101: Interpersonal Communication and Counseling ● MGT 101: Management ● NUT 101: Nutrition ● NUT 102: Nutrition Practical ● PSY 101: Psychology ● REP 102: Reproductive Health Practical	● CCH 113: Health Promotion and Education ● CCH 114: Introduction to Public Health ● CCH 118: Family Health ● CCH 117: Common Diseases and Management ● CCH 119: Environmental Health ● CCH 121: Public Health Surveillance ● CCH 124: Nutrition ● CCH 122: Community Health Information Management ● CCH 123: Management and Leadership in Health
Curriculum includes lesson plans	No—but the curriculum includes required and recommended texts	No—but the curriculum includes required and recommended texts
Curriculum describes teaching methods	Yes	Yes
Curriculum requires an internship or practicum	Yes 975 practical hours 66 lab hours	Yes

	CHN	HSA
		Modules mention practical content but do not define the proportion

Nutrition Competencies Addressed in Their Pre-Service Training Curricula

The *Curriculum Review Tool* developed by USAID Advancing Nutrition in 2021 identifies 84 competencies relevant to the delivery of frontline nutrition services. Based on the information available in the job descriptions and *Role Clarity Guidelines* (MoH 2017c), we considered all of those competencies relevant for the CHN. For the HSA, we deemed 80 out of 84 competencies (95 percent) relevant or somewhat relevant.

We then determined if the curricula addressed these competencies for each cadre. After reviewing the curricula, which included course/learning objectives and indicative content, we determined that the pre-service training curricula address 81 percent and 75 percent of relevant competencies CHNs and HSAs require, respectively. Of the 84 competencies deemed relevant for the CHN, we could not determine if the curricula for 16 addressed 16 for the CHN. For HSAs, we could not determine if one of the 80 relevant competencies were addressed. See table 21 for an overview of the competencies addressed in each curriculum by topic area.

Table 21. Nutrition-Related Competencies Addressed, by Topic Area

Key:

▭ = <40% of competencies somewhat addressed or well addressed

● = 40–79% of competencies somewhat addressed or well addressed

◆ = ≥ 80% of competencies somewhat addressed or well addressed.

Topic Area	CHN	HSA
Overall	**81% (68/84)**	**76% (61/80)**
Assessment of nutritional status	◆	◆
Management of wasting among children and adolescents (6)	◆	◆
Management of undernutrition or thinness among adults (8)	◆	◆
Management of micronutrient deficiencies and anemia (4)	◆	◆
Healthy living (8)	◆	◆
General infant and young children nutrition (7)	●	●

Topic Area	CHN	HSA
Breastfeeding (11)		
Complementary feeding (6)		
Responsive care (2)		
Maternal nutrition (2)		
Adolescent nutrition (3)		
Delivery of nutrition services in the context of common illnesses and nutrition-related noncommunicable diseases		
Delivery of nutrition services in the context of emergencies		
Behavior change communication and counseling		
Management of nutrition services		

For the Diploma in Community Health Nursing for CHNs, we found that the curriculum, which the Ministry of Health last updated in 2007, addressed most nutrition topics. However, some of the content is outdated. For example, although the curricula addressed the majority of competencies related to the assessment of nutritional status and management of wasting among children and adolescents, we found some of the content noticeably outdated. The curriculum still refers to the community therapeutic care (CTC) method, which has not been used in Malawi since 2012. The Ministry of Health replaced the CTC with community-based management of acute malnutrition approach, which covers management of acute malnutrition in individuals of all ages. Likewise, although the Ministry of Health guidelines for nutrition care, support, and treatment approach covers prevention and management in malnutrition in adolescents and adults (MoH 2017b), the curriculum does not address this. Generally, we found it was difficult to determine the extent to which the curriculum addressed nutrition-specific counseling competencies. Although the curriculum contains a course dedicated to Interpersonal Communication and Counseling (IPCC 101), it focuses on the development of general counseling skills. Other areas in the curriculum where we had trouble determining if the curriculum addressed the content included management of micronutrient deficiencies beyond those explicitly listed in the curriculum (vitamin A and anemia), policies as they relate to adolescent nutrition, and responsive care.

Based on our review of the new Certificate of Community Health curriculum required for future HSAs, we did not think the curriculum addressed several competencies. Examples include competencies related to breastfeeding and complementary feeding, including feeding of sick or low birthweight babies and children, resolving feeding difficulties, and responsive feeding. Another example of an unaddressed competency was the ability to plan for and manage nutrition commodities, equipment, medicines, and other inputs. On this subject, the curriculum only addresses vaccine and cold chain management, which leaves out other essential medicines and supplies (e.g., vitamin A, deworming medications, and iron-folic acid) which HSAs use as part of routine activities.

Recommendations that Emerged

The recommendations that emerged from this analysis and discussions with key stakeholders are as follows:

Health Surveillance Assistant

Because the Ministry of Health recently developed the curriculum for **Certificate in Community Health** required for HSAs, the content included is very up-to-date. Nonetheless, we did identify a few gaps, as highlighted in table 21. There is an opportunity to address these gaps through the development of **standardized lesson plans**, which have not yet been developed for the courses. In addition, these standardized plans would help ensure consistent minimum standards across training institutions. Standardization and quality control will be important given that a number of decentralized training institutions likely need to receive accreditation to offer this certification in order to train and certify enough HSAs to meet the health system's needs.

The country urgently needs to train, recruit, and hire more HSAs. According to the most recent data, which is from 2017, there were 9,214 HSAs (Government of the Republic of Malawi 2017). The MoH recommends ratios of one HSA for every 1,000 people, which means the country needs over 19,600 HSAs (MoH 2017c; World Bank 2022).

The curriculum for the Certificate in Community Health is quite thorough and up-to-date; however, the Ministry of Health has not yet introduced it as a requirement for employment as an HSA, or rolled it out to training institutions. We recognize the need for the MoH to take action soon, which will involve **defining accreditation requirements** and **identifying institutions to deliver the pre-service training**. Given the large number of HSAs requiring training to fill existing employment gaps, the Ministry of Health will likely need to decentralize training sites.

We also recommend that the MoH **update the job description for the HSA,** in recognition of the professionalization of this cadre through the new certification requirement. As part of this update, they can also align the position title with the community health assistant nomenclature used in the new curriculum.

Finally, the Certificate in Community Health curriculum mentions accepting both normal (new) and mature (already employed HSAs) as intake candidates. To ensure existing HSAs meet the new certification standards, we recommend developing a plan to **enroll an appropriate mix of both normal and mature intake candidates.** It is important to note that the new curriculum requires HSAs to have completed a Malawi School Certificate of Education (MSCE), a secondary school completion certificate. However, this was not previously a requirement for HSAs and may be a high bar for some candidates to meet. Mature intake candidates may need additional support to complete the MSCE or the MoH may consider waiving this requirement for mature intake candidates with an appropriate amount of on-the-job experience.

Community Health Nurse

With regard to the CHN, we recommend **revising and updating the curriculum** for the Community Health Nursing diploma to—

a. Ensure that it is in line with the most recent Malawi public health guidance and standards, global best practice, and the roles and responsibilities outlined in the job description and the *Role Clarity Guidelines* (MoH 2017c).

b. Take into consideration the need to shift some tasks away from HSAs to other Community Health Team members, such as the CHN.

c. **Align with the nursing certification exam**, if someone with a registered nurse qualification continues to fill this role.

In addition, although not explicitly related to our review of job descriptions and curricula, it became clear to us that there is a need to increase enrollment in CHN programs. While data specific to the number of employed CHNs is not available, the MoH recommends a ratio of one CHN for every 5,000 people (MoH 2017c). This means that Malawi requires over 3,800 CHNs. Available data on all types of employed nursing officers, which includes CHNs, only totaled 1,163 in 2017, which is the last time the Government of Malawi collected this data (Government of the Republic of Malawi 2017). National policies reflect the importance of CHNs at the frontline and highlight gaps in the number of filled positions. In our discussions with the Malawi College of Health Sciences, our key informants highlighted challenges in terms of enrolment numbers. For a time, the college suspended intake in this program due to low enrollment. To increase enrollment, we recommend that the MoH **review the educational requirements to qualify as a CHN,** which may inadvertently make the role less attractive to qualified candidates. Key informants from the Malawi College of Health Sciences mentioned that students who have the required prerequisite diploma might be hesitant to enroll in a second diploma program rather than seeking a higher-level degree (e.g., bachelors). Solutions could include offering direct intake into an expanded Diploma in Community Health Nursing program, a four-year Bachelor's degree in Community Health Nursing, or a specialized Bachelor's degree in community health nursing such as that offered by the Kamuzu College of Nursing. The MoH might also consider working with the National Council for Higher Education to **accredit additional academic institutions to offer the diploma in Community Health Nursing**. At present, only the Malawi College of Health Sciences graduates students from the Diploma in Community Health Nursing.

Crosscutting

Several crosscutting recommendations emerged from our review of job descriptions, roles, responsibilities, and pre-service training curricula applicable to both CHNs and HSA as well as other cadres of frontline health workers.

Firstly, there is a need to **align and harmonize the cadre titles used in job descriptions, policies, and protocols**. For example, although policy documents and common parlance use the title HSA, the official job title for this role is disease control surveillance assistant. The introduction of the community health assistant title will further confuse this cadre's title once training institutions begin to issue the Community Health Certificate. This problem exists for various cadres and at all levels of the health system, including the district health officer, now officially called the director of health services. Clarifying titles will **enable better alignment of job descriptions with education requirements and career pathways** and help to **clarify recruitment and graduation levels** for these positions. Once the Ministry of Health completes these actions, they may also need to revise the *Role Clarity Guidelines* (2017c) to reflect any changes made. Lastly, complete a review of **certification exam content** to include priority nutrition competencies in line with revised roles and responsibilities.

Second, across both curricula that we reviewed, competencies related to counseling, which are critically important for the adoption of optimal nutrition practices, emerged as an important gap. Although the curricula reviewed cover general counseling skills, we were not able to determine if they address counseling specifically on nutrition topics. In addition, existing course content tended to focus more on nutrition education and message delivery, rather than counseling skills such as two-way communication, dialogue, and joint problem solving. Therefore, we recommend revising content in these **curricula** to ensure inclusion of adequate development of counseling competencies specific to nutrition along with adequate classroom and practicum-based practice using actual MoH nutrition counseling content and materials.

Finally, as part of this effort, we wanted to get a sense of how many health workers had graduated with these specific certifications, had been hired, and are currently serving in these roles. Despite our document review and discussion with stakeholders, we could not find recent data for all cadres of frontline health workers and the data we found were not disaggregated by the specific types of each

cadre (e.g., types of nursing officers, like the community health nurse). Therefore, we would recommend developing and maintaining a **system to track the number and specific types of health workers for each cadre that is graduated and employed.** Such information would help to determine which education pathways to promote.

USAID ADVANCING NUTRITION

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December 2022

USAID Advancing Nutrition is the Agency s flagship multi sectoral nutrition project, addressing the root causes of malnutrition to save lives and enhance long-term health and development.

This document was produced for the U. S. Agency for International Development. It was prepared under the terms of contract 7200AA18C00070 awarded to JSI Research & Training Institute, Inc. The contents are the responsibility of JSI and do not necessarily reflect the views of USAID or the U.S. Government.