Community Health Practitioners Registration Board of Nigeria
(CHPRBN)

REPORT OF TRAINING NEEDS ASSESSMENT FOR COMMUNITY HEALTH WORKERS IN SOUTH-SOUTH GEOPOLITICAL REGION OF NIGERIA

SEPTEMBER 2014

USAID
FROM THE AMERICAN PEOPLE

CapacityPlus
Serving health workers, saving lives.

REPORT OF TRAINING NEEDS ASSESSMENT FOR COMMUNITY HEALTH WORKERS IN SOUTH-SOUTH GEOPOLITICAL REGION OF NIGERIA

USAID Nigeria provided funds to the Capacity*Plus* project led by IntraHealth International to support an integrated program of human resources for health strengthening activities to be implemented at both national and subnational levels. The overall goal of this program is to increase the availability of health workers to meet the HIV/AIDS, maternal and child health (MCH), reproductive health, and other priority health needs of underserved populations through sustainable and scalable human resources for health interventions. Implementation is targeted at both federal and state levels through active engagement with a range of agencies, including federal and state ministries of health, the Community Health Practitioners Registration Board of Nigeria, training institutions, and regulatory councils.

Recommended Citation

Shiono Bennibor, Samuel Ngobua, Rebecca Bailey, Dr. Ananaba Alozie, Joseph Eton, Amanda Puckett, 2014. *Report of Training Needs Assessment for Community Health Workers in South-South Geopolitical Region of Nigeria*.

ACKNOWLEDGEMENTS

The training needs assessment (TNA) for community health workers is the brainchild of the Community Health Practitioners Registration Board of Nigeria (CHPRBN) with support from USAID through the Capacity*Plus* project of IntraHealth International and the Federal Ministry of Health. The assessment process involved a host of relevant stakeholders at the national and state levels.

The support from the CHPRBN leadership and in particular Mr. Shiono Bennibor, the registrar/chief executive officer (CEO), is appreciated immensely. The consultant for this activity, Dr. Alozie Ananaba, is highly appreciated also for his due diligent and hard work.

All participating stakeholders are given special mention and appreciation from the state ministries of health and Primary Health Care Management Board of Akwa Ibom, Cross River, and Rivers States.

We thank Samuel Ngobua (the chief of party for IntraHealth International in Nigeria), Joseph Eton, and the other members of the IntraHealth team—Pius Emmanuel Uwamanua, Amobi Andrew Onovo, and Rahinatu Hussaini—for providing an enabling environment for this assessment to be conducted as well as their technical inputs in the review and finalization of the tools and the draft report. We are grateful to Dr. Tony Udo of the HRH branch, Federal Ministry of Health and his team for their support during the assessment. We also thank the IntraHealth headquarters team for their technical input and oversight for this project. Special thanks to Rebecca Bailey for her insightful technical contributions to the project.

Finally we thank all those whose names have not been mentioned here. They deserve every commendation for their commitments to the realization of this document.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

ACT	Artemisinin-based combination therapy
CHEW	Community health extension worker
CHO	Community health officer
CHPRBN	Community Health Practitioners Registration Board of Nigeria
CHW	Community health worker
CPD	Continuing professional development
GCE	General Certificate of Education
IST	In-service training
IT	Information technology
JCHEW	Junior community health extension worker
LGA	Local government area
NECO	National Examinations Council of Nigeria
NPHCDA	National Primary Health Care Development Agency
OSCE	Objective structured clinical exam
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary health centre
PMTCT	Prevention of mother-to-child transmission of HIV
RSE	Relative standard error
SSCE	Senior School Certificate Examination
STI	Sexually transmitted infection
TNA	Training needs assessment
USAID	United States Agency for International Development
WASC	West African School Certificate

EXECUTIVE SUMMARY

The training needs assessment (TNA) was conceptualized as a follow-on activity to the findings from a 2013 Capacity*Plus* assessment of PEPFAR-funded in-service training (IST) in Nigeria.[1] One of the recommendations from the IST assessment report was to ensure broader access to new developments in knowledge and technology, as well as sustainability of training, by integrating the IST contents into preservice education curricula and continuing professional development (CPD) programs.

Based on the current implementation arrangements of Capacity*Plus*, the South-South region was purposively selected for the pilot of this TNA. Specifically, Akwa-Ibom, Cross River, and Rivers states were systematically sampled as representatives of the South-South region. It is anticipated that a broader and more inclusive survey that will involve other geopolitical regions of the country will be conducted, and secondary analysis from the findings to inform the design of a national CPD and re-licensure initiative will be implemented by the Community Health Practitioners Registration Board of Nigeria (CHPRBN).

This assessment explored community health extension worker (CHEW) and community health officer (CHO) perceptions of globally accepted competency domains for public health practitioners across the areas of importance, and confidence in their ability to demonstrate those competencies. To corroborate findings at the domain level, the assessment also assessed CHEWs and CHOs at the individual skill/ability levels, which are appropriately mapped to the competency domain areas. Need scores were calculated for each competency domain and individual skill/ability levels. The assessment also attempted to identify the extent of dependence between the need scores and various background characteristics of respondents including age, level of education, years of experience, and CHEW or CHO cadre.

A need score ranking placed the need for computer and information technology access and skills as the top priority among CHEWS and CHOs who participated in the study. Financial planning and management and public health science skills ranked a close second and third. No significant association was demonstrated with study participants' background characteristics, implying that a uniform IST/CPD and re-licensure program can conveniently be established along the lines of the prioritized competency domain areas.

The study was not without limitations and these included challenges with access to certain health facilities, need to have proportionate sample allocation across the community health worker cadres in the study population, and the need to conduct a broader and more representative assessment across the other geopolitical zones in the knowledge of the sociocultural differences that exist across the regions.

[1] Burlew R, Puckett A, Bailey R, Caffrey M, Brantley S. Assessing the relevance, efficiency, and sustainability of HIV/AIDS in-service training in Nigeria. *Human Resources for Health* 2014, **12**:20 doi:10.1186/1478-4491-12-20. http://www.human-resources-health.com/content/12/1/20

SECTION ONE: BACKGROUND

Achieving universal health coverage requires a dynamic and skilled health workforce.[2] Yet most African countries suffer from critical health workforce shortages, poor distribution, inappropriate skills mix, and inadequate performance. Nigeria is one of 36 sub-Saharan African countries in the midst of a health workforce crisis with a shortage of skilled medical personnel at the primary health care level. Inadequacy of optimal numbers of health workers with the appropriate skill set is most pronounced in the rural and remote regions of Nigeria where 52% of the population lives.[3]

There is no doubt that training is an important contribution toward the development and maintenance of health worker competencies for delivering quality services. For training to be effective, a training needs assessment is required to determine the gaps between what is currently in place and what is actually needed. Needs assessment results provide information regarding the areas of training needed and the individuals in need of such training.

To increase the availability of skilled health workers in Nigeria to meet the HIV/AIDS, family planning/reproductive health, maternal and child health, and other priority health needs of underserved populations, Capacity*Plus*, a USAID-funded global health workforce project led by IntraHealth International, is supporting the Federal Ministry of Health and other stakeholders to carry out an integrated program of human resources for health (HRH) strengthening activities. Implementation of sustainable and scalable interventions is targeted at both the federal and state levels through active engagement with a range of agencies, including federal and state ministries of health, the National Primary Health Care Development Agency (NPHCDA), training institutions, and regulatory councils.

In 2013, Capacity*Plus* presented findings from an assessment of PEPFAR-funded in-service training (IST) in Nigeria. One recommendation from the IST assessment report was to ensure broader access to new developments in knowledge and technology, as well as sustainability of training, by integrating IST content into preservice education curricula and continuing professional development (CPD) programs. Following this recommendation, Capacity*Plus* in 2014 conducted a training needs assessment in collaboration with the Community Health Practitioners Registration Board of Nigeria (CHPRBN) to determine ideal content for CPD linked with the council's requirements for re-licensure of community health extension workers (CHEWs) and junior CHEWs (JCHEWs). The South–South region of Nigeria was selected as a pilot region for this assessment in view of ongoing activities by Capacity*Plus* in this region. The assessment results will inform modifications to the design and delivery of IST/CPD for CHEWs, including revisions to curricula, course modality, and overall management of the program within the council's existing infrastructure. Similar studies are needed across the country's other geopolitical regions to inform a broader national approach to IST/CPD and CHEW re-licensure in Nigeria.

[2] http://www.afdb.org/en/news-and-events/article/a-dynamic-and-skilled-health-workforce-is-key-to-universal-health-coverage-13285/
[3] http://www.ncbi.nlm.nih.gov/pubmed/20136347

SECTION TWO: STUDY OBJECTIVES

2.1 Main Objective

To conduct a training needs assessment to determine ideal content and the most suitable approach for developing and implementing an IST/CPD course linked with the CHPRBN requirements for re-licensure of CHEWS and community health officers (CHOs).

2.2 Secondary Objectives

- ❑ To determine the expressed needs and training priorities for practicing community health workers (CHEWs and CHOs)
- ❑ To determine prioritized training needs for community health workers (CHEWs and CHOs) from the perspective of the regulatory body for purposes of CPD and re-licensure.

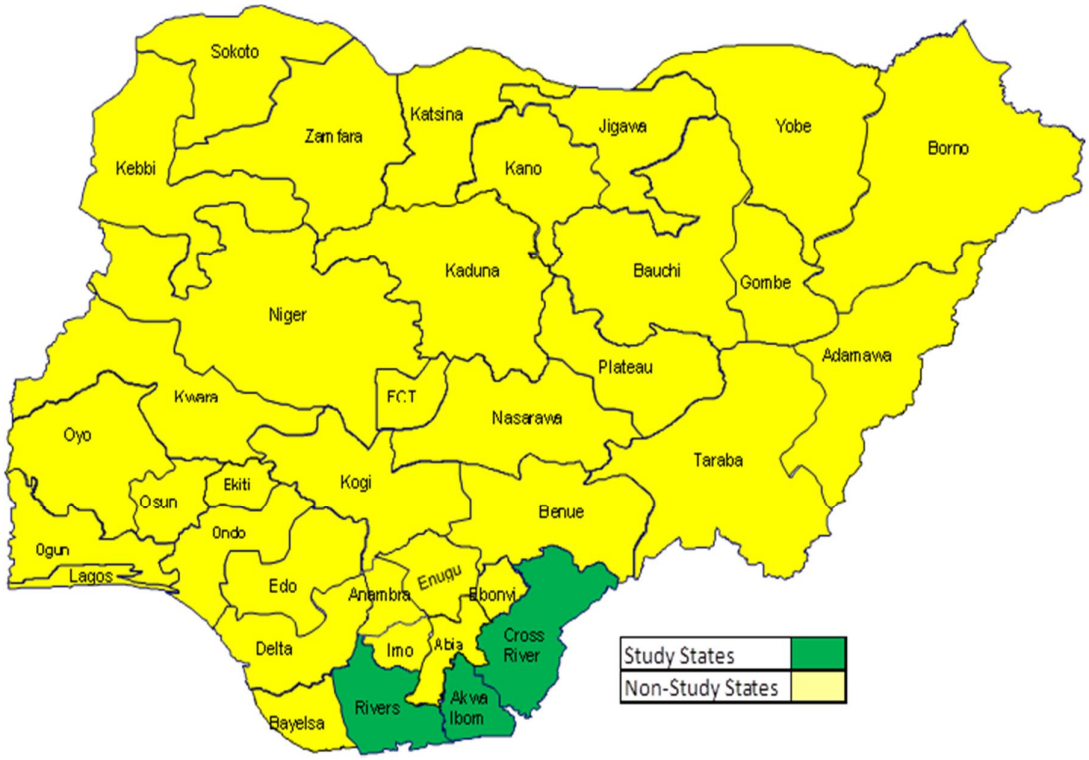
2.3 Expected Benefits and Value

The assessment sought to derive perceptions of training needs from health workers. Results of this study will contribute to the body of knowledge to inform modifications to the content of IST/CPD, including revisions to curricula, course modality, and the overall management of the program within the existing CHPRBN infrastructure.

SECTION THREE: METHODS

3.1 Study Site

Figure 1: Study location in three South-South states



The study was conducted in three states in the South-South geopolitical zone of Nigeria (Figure 1). This was a purposive sample of states based on the current implementation presence that the Capacity*Plus* project has in the three states in particular and the south-south geopolitical zone in general. It is presumed that this provided a good pilot location and the findings here would further inform the design of similar studies across the other geopolitical regions in the country.

3.2 Sampling Strategy and Study Population

The sample population was CHEWs and CHOs working at the primary health center (PHC) level in the study states. The assessment was designed and implemented as a cross-sectional descriptive study with a two-stage stratified sampling design. The first stratum was the local government authorities (LGAs) in each of the three states. Within each state, two LGAs were randomly selected. All PHCs within the LGAs were eligible for the study. Using a quota technique, community health workers (CHWs) within facilities in each LGA were serially interviewed to achieve the estimated sample size of workers to be interviewed in that LGA.

3.2.1 Sample Size

The sample size was calculated using desired relative precision (relative standard error or RSE) of 10%, 80% power, a design effect of 2.0, and 20% adjustment for non-response (from

facility refusals or abandoned facilities). In addition, the sample size assumes that each PHC has an average of two CHWs per facility.

A sample of 6 clusters (LGAs) with 20 CHWs to be interviewed per LGA was determined making a total of 120 CHWs (Table 1), for a desired precision of 80%.

Table 1: Sample size distribution across states

State	LGA	Sample Size
Akwa Ibom	Uyo	20
	Abak	20
Rivers	PH	20
	Asari Toru	20
Cross River	Odukpani	20
	Akpabuyo	20
Total		**120**

3.2.2 Sampling Procedure

Stage 1—Selection of clusters (LGAs): The LGA listing of each state was generated and served as an initial sampling frame for this level of sampling. Two LGAs were randomly selected for each state.

Stage 2—Selection of facilities: Within each selected LGA, the LGA facility directory extracted from the national facility directory was used to generate a sampling frame. A random selection of 10 facilities per LGA was done with the knowledge that all selected LGAs had at a minimum 10 PHCs per LGA.

Stage 3—Selection of CHWs: A census of community health workers willing to participate in the study was done for each selected facility. However, to meet the desired study precision, interviews were extended to other PHCs within the LGAs to increase the size of the sample interviewed. This was deemed acceptable as all CHWs within the selected LGAs were considered eligible for the assessment.

3.3 Study Instruments/Tools

Structured data collection tools were developed for the study and were administered to respondents who had provided consent to participate in the study. The tools are attached as appendices to this report.

The tools adopted both the competency domain and individual skill/ability assessment approach using the two dimensions of: 1) importance or relevance; and 2) confidence.

A gap score (difference between importance and confidence) was calculated thereafter. Gap scores were determined by calculating the difference in percentages or difference in means between the two dimensions.

Information on basic demographic indices was also collected.

3.4 Data Collection

3.4.1 Preparatory Phase

After the questionnaire was agreed upon by all stakeholders, it was pretested in two PHCs in a state that was not selected for the survey. The questionnaire was then revised in light of the results from the pilot survey (see Appendix A for final version). Note is made that the individual competency component was a crosswalk between the existing job descriptions for the various community health cadres and other international best practice examples.[4]

3.4.2 Fieldwork

Teams and training: Interviewers and supervisors were carefully selected to be culturally acceptable, to have good knowledge of the local language, and to have experience in facility surveys and work related to human resources for health. The assessment team in each state consisted of staff from Capacity*Plus*, the state primary health care management board, local government, and the facility.

Stakeholder sensitization: Local authorities were contacted for approval to conduct the survey. Visits were made to the relevant directors of public health in the states, the local government civil service commission, and the PHC coordinators in each LGA. During the visits, the purpose and procedures of the survey were explained to them.

Interviews: Each selected facility was visited. The questionnaire was administered to at least one staff in each level of CHW cadre present. Where some cadres were not represented or the desired interviewee numbers were not met, more representatives were sought in other facilities.

3.5 Data Processing

3.5.1 Data Entry

Data collection was done using paper-based tools administered by the survey team. These questionnaires were collated and entered into an online platform created using the Qualtrics online survey software™. The data were collated centrally in real time and data entry errors identified and field teams notified for correction. At the end of the exercise, the entire database was exported to MS-Excel formats and cleaned again before import into STATA 13 for analysis.

3.5.2 Data Quality Assurance

At the end of each day, the Capacity*Plus* staff member reviewed all questionnaires for completeness and possible inconsistencies and ensured that missing information was corrected while still in the field. In addition, spot checks were performed on 10% of interviews conducted by each fieldworker. A central-level real time quality check was also carried out by the consultant using data pulled from the Qualtrics platform on a daily basis.

[4] Place, Janet. Draft PHTC Common Training Needs Assessment Protocol 3-15, HRSA, 2013.

3.6 Data Analysis

Analysis was done using STATA 13 and consisted mainly of computation of need scores for the domain and individual competency levels. These were also cross-tabulated by other background characteristics of respondents to determine possible variability in need scores attributable to these background characteristics.

3.7 Ethical Considerations

There are no obvious ethical concerns associated with the study. Personal information about respondents in the survey was not collected, and only respondents who signed the informed consent forms were interviewed.

SECTION FOUR: RESULTS

4.1 Study Response

Table 2: Study response across states and LGAs

State	LGA	Sample Size	Respondents
Akwa Ibom	Uyo	20	18
	Abak	20	17
Rivers	PH	20	25
	Asari Toru	20	23
Cross River	Odukpani	20	11
	Akpabuyo	20	13
Total		**120**	**107**
Response Rate			**89%**

This section presents the findings of the community health worker survey in Cross River, Akwa Ibom, and Rivers states.

Of the estimated sample size of 120 CHWs to be interviewed, a total of 107 respondents participated in the survey, representing an 89% response rate (Table 2).

4.2 Sociodemographic Characteristics

Table 3 shows the background characteristics of respondents who took part in the survey.

Table 3: Gender, age and designation of respondents

	N =107	***%***
Respondent's Gender		
Male	13	12.1
Female	94	87.9
Age Group		
< 30 yrs	28	26.2
30-39 yrs	42	39.3
40-49 yrs	23	21.5
>50 yrs	14	13.1
Current Designation of Respondent		
JCHEW	20	18.7
CHEW	60	56.1
CHO	20	18.7
Other	7	6.5

4.2.1 Gender Characteristics

Most respondents (87.9%) were female, while 12.1% were male. This ratio reflects the general gender distribution for this cadre of the health workforce, particularly in the southern part of Nigeria.[5]

[5] IntraHealth International. Human Resources for Health Situation Analysis, Cross River State, July 2013.

4.2.2 Age Characteristics

Three-fifths (60%) of respondents were within the 30-59 year age range, with 26.2% of respondents less than 30 years of age. The mean age was 37.4 ± 9.4 years while the modal age was 40 years. This indicates that the respondents were of a relatively mature age and could confidently express their perceptions of importance of certain skill sets and their confidence in their ability to demonstrate same as applicable.

4.2.3 Designation/Cadres

Over half (56%) of the respondents were of the CHEW cadre of workers, while 18.7% were JCHEW. CHOs were 18.7% of respondents. This is in keeping with the observations made with the age of the respondents where the older respondents tended to be CHEWs.

To become a JCHEW, a candidate has to have had four credit level passes at WASC, NECO, or GCE O-level at not more than two sittings as an entry requirement (West African School Certificate, National Examinations Council of Nigeria, or General Certificate of Education). Course work is for two years, after which a certificate in community health is awarded.

CHEWs are required to have had four credit level passes at WASC, NECO, or GCE O-level at not more than two sittings. A diploma in community health is usually awarded at the end of the three-year training.

A CHO is the most senior member among the community health practitioners in Nigeria. To qualify for the CHO training, the candidate must be a holder of a diploma in community health, with no less than two years of post-qualification experience plus five credit level passes in SSCE (Senior School Certificate Examination), WASC, NECO, or GCE O-level at not more than two sittings. S/he can also be a CHEW with five years' experience with five credit level passes in SSCE, WASC, NECO, or GCE O-level at not more than two sittings. They must also possess a valid practice license. The course duration is two years; a higher diploma in community health is awarded on successful completion of course work.[6]

Table 4: Educational characteristics of respondents

Highest level of education	N =107	%
Basic certificate	20	18.7
Diploma	60	56.1
Higher diploma	20	18.7
Other	7	6.5
Years of practice after obtaining higher qualification		
Less than 1 year	5	4.7
1-5 years	35	32.7
Greater than 5 years	67	62.6
Training institution attended		
Public (government-owned)	97	90.7
Private (private or faith-based)	10	9.3

4.2.4 Highest Level of Education

About 18.7% of respondents had basic certificate as their highest level of education, while 56.1% had a diploma. Another 18.7% had higher diplomas, while 6.5% had other qualifications (Table 4).

[6] CHPRBN. Curriculum for Diploma in Community Health, 2006

4.2.5 Years of Experience

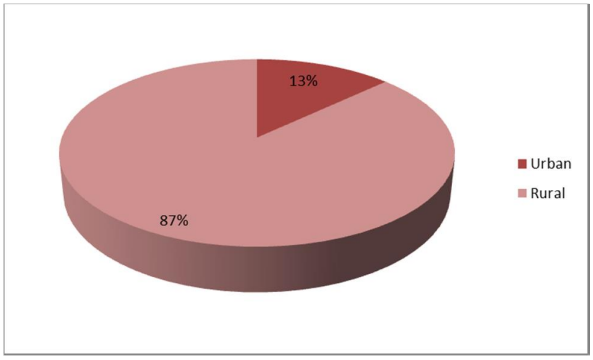
A great proportion (62.6%) had over five years of practice experience (Table 4). Only 4.7% had practiced for less than a year since their highest qualification. This might suggest that IST/CPD will need to be tailored for an experienced audience, and this will need to be properly considered in interpreting the rankings of the training need scores. This will need to be further validated by conducting similar studies across other geopolitical regions in the country. Another potential import of this finding is that the use of more practical approaches to training would benefit this group of health workers who, with experience, might have corrected for the gaps in didactic learning. However, to make conclusive inferences, a study of equivalent proportions across cadres and years of practice will be required to provide large enough and comparable sample sizes across cadres.

4.2.6 Type of Training Institution Attended

An attempt was made to map the type of training institutions from which health workers graduated. This was to explore possible differences at the fundamental levels of training based on public–private differences. Most respondents (90.7%) graduated from public-owned institutions, while 9.3% graduated from private (including faith-based) institutions (Table 4). This difference in proportions is not unexpected, with over 90% of the existing training institutions being publicly owned.[7]

4.2.7 Facility Location

Figure 2: Rural-urban distribution of PHC facilities



The study also tried to map the geo-location of the primary health care facilities where respondents were practicing by rural–urban classification. Distribution by location of health facilities where the interviewed CHWs were practicing showed that 86.9% of respondents practiced in PHCs located in urban areas, while 18.1% practiced in PHCs s located in rural areas (Figure 2).

4.2.8 Access to and Utilization of Information Technology by CHWs

Computer ownership: The assessment collected information around CHW access to and use of information technology (IT) both for work and for personal use. Only 6.5% of respondents (n=7) attested to owning a computer (Table 5). This indicates the very low IT penetration for this cadre of health workers, particularly for CHEWs over 30 years of age who represented the majority of the study population, and potentially limits the opportunity to improve learning access through the use of information technology.

Access to computer at work: Of the 107 respondents, only 12% had access to a computer at work that could be used for learning or training, while 87.9% had no such access. This reinforces the existing limitations to the use of IT for training CHWs.

[7] CHPRBN

Table 5: Access to and utilization of IT by CHWs

Access to IT infrastructure		
	n=107	*%*
Own a computer		
Yes	7	6.5
No	100	93.5
Have access to a computer at your work that could be used for learning/training		
Yes	13	12.1
No	94	87.9
How often do you use a computer		
Every day	3	2.8
Several times per week	4	3.7
Less than one time per week	20	18.7
I do not use a computer	80	74.8
Access to Internet		
At home/residence	2	1.9
At work	1	0.9
Internet café	21	19.6
Other	9	8.4
I do not access the Internet	74	69.2

Use of a computer: The study also tried to determine if CHWs had access to computers through other means outside the work environment. Among the respondents, 74.8% (n=80) did not use a computer at all, 18.7% used computers less than once a week, while 3.7% and 2.8% used computers several times a week or daily, respectively.

Source of Internet access: The majority (69.2%) of respondents did not have access to the Internet. Another 19.6% reported having Internet access through Internet cafés, while only 2.8% accessed the Internet either at home or at work.

4.3 Assessment of Training Needs at the Competency Domain Level

4.3.1 Competency Domain Areas

These are internationally accepted competency domains for requisite knowledge, skills, and attitudes for public health practitioners (Figure 3).[8] These competencies have been cross walked with the current job descriptions of CHWs and determined to be appropriate for use in Nigeria.[9] The domain areas have been adapted to suit the practice expected of CHWs in Nigeria.

Figure 3: Competency domains for public health practitioners

Domain	Description
Analytic/Assessment Skills	Skills, such as ability to collect, collate and evaluate monitoring and evaluation data, and the ability to teach other staff, simple methods of data analysis.
Program Planning Skills	Skills related to the development of plans to ensure effective functioning of the PHC system based on national standards.
Communication Skills	Skills related to ability to convey standard knowledge of basic health and social concerns in ways that are familiar to clients and their families.
Cultural Competency Skills	Skills related to successfully considering the cultural background of the intended audience for public health services, literature, and education.

[8] Council on Linkages between Academia and Public Health Practice. Core Competencies for Public Health Professionals, 2010

[9] The CHPRBN recommended the use of these competencies as a guidance framework for competency assessment of CHWs.

Community Dimension Skills	Skills related to ensuring the initiation and participation of the community and other health workers in identifying major health problems of the community and develop their capacity and access to resources including health insurance, food, quality care and health information.
Public Health Science Skills	Skills related to provision of integrated primary health care services e.g. Nutrition, immunization, basic antenatal & obstetric care, basic clinical management of minor ailments etc.
Financial Planning and Management Skills	Skills related to developing and managing a PH facility, develop an annual workplan with approval of the PHC coordinator etc.
Leadership and Systems Thinking Skills	Skills related to utilizing leadership characteristics, serving as a public health role model, and establishing mentoring, peer advising, and other professional development opportunities for the other CHW cadres

4.3.2 Need Scores Based on Competency Domains

Respondents were asked to assess themselves along the lines of the competency domains on how **important** it is for them to have the set of skills and how **confident** they are in their ability to demonstrate the set of skills.

Analysis was carried out to determine the need score at both the **domain** and **individual skill** levels. The domain areas assessed included analytical/assessment skills, program planning skills, communication skills, cultural competency skills, community dimension skills, public health science skills, financial planning and management skills, leadership and systems thinking skills, and computer and IT skills. The needs assessment used two dimensions: 1) importance or relevance of the competency domain area; and 2) confidence in each competency domain area. Each dimension was graded into three categories (not important, neutral, important; and not confident, neutral, and confident). This allowed for the calculation of need scores, determined by calculating the difference in the proportion of respondents who indicated the competency domain was important and the proportion of respondents who indicated confidence in their ability to perform the competency. For example, if 67.3% reported that community domain competencies were important but only 38.3% indicated that they felt confident in this domain area, then the 29% of respondents who felt the skill was important but did not indicate feeling confident would be in need of some kind of training in that skill. The scores assumed that respondents who reported a "neutral" confidence level were also in need of training.

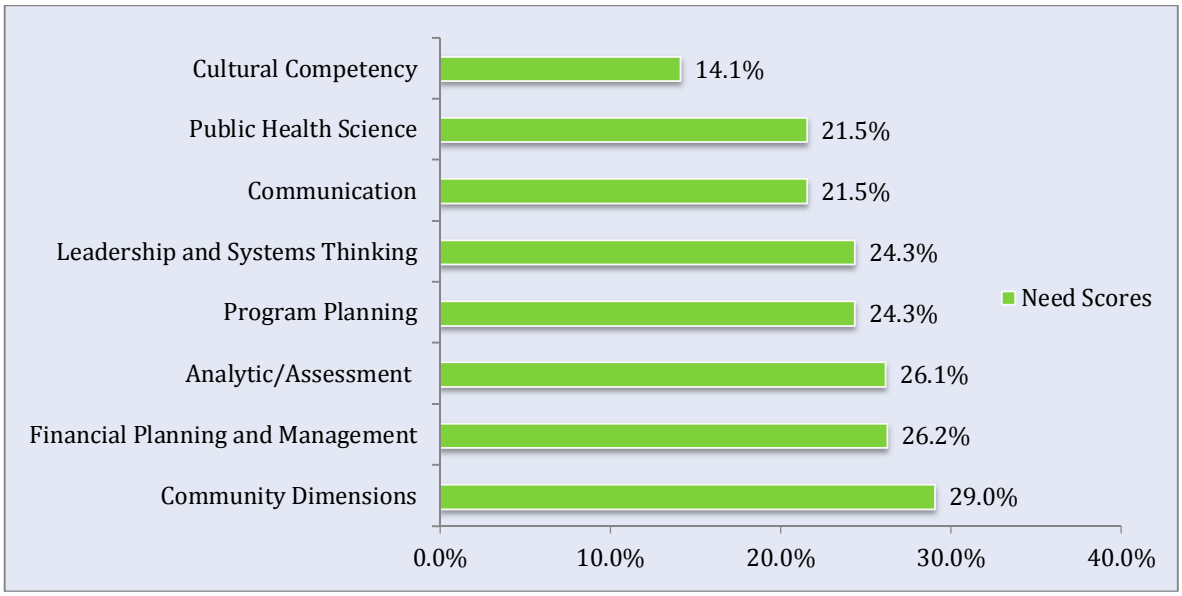
Figure 4: Analysis of need scores by competency domain

Domain Area	Importance (Means)				Confidence (Means)				Need Score*
	Not Important	Neutral	Important	*N*	Not Confident	Neutral	Confident	*N*	
Community Dimensions Skills	0.9	31.8	67.3	107	11.2	50.5	38.3	107	29.0%
Financial Planning and Management Skills	1.9	42.1	56.1	107	13.1	57	29.9	107	26.2%
Analytic/Assessment Skills	0	31.8	68.2	107	6.5	51.4	42.1	107	26.1%
Program Planning Skills	0	43	57	107	14	53.3	32.7	107	24.3%
Leadership and Systems Thinking Skills	2.8	37.4	59.8	107	15.9	48.6	35.5	107	24.3%
Communication Skills	0	26.2	73.8	107	0.9	46.7	52.3	107	21.5%
Public Health Science Skills	1.9	20.6	77.6	107	3.7	40.2	56.1	107	21.5%
Cultural Competency Skills	9.3	45.8	44.9	107	8.4	60.7	30.8	107	14.1%

*Proportion of study participants in need of training in the competency domain

From Figure 4 above, community dimensions skills had the highest need score (29%), indicating the greatest gap between the levels of importance ascribed to the domain area and the existence of the capacity among respondents. Financial planning and management skills and analytical/assessment skills had need scores of 26.2% and 26.1%, respectively. Both program planning and leadership and systems thinking skills had need scores of 24.3%. Communication and public health science skills both had 21.5% need scores. Cultural competency skills had the lowest need score (14.1%) in the rankings. Figure 5 provides a graphical representation of the need score ranking.

Figure 5: Competency domain ranking by need score



4.3.3 Need Scores Based on Individual Skills within Broader Competency Domains

This analysis sought to explore need score differences across specific individual skills (matched to the broader competency domains) that are relevant for CHWs to perform their role within the Nigerian context. The skills are adequately mapped to fit into the broader competency domain areas. This level of detail is required to further identify specific skills that would be requisite for re-licensure of CHWs. It would also help to corroborate findings at the competency domain levels described earlier. Appendix 3 provides a detailed analysis of need scores by individual skills across the competency domains and depicts sublevels of possible prioritization within each competency domain. This can serve to further tailor the IST/CPD design.

Since there was more than one skill under each competency domain, the mean score of all the skills in a competency domain was determined to get the representative score for each domain. Standard deviation was also calculated to check deviation from the mean.[10] The values were expressed in percentages and the need scores calculated. This was then used to generate the need score chart at the competency domain level (Figure 6).

Based on the mean values calculated for skills in each competency domain, more than 55% of respondents agreed that having skills in all competencies was important, while less than 15% said it was not important.

In all nine competency domains, respondents who indicated they were confident were less than 50%. About 56% pointed out they were not confident with computer and information technology skills while the other seven competency domains had fewer than 20% who said they were not confident with their skills in those areas.

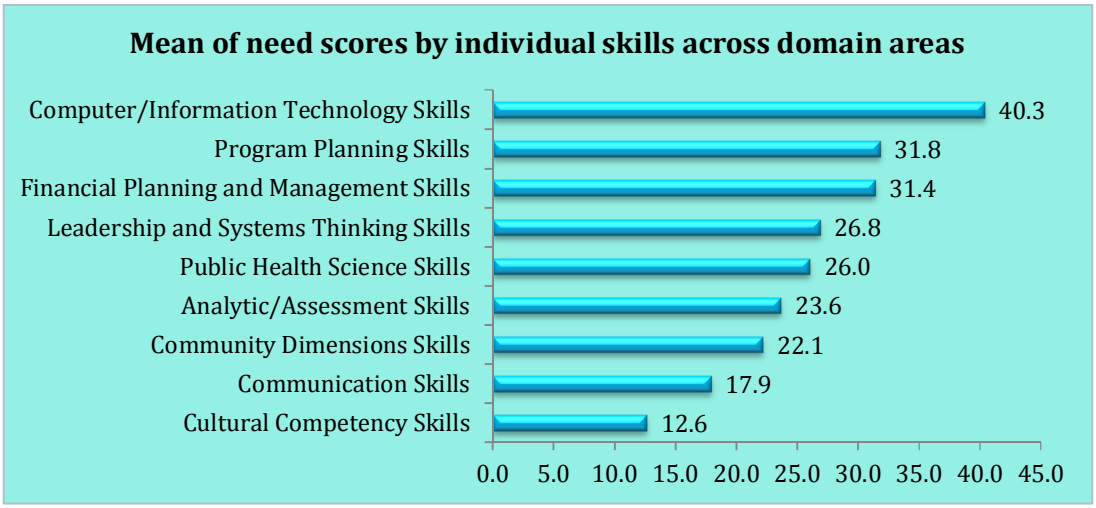
Figure 6: Assessment of individual skills within broader competency domains, aggregated by domain

Domain	How important is it to have the skills in this domain (Mean expressed In percentages)				How confident are you in your ability to demonstrate the skills in this domain (Mean expressed In percentages)				Need Score	Standard Deviation
	Not Confident	Neutral	Confident	N	Not Important	Neutral	Important	N		
Cultural Competency Skills	2.8	41.6	55.6	107	8.9	48.2	43.0	107	12.6	5.9
Communication Skills	2.2	36.6	61.3	107	8.1	48.4	43.4	107	17.9	2.9
Community Dimensions Skills	4.1	32.7	63.2	107	11.2	47.6	41.1	107	22.1	2.7
Analytic/Assessment Skills	3.2	38.5	58.3	107	18.3	47.0	34.7	107	23.6	5.5
Public Health Science Skills	3.9	27.8	68.3	107	13.2	44.5	42.3	107	26.0	6.7
Leadership and Systems Thinking Skills	2.4	30.2	68.2	107	9.0	49.5	41.4	107	26.8	3.0
Financial Planning and Management Skills	1.9	34.7	63.4	107	19.9	48.1	32.1	107	31.4	1.8
Program Planning Skills	3.0	32.7	64.2	107	15.0	52.6	32.5	107	31.8	3.4
Computer/ Information technology Skills	10.5	45.6	58.5	107	55.4	26.4	18.2	107	40.3	1.7

[10] See Appendix 3.

Aggregating individual skills by competency domains and generating mean values for need scores, the skills within the computer/information technology domain ranked highest in terms of need scores (40.3%) while cultural competency skills averaged the lowest need score (12.6%). Program planning and financial planning and management skills had average need scores of 31.8% and 31.4%, respectively. The ranking is also depicted in Figure 7 below.

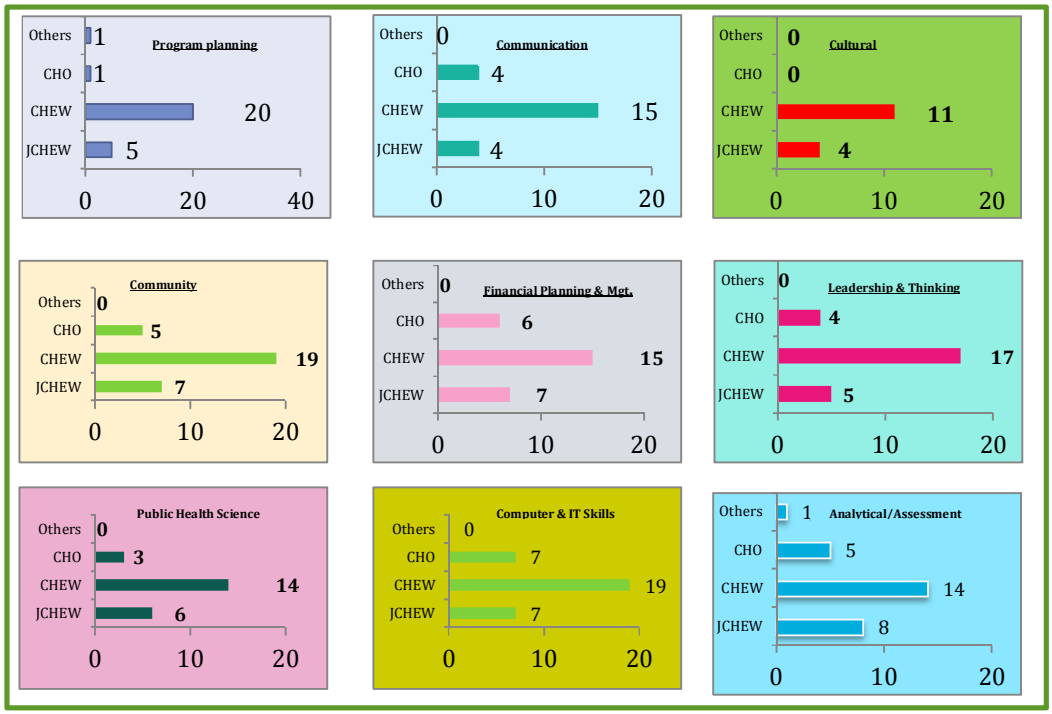
Figure 7: Aggregation of need scores for individual skills within competency domains



4.3.4 Need Score Analysis by Competency Domain and CHW Cadre

The assessment sought to ascertain if there were any significant differences in need scores that could be attributed to the respondent's current job designation. For the analytical/assessment skills domain, the CHEWs had a larger need score (14). The statistical significance of this finding will need to be further explored, probably through another study that adopts a proportionate sample size allocation to each cadre.

Figure 8: Need scores by competency domain and CHW cadre



A similar observation is made for other competency domains with higher need scores demonstrated by the CHEW cadre (Figure 8). This could be as a result of a sampling effect, as 56% of the study population were CHEWs, and would require further interrogation using a sampling design that corrects for this. Note is made that the proportion of CHEWS in the study might be a reflection of the proportion of experienced CHEWS found within the public health sector. New graduates, or JCHEWS, are finding employment within the private health sector as state and local governments have operated with embargoes on employment for several years now.

4.3.5 Need Score Analysis by Competency Domain and CHW Years of Experience

The assessment tried to determine if there were any noted differences or trends in need scores for the competency domains based on CHW years of experience (Figure 9).

Figure 9: Need scores by competency domain and CHW years of experience

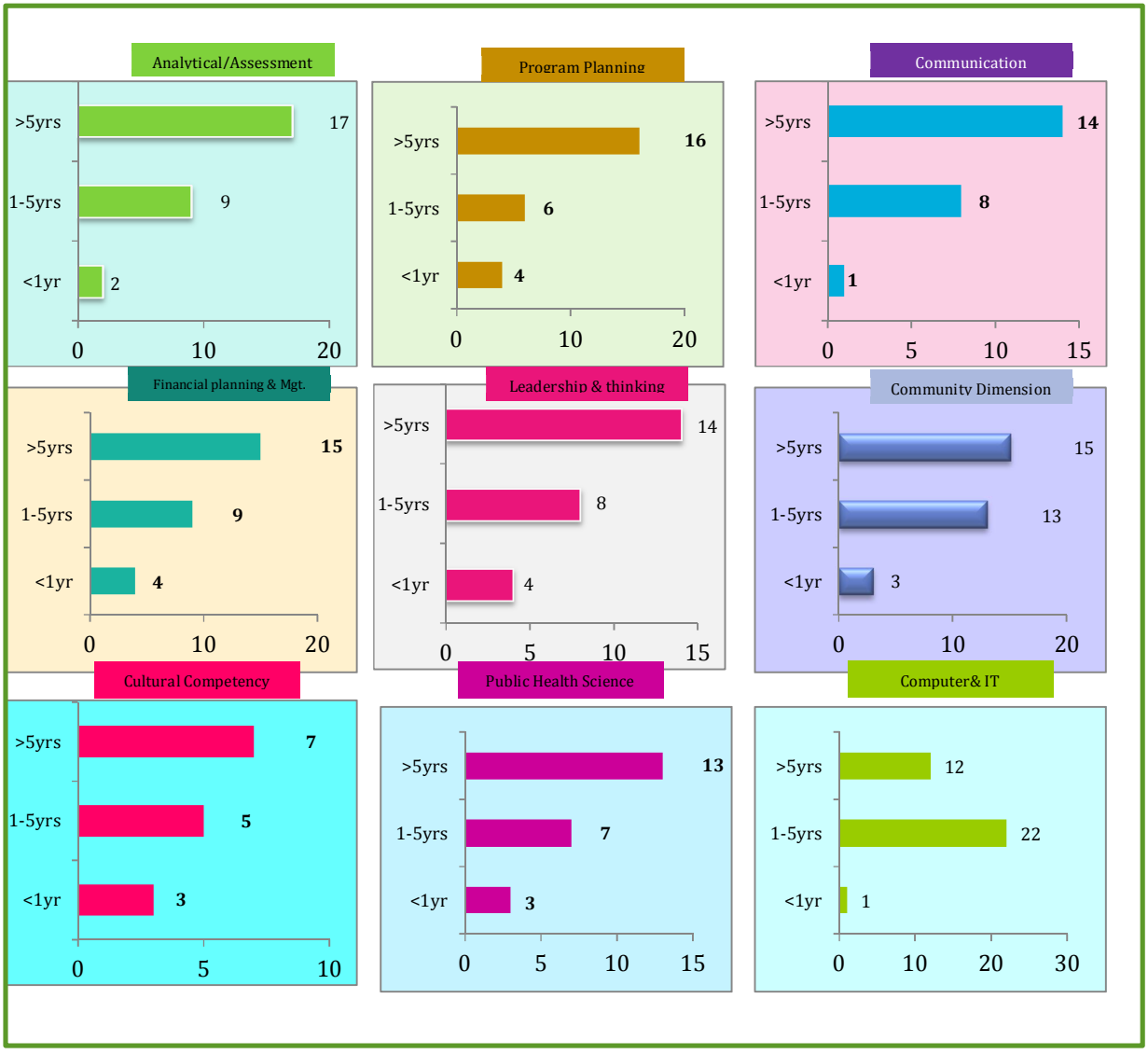


Figure 9 seems to suggest that the need for training increases as the number of years of experience increases. Those with fewer years from their initial training have a smaller need gap than those who have been practicing for several years since their preservice training.

This is in keeping with the continuing changes and innovations to methods and approaches to service delivery to which older CHWs would have not been exposed during their preservice training.

SECTION FIVE: RECOMMENDATIONS

Since this TNA was conducted in the southern part of the country, it is recommended that a similar assessment with a proportionate sample size allocated to each type of CHW be extended to other parts of the country to enable evidence-based formulation of IST/CPD curricula across all regions. In addition, the assessment could include a few objective structured clinical exam (OSCE) stations to assess and validate selected key competencies against the respondents' self-reported level of confidence.

Based on the need scores derived from the community health worker survey at the competency domain level, it is recommended that CHPRBN prioritize competency areas in its IST/CPD programs in the following order of priority:

s/n	Training needs	Need scores	
1	Computer and information technology skills	41%	
2	Financial planning and management skills	28%	
3	Public health science skills	27%	
4	Program planning skills	26%	
5	Analytical/assessment skills	25%	
6	Community dimensions skills	23%	
7	Leadership and systems thinking skills	22%	
8	Communication skills	19%	
9	Cultural competency skills	15%	

It is recommended that trainings on computer and information technology skills be made **more** available for all participants in the IST/CPD program. In line with the critical role that CHWs play as the front line of the health system in Nigeria, it becomes imperative that there be sufficient investment in significantly improving access of this cadre of the health workforce to information technology. This cannot be overemphasized as evidence abounds on the critical role that IT now plays in the improvement of learning and access to information.

The dearth of financial resources for the public health system demands that existing resources be managed efficiently. CHWS also have a role to play in this important aspect of health. Their capacity to manage scarce resources, if improved, will help attain greater efficiencies in the health system. The need score table reinforces this fact going by the expressed need for improvement in this skill set.

As public health science evolves, CHWs need to be continually abreast of new technologies and service delivery methods. Being third in ranking order, the public health science competency domain needs to be given its due position in the design of future IST/CPD programs.

SECTION SIX: APPENDICES

Appendix 1: Training Needs Assessment Questionnaire

TRAINING NEEDS ASSESSMENT FOR COMMUNITY HEALTH WORKERS

GENERAL INFORMATION				
Date of interview (dd/mm/yyyy)	/ /			
Interviewer's name				
Facility name				
State				
LGA				
Interview start time	HH:MM			
Interview completed	**Yes**		**No**	

INFORMED CONSENT		
Hello, my name is _____. I am working with **INTRAHEALTH INTERNATIONAL implementer of Capacity*Plus* project funded by USAID.** We are conducting a training needs assessment for community health workers in Nigeria. The information we collect will help the **Community Health Practitioners Registration Board of Nigeria** to plan for in-service training needs for community health workers in Nigeria. I would like to ask you some questions about yourself. The questions usually take about 15 to 20 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are very important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time. In case you need more information about the survey, you are free to ask.		
Respondent agrees to be interviewed	Yes/No	
Respondent does not agree to be interviewed		→ End
Interviewee's full name		
Interviewee's signature/thumbprint		

SECTION 1: GENERAL INFORMATION							
READ TO THE CLIENT: I would like to ask you some questions about yourself. This will include questions about your training, qualifications and some basic demographic data.							
No	**Question**	**Response**					**Skips**
1.	**Interviewer: Is the person you are interviewing a male or female?**	**Male**		**Female**			
2.	Age (in completed years)	---------- **Years**					
3.	What is your current designation in this facility?	JCHEW					
		CHEW					
		CHO					
		Other (specify):					
4.	Highest level of education	❑ Certificate ❑ Diploma ❑ Higher diploma ❑ Other (specify):					
5.	For how many years have you practiced since obtaining your highest qualification? *Tick as appropriate*	❑ Less than 1 year ❑ 1-5 years ❑ Greater than 5 years					
6.	What type of training Institution did you attend for your preservice training?	❑ Public (govt. owned) ❑ Private (private or faith-based)					
7.	Is the institution located in an urban or rural area?	❑ Rural ❑ Urban					

SECTION 2: ASSESSMENT AT DOMAIN LEVEL

For each skill area listed below, please indicate how **important** it is for you to have these skills and how **confident** you are in your ability to perform these skills.

SKILL AREA	IMPORTANCE **How important is it for you to have these skills?** 1 = Not important 2 = Neutral 3 = Important	CONFIDENCE **How confident are you in your ability to perform these skills?** 1 = Not confident 2 = Neutral 3 = Confident
Analytic/Assessment Skills: Skills, such as ability to collect, collate, and evaluate monitoring and evaluation data, and the ability to teach other staff simple methods of data analysis.	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Program Planning Skills: Skills related to the development of plans to ensure effective functioning of the PHC system based on national standards.	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Communication Skills: Skills related to ability to convey standard knowledge of basic health and social concerns in ways that are familiar to clients and their families.	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Cultural Competency Skills: Skills related to successfully considering the cultural background of the intended audience for public health services, literature, and education.	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Community Dimensions Skills: Skills related to ensuring the initiation and participation of the community and other health workers in identifying major health problems of the community and developing their capacity and access to resources including health insurance, food, quality care, and health information.	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Public Health Science Skills: Skills related to provision of integrated primary health care services, e.g., nutrition, immunization, basic antenatal and obstetric care, basic clinical management of minor ailments, etc.	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Financial Planning and Management Skills: Skills related to developing and managing a PHC facility, developing an annual workplan with the approval of the PHC coordinator, etc.	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Leadership and Systems Thinking Skills: Skills related to utilizing leadership characteristics, serving as a public health role model, and establishing mentoring, peer advising, and other professional development opportunities for the other CHW cadres.	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐

SECTION 3: ASSESSMENT AT THE INDIVIDUAL SKILL LEVEL

For each individual skill listed below, please indicate how **important it is for you to have these skills** and how **confident you are in your ability to perform** these skills.

SKILLS	IMPORTANCE **How important is it for you to have these skills?** 1 = Not important 2 = Neutral 3 = Important	CONFIDENCE **How confident are you in your ability to perform these skills?** 1 = Not confident 2 = Neutral 3 = Confident
Analytic/Assessment Skills		
Ability to assess the health status of populations and their related determinants of health and illness (e.g., factors contributing to health promotion and disease prevention, availability and use of health services)	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to describe the characteristics of a population-based health problem (e.g., equity, social determinants, environment)	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to collect, collate, and evaluate monitoring and evaluation data for the national primary health care program for appropriate health intervention	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to use methods and instruments for collecting valid and reliable quantitative and qualitative data	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to keep accurate records of activities and health problems as stipulated within the area of coverage and forward same to the LGA	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to teach trainees, community health extension workers (CHEWs), clinic staff, and other students simple methods of data analysis	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to use information technology (computers, mobile phones, Internet, etc.) to collect, store, and retrieve data	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Program Planning Skills		
Ability to prepare and coordinate schedule of activities to tackle prioritized health problems	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to ensure seamless delivery of care by providing the main point of contact for service users and families	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to ensure fast and safe referral and where to refer for a particular clinical or pathological case	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to ensure the maintenance of a constant supply of drugs to the target population through forecasting, stock checks, and timely requests	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐

SKILLS	IMPORTANCE How important is it for you to have these skills?	CONFIDENCE How confident are you in your ability to perform these skills?
	1 = Not important 2 = Neutral 3 = Important	1 = Not confident 2 = Neutral 3 = Confident
Communication Skills		
Ability to communicate and listen to clients and families in basic English and/or local languages including the use of specialist assistance where required (e.g., sign language)	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to convey standard knowledge of basic health and social concerns in ways that are familiar to clients and their families	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to discuss the reasons and options for change in culturally sensitive ways as regards health promotion and disease prevention	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Cultural Competency Skills		
Ability to use relevant languages and respectful attitudes and demonstrate deep cultural knowledge in all aspects of work with community members	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to respond to the needs of people in an open manner that promotes equal opportunities and confidentiality and encourages freedom of choice	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Community Dimensions Skills		
Ability to ensure the initiation and participation of the community in carrying out initial community diagnosis and continuous health needs assessment of the community	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to carry out community mobilization	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to help communities develop their capacity to access resources including health insurance, food, quality care, and health information	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Financial Planning and Management Skills		
Ability to develop an annual workplan with the approval of the primary health care coordinator and ensure its proper implementation	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to carry out day-to-day administration of the primary care facility including financial and staff management	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐

SKILLS	IMPORTANCE How important is it for you to have these skills? 1 = Not important 2 = Neutral 3 = Important	CONFIDENCE How confident are you in your ability to perform these skills? 1 = Not confident 2 = Neutral 3 = Confident
Leadership and Systems Thinking Skills		
Ability to supervise the activities of other staff	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to identify, direct, and conduct training and continuing education for other members of the health team (village health workers, CHEWs, traditional birth attendants, etc.)	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to initiate, direct, and work with community and staff to plan solutions to identified health problems	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Public Health Science Skills		
Ability to provide services for prevention and control of endemic diseases (e.g., malaria, HIV, TB, diarrheal diseases, worm infestations, sexually transmitted infections [STIs], malnutrition)	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to provide integrated and basic primary health care services (e.g., first aid, blood pressure monitoring, nutrition monitoring, health promotion, basic infection control and disease prevention, water and sanitation, etc.)	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to provide effective immunization services including management of the logistics and cold chain systems	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to provide basic maternal and child health services (e.g., safe and qualitative antenatal care in pregnancy, delivery, postnatal care, family planning)	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to provide HIV counseling and testing and PMTCT-related services	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to conduct basic TB screening and diagnosis	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to carry out rapid diagnostic tests for malaria and provide appropriate treatment using artemisinin-based combination therapies	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to provide related services in community management of acute malnutrition (e.g., malnutrition screening, diagnosis of malnutrition, administration of plumpy nuts, and referral of acute cases to secondary facilities for stabilization)	1 ☐ 2 ☐ 3 ☐	1 ☐ 2 ☐ 3 ☐
Ability to provide integrated management of		1 2 3

SKILLS	IMPORTANCE How important is it for you to have these skills?	CONFIDENCE How confident are you in your ability to perform these skills?
	1 = Not important 2 = Neutral 3 = Important	1 = Not confident 2 = Neutral 3 = Confident
childhood illnesses according to national guidelines		☐ ☐ ☐
Ability to conduct STI screening and provide syndromic management of STIs	1 2 3 ☐ ☐ ☐	1 2 3 ☐ ☐ ☐
Ability to screen for other noncommunicable diseases (e.g., diabetes, hypertension) and provide early referrals and health promotion advice	1 2 3 ☐ ☐ ☐	1 2 3 ☐ ☐ ☐
Computer/Information Technology Skills		
Ability to operate a computer (basic functions)	1 2 3 ☐ ☐ ☐	1 2 3 ☐ ☐ ☐
Ability to use Microsoft Office applications (e.g., Word, Excel, PowerPoint)	1 2 3 ☐ ☐ ☐	1 2 3 ☐ ☐ ☐
Ability to navigate the Internet to conduct searches and find relevant information	1 2 3 ☐ ☐ ☐	1 2 3 ☐ ☐ ☐
Ability to create an e-mail address and utilize an e-mail platform for communication	1 2 3 ☐ ☐ ☐	1 2 3 ☐ ☐ ☐

COMPUTER OWNERSHIP AND USE	
Do you own a computer?	□YES □NO
Do you have access to a computer at your work that could be used for learning/training?	□YES □NO
How often do you use a computer?	□ Every day □ Several times per week □ Less than one time per week □ I do not use a computer
Where do you access the Internet?	□ At home/residence □ At work □ Internet café □ Other (SPECIFY): ..... □ I do not access the Internet

Thank you for your cooperation.

Appendix 2: Matrix of Competency Domains and Individual Skills

Competency Domain	Individual Skills
Analytic/Assessment Skills	Ability to assess the health status of populations and their related determinants of health and illness (e.g., factors contributing to health promotion and disease prevention, availability and use of health services)
	Ability to describe the characteristics of a population-based health problem (e.g., equity, social determinants, environment)
	Ability to collect, collate, and evaluate monitoring and evaluation data for the national primary health care program for appropriate health intervention
	Ability to use methods and instruments for collecting valid and reliable quantitative and qualitative data
	Ability to keep accurate records of activities and health problems as stipulated within the area of coverage and forward same to the LGA
	Ability to teach trainees, community health extension workers (CHEWs), clinic staff, and other students simple methods of data analysis
	Ability to use information technology (computers, mobile phones, Internet, etc.) to collect, store, and retrieve data
Program Planning Skills	Ability to prepare and coordinate schedule of activities to tackle prioritized health problems
	Ability to ensure seamless delivery of care by providing the main point of contact for service users and families
	Ability to ensure fast and safe referral and where to refer for a particular clinical or pathological case
	Ability to ensure the maintenance of a constant supply of drugs to the target population through forecasting, stock checks, and timely requests
Communication Skills	Ability to communicate and listen to clients and families in basic English and/or local languages including the use of specialist assistance where required (e.g., sign language)
	Ability to convey standard knowledge of basic health and social concerns in ways that are familiar to clients and their families
	Ability to discuss the reasons and options for change in culturally sensitive ways as regards health promotion and disease prevention
Cultural Competency Skills	Ability to use relevant languages and respectful attitudes and demonstrate deep cultural knowledge in all aspects of work with community members
	Ability to respond to the needs of people in an open manner that promotes equal opportunities and confidentiality and encourages freedom of choice
Community Dimensions Skills	Ability to ensure the initiation and participation of the community in carrying out initial community diagnosis and continuous health needs assessment of the community
	Ability to carry out community mobilization
	Ability to help communities develop their capacity to access resources including health insurance, food, quality care, and health information
Financial Planning and Management Skills	Ability to develop an annual workplan with the approval of the primary health care coordinator and ensure its proper implementation
	Ability to carry out day-to-day administration of the primary care facility including financial and staff management

Competency Domain	Individual Skills
Leadership and Systems Thinking Skills	Ability to supervise the activities of other staff
	Ability to identify, direct, and conduct training and continuing education for other members of the health team (village health workers, CHEWs, traditional birth attendants, etc.)
	Ability to initiate, direct, and work with community and staff to plan solutions to identified health problems.
Public Health Science Skills	Ability to provide services for prevention and control of endemic diseases (e.g., malaria, HIV, TB, diarrheal diseases, worm infestations, sexually transmitted infections [STIs], malnutrition)
	Ability to provide integrated and basic primary health care services (e.g., first aid, blood pressure monitoring, nutrition monitoring, health promotion, basic infection control and disease prevention, water and sanitation, etc.)
	Ability to provide effective immunization services including management of the logistics and cold chain systems
	Ability to provide basic maternal and child health services (e.g., safe and qualitative antenatal care in pregnancy, delivery, postnatal care, family planning)
	Ability to provide HIV counseling, testing, and PMTCT-related services
	Ability to conduct basic TB screening and diagnosis
	Ability to carry out rapid diagnostic tests for malaria and provide appropriate treatment using artemisinin-based combination therapies (ACTs)
	Ability to provide related services in community management of acute malnutrition (e.g., malnutrition screening, diagnosis of malnutrition, administration of plumpy nuts, and referral of acute cases to secondary facilities for stabilization)
	Ability to provide integrated management of childhood illnesses according to national guidelines
	Ability to conduct STI screening and provide syndromic management of STIs
	Ability to screen for other non-communicable diseases (e.g., diabetes, hypertension) and provide early referrals and health promotion advice
Computer/ Information Technology Skills	Ability to operate a computer (basic functions)
	Ability to use Microsoft Office applications (e.g., Word, Excel, PowerPoint)
	Ability to navigate the Internet to conduct searches and find relevant information
	Ability to create an e-mail address and utilize an e-mail platform for communication

Appendix 3: Individual Skills Assessment Table

SKILL	Importance				Confidence				Need Score
	Not Important	Neutral	Important	N	Not Confident	Neutral	Confident	N	
Analytic/Assessment Skills									
Ability to assess the health status of populations and their related determinants of health and illness (e.g., factors contributing to health promotion and disease prevention, availability and use of health services)	4.7	48.6	46.7	107	11.2	56.1	32.7	107	14
Ability to describe the characteristics of a population-based health problem (e.g., equity, social determinants, environment)	1.9	40.2	57.9	107	24.3	51.4	24.3	107	33.6
Ability to collect, collate, and evaluate monitoring and evaluation data for the national primary health care program for appropriate health intervention	1.9	37.4	60.7	107	10.3	54.2	35.5	107	25.2
Ability to use methods and instruments for collecting valid and reliable quantitative and qualitative data	2.8	32.7	64.5	107	19.6	48.6	31.8	107	32.7
Ability to keep accurate records of activities and health problems as stipulated within the area of coverage and forward same to the LGA	3.7	26.2	70.1	107	11.2	46.7	42.1	107	28
Ability to teach trainees, community health extension workers (CHEWs), clinic staff, and other students simple methods of data analysis	5.6	35.5	58.9	107	12.1	35.5	52.3	107	6.6
Ability to use information technology (computers, mobile phones, Internet, etc.) to collect, store, and retrieve data	1.9	48.6	49.5	107	39.3	36.4	24.3	107	25.2
Program Planning Skills									
Ability to prepare and coordinate schedule of activities to tackle prioritized health problems	2.8	44.9	52.3	107	20.6	56.1	23.4	107	28.9
Ability to ensure seamless delivery of care by providing the main point of contact for service users and families	2.8	23.4	73.8	107	15.9	62.6	21.5	107	52.3
Ability to ensure fast and safe referral and where to refer for a particular clinical or pathological case	3.7	38.3	57.9	107	8.4	40.2	51.4	107	6.5

SKILL	Importance				Confidence				Need Score
	Not Important	Neutral	Important	N	Not Confident	Neutral	Confident	N	
Ability to ensure the maintenance of a constant supply of drugs to the target population through forecasting, stock checks, and timely requests	2.8	24.3	72.9	107	15	51.4	33.6	107	39.3
Communication Skills									
Ability to communicate and listen to clients and families in basic English and/or local languages including the use of specialist assistance where required (e.g., sign language)	0.9	40.6	58.5	106	6.5	38.3	55.1	107	3.4
Ability to convey standard knowledge of basic health and social concerns in ways that are familiar to clients and their families	1.9	39.3	58.9	107	8.5	51.9	39.6	106	19.3
Ability to discuss the reasons and options for change in culturally sensitive ways as regards health promotion and disease prevention	3.7	29.9	66.4	107	9.3	55.1	35.5	107	30.9
Cultural Competency Skills									
Ability to use relevant languages and respectful attitudes and demonstrate deep cultural knowledge in all aspects of work with community members	3.7	43.9	52.3	107	9.3	44.9	45.8	107	6.5
Ability to respond to the needs of people in an open manner that promotes equal opportunities and confidentiality and encourages freedom of choice	1.9	39.3	58.9	107	8.4	51.4	40.2	107	18.7
Community Dimensions Skills									
Ability to ensure the initiation and participation of the community in carrying out initial community diagnosis and continuous health needs assessment of the community	2.8	21.5	75.7	107	12.1	49.5	38.3	107	37.4
Ability to carry out community mobilization	4.7	38.3	57	107	4.7	43.9	51.4	107	5.6
Ability to help communities develop their capacity to access resources including health insurance, food, quality care, and health information	4.7	38.3	57	107	16.8	49.5	33.6	107	23.4
Financial Planning and Management Skills									
Ability to develop an annual workplan with the approval of the primary health care coordinator and ensure its proper implementation	1.9	35.8	62.3	106	27.4	44.3	28.3	106	34

SKILL	Importance				Confidence				Need Score
	Not Important	Neutral	Important	N	Not Confident	Neutral	Confident	N	
Ability to carry out day-to-day administration of the primary care facility including financial and staff management	1.9	33.6	64.5	107	12.3	51.9	35.8	106	28.7
Leadership and Systems Thinking Skills									
Ability to supervise the activities of other staff	1.9	36.4	61.7	107	7.5	50.5	42.1	107	19.6
Ability to identify, direct and conduct training and continuing education for other members of the health team (village health workers, CHEWs, traditional birth attendants, etc.)		34.6	65.4	107	12.1	51.4	36.4	107	29
Ability to initiate, direct, and work with community and staff to plan solutions to identified health problems	2.8	19.6	77.6	107	7.5	46.7	45.8	107	31.8
Public Health Science Skills									
Ability to provide services for prevention and control of endemic diseases (e.g., malaria, HIV, TB, diarrheal diseases, worm infestations, sexually transmitted infections [STIs], malnutrition)	3.7	15.9	80.4	107	7.5	46.7	45.8	107	34.6
Ability to provide integrated and basic primary health care services (e.g., first aid, blood pressure monitoring, nutrition monitoring, health promotion, basic infection control and disease prevention, water and sanitation, etc.)	4.7	15.9	79.4	107	3.7	39.3	57	107	22.4
Ability to provide effective immunization services including management of the logistics and cold chain systems	2.8	23.4	73.8	107	3.7	31.8	64.5	107	9.3
Ability to provide basic maternal and child health services (e.g., safe and qualitative antenatal care in pregnancy, delivery, postnatal care, family planning)	2.8	23.4	73.8	107	7.5	54.2	38.3	107	35.5
Ability to provide HIV counseling, testing, and PMTCT-related services	0.9	34.6	64.5	107	10.3	44.9	44.9	107	19.6
Ability to conduct basic TB screening and diagnosis	2.8	22.4	74.8	107	25.2	49.5	25.2	107	49.6
Ability to carry out rapid diagnostic tests for malaria and provide appropriate treatment using artemisinin-based combination therapies (ACTs)	3.7	33.6	62.6	107	6.5	38.3	55.1	107	7.5

SKILL	Importance				Confidence				Need Score
	Not Important	Neutral	Important	N	Not Confident	Neutral	Confident	N	
Ability to provide related services in community management of acute malnutrition (e.g., malnutrition screening, diagnosis of malnutrition, administration of plumpy nuts, and referral of acute cases to secondary facilities for stabilization)	3.7	29	67.3	107	18.7	44.9	36.4	107	30.9
Ability to provide integrated management of childhood illnesses according to national guidelines	5.6	37.4	57	107	15	46.7	38.3	107	18.7
Ability to conduct STI screening and provide syndromic management of STIs	3.7	38.3	57.9	107	30.8	43.9	25.2	107	32.7
Ability to screen for other non-communicable diseases (e.g., diabetes, hypertension) and provide early referrals and health promotion advice	8.4	31.8	59.8	107	15.9	49.5	34.6	107	25.2
Computer/ Information Technology Skills									
Ability to operate a computer (basic functions)	8.4	30.8	60.7	107	51.4	27.1	21.5	107	39.2
Ability to use Microsoft Office applications (e.g., Word, Excel, PowerPoint)	9.3	36.4	54.2	107	59.8	22.4	17.8	107	36.4
Ability to navigate the Internet to conduct searches and find relevant information	12.1	27.1	60.7	107	54.2	31.8	14	107	46.7
Ability to create an e-mail address and utilize an e-mail platform for communication	12.1	87.9		107	56.1	24.3	19.6	107	-19.6