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MCSP Liberia Human Resources for Health Endline Assessment Report

MCSP is a global USAID initiative to introduce and support high-impact health interventions in 25 priority countries to help prevent child and maternal deaths. MCSP supports programming in maternal, newborn, and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment. MCSP will tackle these issues through approaches that also focus on household and community mobilization, gender integration, and digital health, among others.

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Acronyms

ANC	Antenatal Care
A & P	Anatomy and Physiology
BALMLT	Board of Accreditation and Licensure for Medical Laboratory Technology
CHAI	Clinton Health Access Initiative
EBSNM	Esther Bacon School of Nursing and Midwifery
EmONC	Emergency Obstetrical and Neonatal Care
ETS	Effective Teaching Skills
EVD	Ebola virus disease
DR	Documentation and reporting
DKISM	Dianna K. Isaacson School of Midwifery (formally MTP/SER)
GOL	Government of Liberia
HIV	Human Immunodeficiency Virus
LBNM	Liberia Board of Nursing and Midwifery
LAMLT	Liberia Association of Medical Laboratory Technology
LMA	Liberia Midwifery Association
LMDP	Leadership Management Development program
MCSP	Maternal and Child Survival Program
MLT	Medical laboratory technician
MNCH	Maternal, newborn, and child health
MNH	Maternal and newborn health
MOH	Ministry of Health
MPCHS	Mother Patern College of Health Sciences
MTP/SER	Midwifery Training Program/South Eastern Region
MVA	Manual vacuum aspirator
MTCT	Mother to child transmission of HIV
NLD	Normal Labor and Delivery
OC	Obstetric Complications (OC)
PPAL	Planned Parenthood Association of Liberia
PP	Post-partum care (PP)
PPFP	Post-partum Family Planning
PSE	Pre-service education
PSEIs	Pre-service education institutions
PTP	Phebe Training Program
RNA	Rapid needs assessment
RAT	Rapid needs assessment tool
RBHS	Rebuilding Basic Health Services

RM	Registered Midwife
RNA	Rapid Needs Assessment
SGBV	Sexual and Gender Based Violence
SPA	Student Performance Assessment Workshop
SQS	Safe and quality healthcare services
TNIMA	Tubman National Institute for Medical Arts
TOR	Term of reference
UMU	United Methodist University
USAID	United States Agency for International Development
WM	Waste Management
Snr.	Senior
HWP	Health Work Force Program
MERL	Monitoring Evaluation Research Learning

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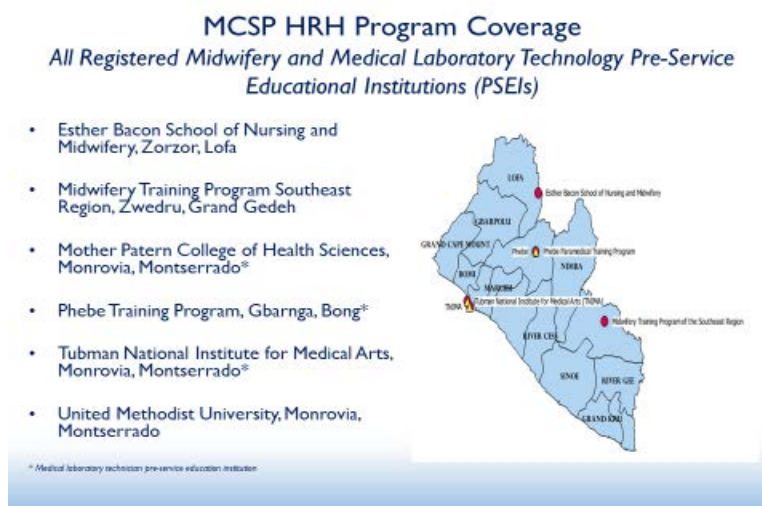
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- Endline Assessment Team: Michael Mukibii, Senior Laboratory Advisor; David B. Vessellee, Laboratory Specialist; Emmanuel T. Cooper, President, LAMLT; Veronica R. Karlor, Member, LAMLT; Daisajou V. Woods, M & E Associate; Harriette N. S. Mondaye, Senior Technical Specialist-PSE; Mantue Reeves, MERL Manager; J. Dekontee Konah, HWF Planning Officer; Helena Nuahn, Midwifery Preservice Snr. Officer; Mary W. Tiah, Midwifery Desk Officer-LBNM; Weedor Kennedy, Chaplain-LMA; and Marion Subah, COP HRH.

Executive Summary

The Maternal and Child Survival Program (MCSP) is a global U.S. Agency for International Development (USAID) cooperative agreement to introduce and support high-impact health interventions in 25 priority countries with the ultimate goal of preventing child and maternal deaths through approaches that also focus on health systems strengthening, household and community mobilization, gender integration, and eHealth, among others.

In light of the Ebola crisis, USAID/Liberia asked MCSP to support its commitment to strengthening Liberia's health workforce through the new MCSP Liberia Human Resources for Health (MCSP Liberia/HRH) project. The goal of MCSP Liberia/HRH is to strengthen the capability and resilience of Liberia's frontline health workforce to address second order impacts from the Ebola crisis - by strengthening pre-service training of midwives and laboratory personnel—two critical cadres whose shortage and lack of adequate training contribute to Liberia's vulnerability to public health crisis. Specifically, MCSP Liberia/HRH focused on improving access to high-quality instructional resources, equipment, and technology strengthening curricula, course materials, and delivery of both didactic and clinical training; and strengthening the learning environment at six targeted pre-service training institutions (PSEIs) with three medical laboratory technicians (MLT) and five registered midwifery (MW) programs (each with an associated clinical practice site).



This endline assessment was conducted to generate endline data related to the achievements of the MCSP Liberia/HRH project. The data collected as part of this endline assessment has been primarily compared to the data collected at baseline (July 2016) and midline (September 2017).

Methods

The methods used for conducting the endline assessment included:

- Rapid Needs Assessment of the PSE institutions: focused on assessing the following six components:
 - a) infrastructure and management;
 - b) Teachers, Tutors and Preceptors;
 - c) Students;
 - d) Clinical Practice Sites;
 - e) Curriculum;
 - f) Influencing factors.
- Pre-Service Accreditation Standards Assessment of the PSE institutions.
- Clinical Standards and Performance Assessment of Primary Clinical Sites.

Qualitative After-Action Review of Leadership and Academic Management Development Program (LMDP) using Most Significant Change approach.

The same tools used for the baseline and midline assessments were used for the endline assessment data collection. Data were collected for all components of the endline assessment from February 2018 through July 2018 by trained data collectors supervised by Monrovia-based MCSP staff who also conducted onsite verification, spot checks, and ensured quality assurance throughout the data collection period. All quantitative data was exported to and analyzed in Excel with descriptive statistics, including percentage distributions. Qualitative data were themed, coded, and summarized in Microsoft Word.

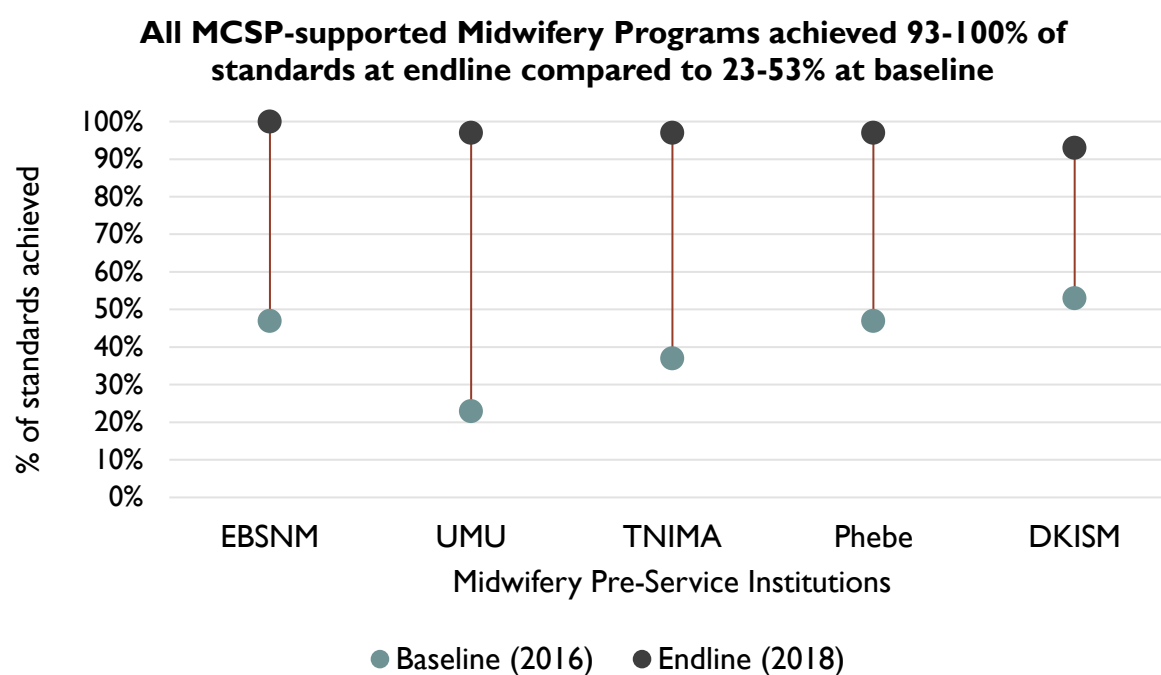
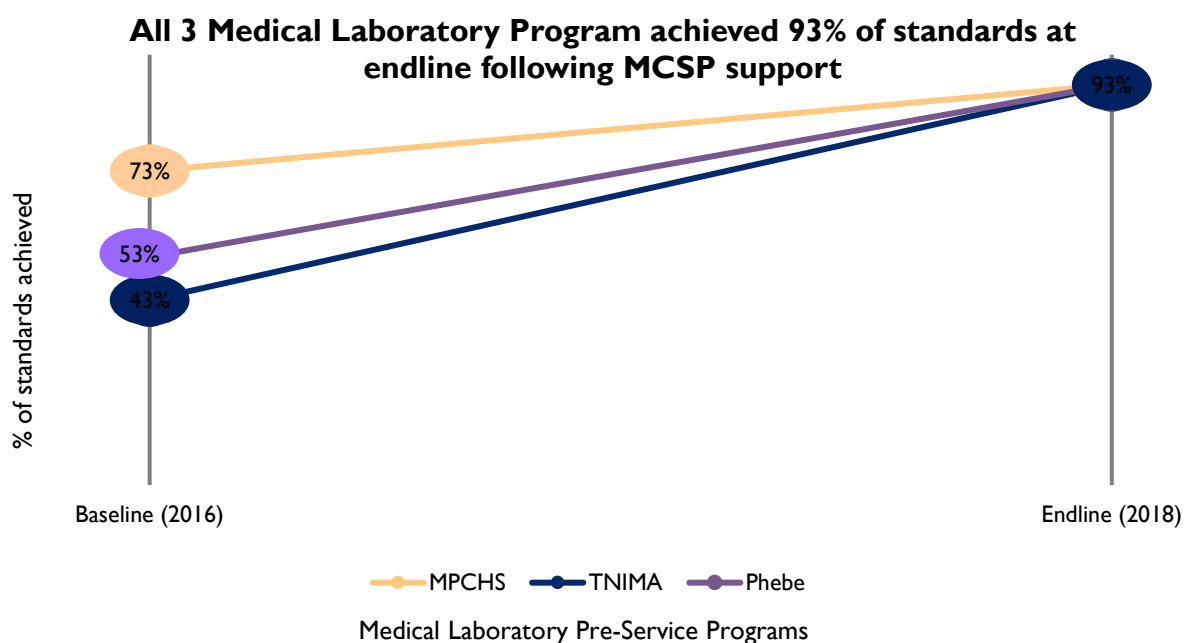
Results and Discussions

Rapid Needs Assessment of Pre-service Institutions

The endline assessment was conducted in all six MCSP-supported PSEIs with three MLT and five MW programs including:

1. Dianna K. Isaacson School of Midwifery (DKISM) – MW
2. Esther Bacon School of Nursing and Midwifery (EBSNM) – MW
3. United Methodist University (UMU) – MW
4. Mother Patern College of Health Sciences (MPCHS) – MLT
5. Tubman National Institute for Medical Arts (TNIMA) – MLT and MW
6. Phebe Training Program (PTP) – MLT and MW

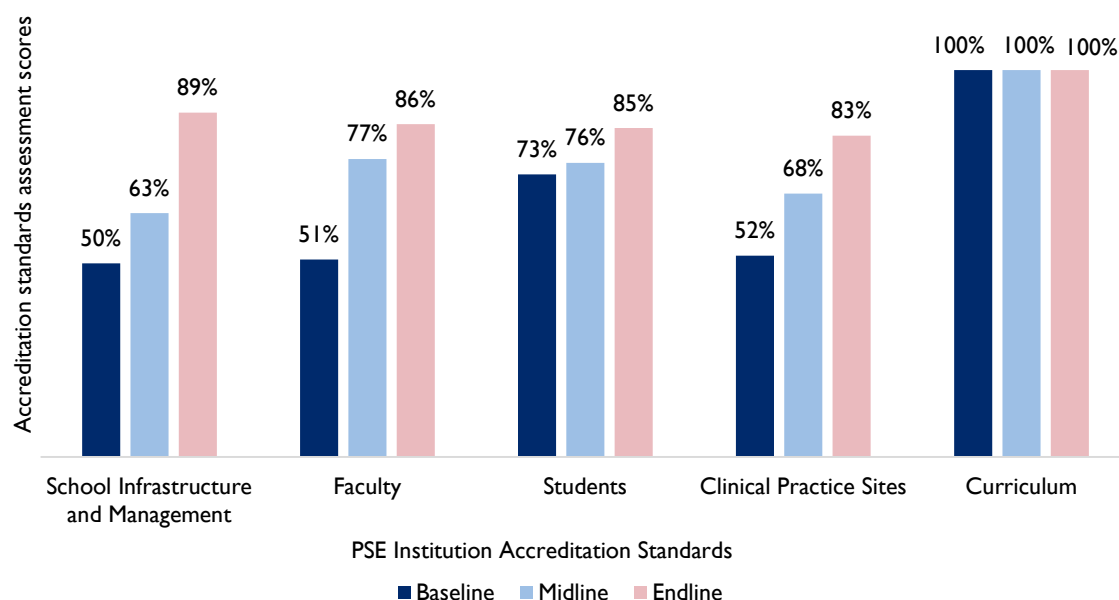
All three MLT programs (MPCHS, PTP and TNIMA) met 28 out of the 30 standards in the six areas, with an average of 93% of standards achieved at endline compared to 56% percent at baseline. All the MLT programs made improvement in the component on Influential factors – an improvement partly attributed to the quality improvement clinical standards, and the accreditation and licensure process which were developed through the support of MCSP Liberia/HRH. A more substantial improvement was observed in the five midwifery programs, from an average of only 41% of standards achieved at baseline to 97% at endline. Similar to the MLT programs, the standards related to students and infrastructure and management were not optimally achieved in some schools - TNIMA and UMU achieved 75% of standards related to students, and PTP and DKISM achieved 83% of standards related to infrastructure. DKISM, for the standards related to Teachers, Tutors and Preceptors scored 86%. Inadequate policies for allocating students per county/region and inadequate space for simulation center and practicum labs were some factors linked to the suboptimal achievement of these standards in the PSEIs.



Pre-Service Accreditation Standards Assessment of PSE Institutions (PSEIs)

Similar to the results of the rapid assessment, the PSE accreditation standards assessment in the midwifery schools also revealed that the MCSP-supported PSE Institutions demonstrated improvement in the quality of instructions and learning environment for students and faculty. This is evidenced by the increase in schools' accreditation scores across all five areas (School Infrastructure & Management; Faculty; Students; Clinical Practice Sites; Curriculum) assessed at baseline, midline and endline as seen in the graph below.

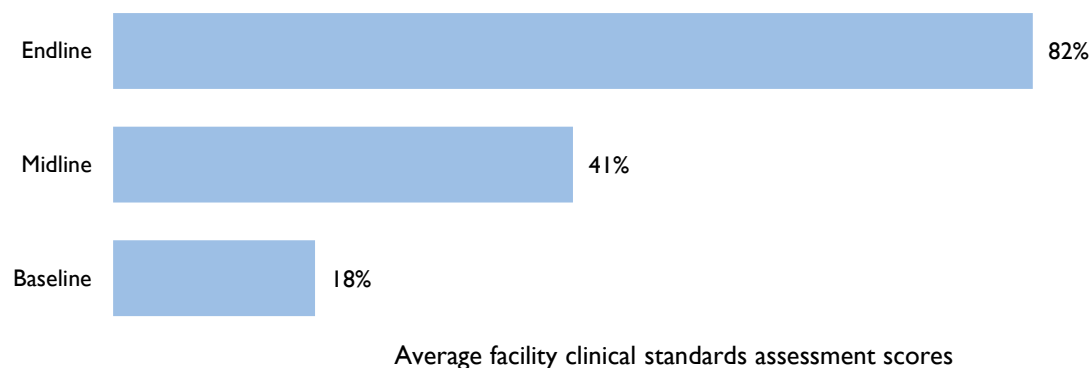
Improvements in Educational Accreditation Standards in MCSP-supported Midwifery PSE Institutions

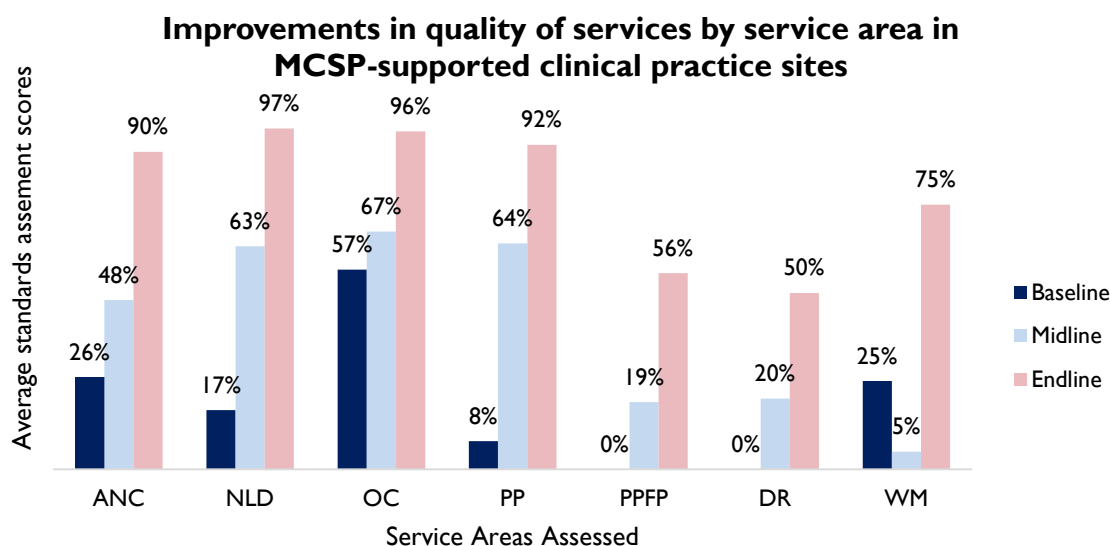


Quality of Health Services at Clinical Practice Sites

All five primary clinical practices sites associated with the midwifery programs demonstrated improvement in the quality of health services provided to clients, as evidenced by scores on the clinical standards assessment. The average facility score on the clinical standards assessment at endline was 82%, compared to 41% at midline and 18% at baseline. This substantial improvement in standards of care was observed across all service areas, as the endline assessment scores for all service areas increased by a range of 39-89 percentage-point compared to the baseline scores. The greatest improvements were noted in provision of post-partum family planning (84% increase), followed by normal labor & delivery (80% increase) and ANC (64% increase). There was also significant improvement in quality of care for obstetric complications (39% increase), documentation and record keeping (50% increase) and waste management (50% increase).

Clinical standards assessment scores more than quadrupled between baseline and endline in the five MCSP-supported clinical practice sites





ANC – Antenatal care, NLD – Normal labor and delivery, OC – Obstetrics complications, PP – Postpartum, PPFP – Postpartum Family Planning, DR – Documentation and recording, WM – Waste Management.

There was also corresponding improvement in the objective structured clinical examination (OSCE) scores for both midwifery and MLT students following MCSP-supported trainings, with the average post-training OSCE score increasing from 90% to 98% for midwifery students and 79% to 92% for MLT students.

Qualitative After-Action Review of Leadership & Academic Management Development Program (LMDP) using Most Significant Change approach

Analyses of the feedback from the LMDP beneficiaries highlighted improvement in coordination between the PSEIs and clinical practical sites, improvement in resource mobilization skills, and introduction and use of the pre-service information system (Pre-SIS) in all MCSP-supported schools – migrating students’ data from paper to web-based internet information system – as the most substantial gains from the program.

Conclusion

In conclusion, the endline assessment revealed remarkable improvements in the quality of learning, students’ performance, and institutional standards across all three MLT and five midwifery programs over the two years of MCSP/HRH implementation. All eight programs have updated curricula and course materials; standard computer labs meeting program needs; updated simulation centers and practicum labs with state of the arts equipment; improved quality of training and practical application in their teaching sites; sufficient and qualified instructors who have undergone various trainings conducted by MCSP to prepare them in their role as teachers and/or preceptors, and ultimately to prepare students to competency. There was also corresponding improvement in both the educational accreditation standards in the PSEIs and clinical standards in the associated clinical practice sites attached to the midwifery programs. These improvements have translated into improved performance of students in OSCEs and other examinations. In addition, the PSEIs have established some sustainability structures to maintain these gains, such as internal quality improvement committee for the 6 domains of the rapid needs assessment tool, and linkages with the MOH and other stakeholders for resource mobilization.

A few gaps persist in the PSEIs including inadequate space for libraries and simulation labs; and lack of policies or process for preferential enrollment for students willing to serve the underserved population thereby limiting the number of qualified health workers in these remote areas. These gaps are significant, because quality of care is primarily dependent on adequate quantity of qualified health workers. Further

limiting the number of qualified health worker is inadequate space available an increase in students and the lack of preferential enrollment for students from isolated areas that lack of quality care. MCSP recommends that the MOH/GOL and partners allocate funding for PSEIs to improve infrastructure, including adequate space for simulation centers and practicum labs needed to promote teaching and learning the provision of quality care. MCSP also recommends PSEIs scale up the Low Dose High Frequency (LDHF) approach for improving quality of care for patients needing both midwifery and medical laboratory services. In addition, the PSEIs should provide basic medical supplies to clinical sites that can be used during clinical practice by preceptors and students to aid students in practicing safely and building their competencies; and the regulatory bodies should work with the PSEIs, MOH, and other stakeholders to develop and implement policies and interventions to promote enrollment and deployment of students to serve in underserved populations.

Introduction

The Maternal and Child Survival Program (MCSP) is a global U.S. Agency for International Development (USAID) cooperative agreement to introduce and support high-impact health interventions in 25 priority countries with the ultimate goal of preventing child and maternal deaths within a generation. MCSP engages governments, policymakers, private sector leaders, health care providers, civil society, faith-based organizations, and communities in adopting and accelerating proven approaches to address the major causes of maternal, newborn, and child mortality—postpartum hemorrhage, birth asphyxia, and diarrhea—and improve the quality of health services. The program tackles these issues through approaches that also focus on health systems strengthening, household and community mobilization, gender integration, and eHealth, among others.

In light of the Ebola crisis, USAID/Liberia asked MCSP to support its commitment to strengthening Liberia's health workforce through the MCSP Liberia Human Resources for Health (HRH) project. MCSP Liberia/HRH's goal was to strengthen the capability and resilience of Liberia's frontline health workforce to address second order impacts from the Ebola crisis - by strengthening pre-service training of midwives and laboratory personnel—two critical cadres whose shortage and lack of adequate training contribute to Liberia's vulnerability to public health crisis. MCSP Liberia/HRH targeted its work on these two cadres, which are both critical cadres in the health workforce when it comes to impacting maternal and newborn health outcomes as well as preventing future outbreaks of EVD and other infectious diseases. MCSP employed an aggressive implementation strategy designed to achieve rapid improvements and results. MCSP Liberia/HRH aimed to achieve its goal by improving health workforce readiness, with a focus on strengthening entry-level pre-service education (PSE) for registered midwives and MLTs in six targeted institutions in the country.

HRH Project Goals

- **Objective #1** Increase the quality of instruction at targeted pre-service training institutions by upgrading the technical competencies and teaching skills of faculty, including clinical preceptors, and strengthening curricula, course materials, and delivery of both didactic and clinical training.
- **Objective #2** Strengthen the learning environment at targeted pre-service training institutions and teaching sites in a comprehensive way through improved access to high-quality instructional resources, equipment and technology.

At the project's inception in June 2016, MCSP conducted an in-depth rapid need assessments for baseline data collection using two rapid assessment tools (RAT) ¹ to inform project planning and implementation. The RATs were developed to provide a situational measure of the capacity of an institution to provide midwifery and laboratory technician education in accordance with global standards. The tools focused at the *micro* (the school) level, in the context of country-based programming policies, and are framed around the assessment of five evidence-based educational inputs and influencing factors that are directly related to students' achievement of competence by graduation. The six components of the RAT include a) Infrastructure and Management; b) Teachers, Tutors and Preceptors; c) Students; d) Clinical Practice Sites; e) Curriculum; and f) Influencing factors. The completed tools provide a snapshot of the present-day situation compared with global, national, and local standards that have been developed for each of the components of the conceptual model. Verification criteria and a scoring rubric accompany each standard.

The baseline assessment identified gaps and needs in each of the components at each institution in order to inform work planning and specific interventions. These findings were used to design pre-service institution-specific action plans and determine priority MCSP interventions in the six (6) supported pre-service

¹ One tool was developed by Jhpiego with the International Confederation of Midwives (ICM) and endorsed by UNFPA for conducting a rapid assessment of Midwifery Education. The second Rapid Assessment Tool is a generic version for conducting the assessment of Health Professional Education programs, developed by Jhpiego. Both tools were used in in two of the schools (TNIMA and PTP) that have both programs. The generic version of this tool, RAT for Health Professional Education programs, was used to assess the laboratory technician program at MPCHS; the Midwifery version was used to assess the three schools (UMU, EBSNM, and MTP/SER) with only midwifery programs.

institutions in Montserrado, Bong, Grand Gedeh, and Lofa counties. MCSP interventions included payment of salaries for hired staff assigned to some of the pre-service institutions to fill staffing gaps; integrated competency based training for providers to improve their competencies and confidence; assigning mentors at each pre-service institution to provide onsite mentoring and coaching; providing computer and internet facilities; establishing and strengthening the simulation centers and practicum labs and preceptors corners; providing equipment, supplies, and reagents; conducting semiannual supportive supervision using the pre-service performance standards (at baseline, midline, endline focusing on the PSE accreditation standards assessment in the midwifery schools); and providing a web-based school information system to improve students' performance tracking and data quality and use in all supported pre-service institutions.

Nearing the end of program implementation, MCSP Liberia/HRH utilized the same tools from the baseline assessment to conduct its endline assessment from February to July, 2018. This report captures the results of that endline assessment and measures the extent to which the MCSP Liberia/HRH project achieved its objectives in the PSE institutions (PSEIs) since the start of the project in 2016, and the extent to which the HRH project has strengthened the capability and resilience of Liberia's frontline health workforce.

Methods

Design

The endline assessment is a pre/post design, comparing the status of PSEIs and midwifery clinical sites at baseline versus endline. The assessment included the use of quantitative and qualitative methods: rapid needs assessment of the PSE institutions, pre-service accreditation standards assessment of the midwifery programs, clinical standards assessment of primary clinical sites linked to the midwifery schools, and qualitative after-action review of LMDP.

Data Collection Tools

In order to reliably compare pre- and post- performance of the PSE institutions and health facilities, the same tools used during the rapid needs assessment, PSE standards assessment and clinical standards assessments at the start of the project for baseline data collection were used for the endline data collection. The following are the various assessment approaches/tools used to compile this endline report.

Rapid Needs Assessment of the PSE institutions: Two rapid assessments were conducted. For the Registered Midwifery Programs the – the Midwifery Education RAT, developed by Jhpiego with International Confederation of Midwives (ICM) and endorsed by UNFPA was used while for the Medical Laboratory Technician Programs the The Rapid Assessment Tool for Health Professions Education a generic version of the Midwifery Education RAT for assessing Health Professional Education programs developed by Jhpiego was used. The following table details which tool was used at each PSEI:

Table 1: RATs used at the PSEIs

PSEI	Midwifery RAT	MLT RAT
TNIMA	X	X
PTP	X	X
UMU	X	
EBSNM	X	
DKISM	X	
MPCHS		X

The RATs assessed standards across the following six components – a) infrastructure and management; b) Teachers, Tutors and Preceptors; c) Students; d) Clinical Practice Sites; e) Curriculum; f) Influencing factors.

Pre-Service Education Standards Assessment of the midwifery institutions: After the PSE Quarterly Monitoring Tool was adapted from the Global Monitoring Tool by LBMN and USAID's Collaborative Support for Health Systems (CSH) Program, the LBNM requested MCSP Liberia/HRH to use this tool to assess the pre-service standards in midwifery PSE programs. The five components of this tool include: infrastructure and management, faculty (including Tutors, Preceptors, and Clinical Instructors), curriculum, clinical sites, and students. The PSE Standards was used during the MCSP Quarterly Supportive Supervision to assess the PSE Institutions key standards and develop action plans for identified gaps. The baseline was done in April 2017, the midline September 2017 and the endline in February 2018.

Clinical Standards and Performance Assessment of Primary Clinical Sites: MCSP used the clinical standards assessment tools to provide additional data on the state of the learning environment in the teaching hospitals linked to the PSEIs. Clinical Standards tools were adapted with approval from the Quality Improvement Unit, MOH, from MOH Core Standards (MOH EPHS Quality Improvement Standards), the Joint Integrated Supportive Supervision (JISS) Tool, and CEmONC Quality Assurance (QA) Standards, covering the following technical areas: antenatal care (ANC), normal labor and delivery, obstetric complications, postpartum/postnatal care (PNC) including postpartum family planning (PPFP), waste management (WM), and documentation and reporting (DR). Clinical procedures were only assessed for services relevant to the primary facility level. Objective Structured Clinical Exams (OSCEs) and a Patient Chart and Facility Register Review Tool were used to extract quality of care data in order to assess the effectiveness of the low dose high frequency (LDHF) approach adopted by Jhpiego to promote maximal retention of clinical knowledge, skills, and attitudes through short, targeted in-service simulation-based learning activities, which are spaced over time. Healthcare providers trained in the LDHF process included Midwifery Faculty, Preceptors, Master Mentors, Midwifery PSE Mentors, staff midwives, and nurses at the Liberian-Japanese Friendship Maternity, Redemption, Phebe, Curran Lutheran, and Martha Tubman Hospitals. The chart and registers review were completed using the lot quality assurance sampling (LQAS) approach.

Most Significant Change: Qualitative After-Action Review of LMDP: The most significant change (MSC) approach is a participatory monitoring system, and not indicators based. The method, which analyzes actual events, enables the identification of change, how change happens and why. The LMDP, which was done over a period of six months in 2018 via four 1-2 week training sessions, was intended to train PSE Dean/Directors on development of leadership skills, abilities and confidence for the purpose of sustainability and effective handling the day-to-day activities of their institutions. MCSP Liberia/HRH developed a qualitative data collection tool to collect perspectives from participants of the LMDP on the project's implementation and impact covering four domains: resource management, documentation and using information (data), communication (inter/intra-school) and quality improvement approaches. Using a one-time most significant change methodology, the PSE directors and deans of the LMDP were invited to participate in an after-action review at the conclusion of the fourth LMDP session, to provide their feedback on the changes (positive and negative) the LMDP has had in their institutions. A story capture form was used to record significant change stories obtained during the after action review. A total of 12 stories were collected across the four domains. A selection committee, comprising of one member each from the Liberia board of nursing and midwifery, the Liberia board of medical laboratory technologists, as well as one representative from MCSP Liberia/HRH technical and MERL teams, read all the individual stories, and each committee member summarized the themes and reasons highlighted in each story. Following this, the committee did a joint review of the stories, discussed and addressed feedback, and voting was done to rank the stories and select the most outstanding story from each domain.

Data Collection

Endline assessment data was collected from all eight (three MLT and five midwifery) programs from February 2018 to July 2018. The PSE Standards and Clinical Quality Improvement Standards was assessed by the Program and Monitoring and Evaluation Team, while the RAT data collectors included four external assessors; one each from Laboratory and Midwifery Boards and Associations. Monrovia-based MCSP staff supervised the data collection exercise and conducted onsite verification, spot checks, and quality assurance throughout the data collection period.

Data Analysis

To conduct the data analysis, all assessment data was exported to and analyzed in Excel. Descriptive statistics, including percentage distributions, were analyzed for the rapid need assessment data and compared between the two periods (baseline and endline). The rapid needs assessment and PSE accreditation standards were scored according to the scoring guidance in the RAT and PSE Guide. An institution received a 0 if not met or 1 if met for each standard. The score on each technical component was total standards achieved divided by total number of standards scored. The overall score for each PSEI was calculated by dividing the total standards achieved by total standards scored. The clinical standards were scored based on the number of verification criteria met; if all verification criteria on a clinical standard were met, that standard was achieved. Thus the score was total score on each technical area achieved divided by total number of scores. The primary teaching hospitals overall score is the average score of all technical areas assessed. The Clinical Standards assessment scores of the five facilities sampled for the endline assessment were compared to the scores of same facilities at midline and baseline. Quality of care data obtained from the LQAS charts and register review in the clinical practice sites were analyzed by comparing the proportion of facilities that met the pre-agreed target for each quality of care indicator at baseline, midline, and endline. Qualitative data were themed, coded, and summarized in Microsoft Word.

Results and Discussion

Findings from Rapid Needs Assessment of PSEIs

The rapid needs assessment revealed improvement in educational practices, policies, and systems across the key domains supported by MCSP Liberia/HRH in all three MLT and five midwifery PSE programs. The key domains assessed, according to the tool include: a) infrastructure and management; b) Teachers, Tutors and Preceptors; c) Students; d) Clinical Practice Sites; e) Curriculum; f) Influencing factors.

MLT

Figure 1 shows that all three MLT programs (MPCHS, PTP and TNIMA) achieved an average of 93% of standards across the six components assessed at endline compared to 56% percent at baseline. Overall, the endline status of the three MLT schools are comparable, with 100% scores in the domains of the Teachers, Tutors, & Preceptors; Influencing Factors; and Curriculum, as all three PSE Institutions are using the 2017 updated MLT curriculum (noting that MPCHS and PTP were already at 100% in the curriculum domain at baseline).

The domains where standards were not achieved by the schools include:

- students – MPCHS had a score of 50% at both baseline and endline, and TNIMA improved from 50% to 75%;
- clinical practice sites – TNIMA improved from 50% at baseline to 75% at endline; and
- infrastructure and management – where PTP, with a score of 67%, did not make any improvement from baseline (Figure 2).

These gaps were attributed to inadequate policies for allocating students per region, inadequate space, especially for practicum lab and library, and inadequate space in the library at one of the PSEIs. Specifically, one of the 10 students interviewed at MPCHS responded that he/she preferred other profession to the MLT profession; PTP has limited spaces for both the lab practicum and library; while in TNIMA, two clinical sites reported shortages of consumables for students to use during clinical sessions.

Figure 1: Changes in the aggregated rapid assessment results in three MCSP-supported Medical Laboratory Technician (MLT) Programs (baseline vs. endline)

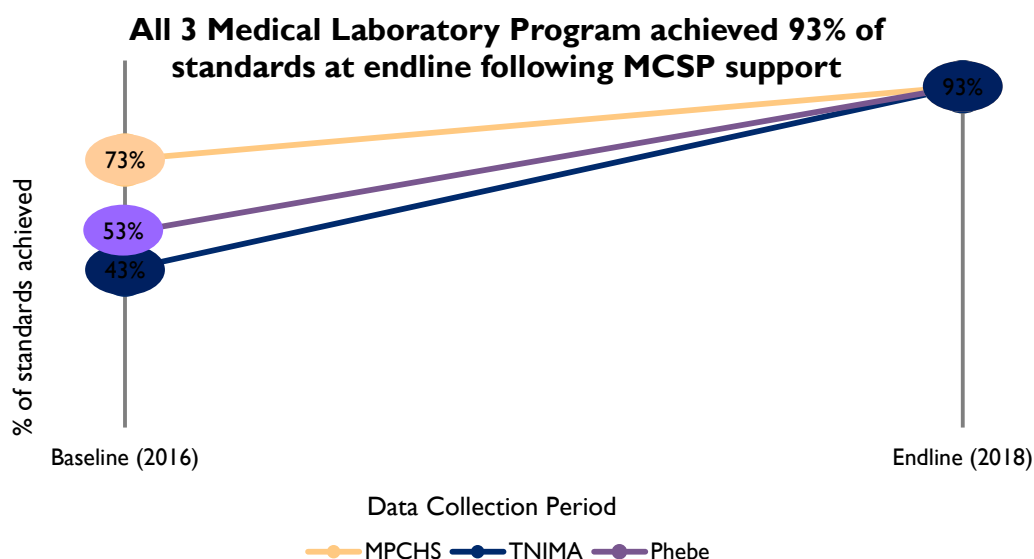
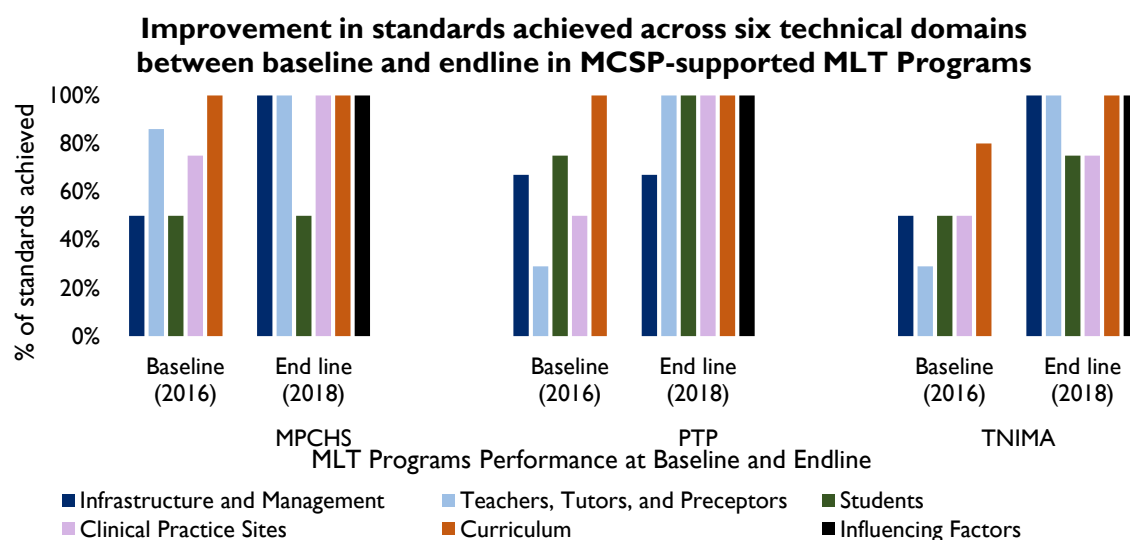


Figure 2: Improvement in standards achieved across six technical domains between baseline and endline in MCSP-supported MLT Programs



Midwifery

A more substantial improvement was observed in the five midwifery programs, from an average of only 41% of standards achieved at baseline to 97% at endline. Figure 3 shows the precise point-improvement made by each school. Similarly to the MLT programs, the standards in the students and infrastructure and management domains were not optimally achieved in some schools (Figure 4) — TNIMA and UMU achieved 75% of standards related to students, and PTP and DKISM achieved 83% of standards related to infrastructure. DKISM initially struggled with the standards related to Teachers, Tutors and Preceptors but score of 86% at endline. Inadequate policies for allocating students per county/region and inadequate space for simulation center were same factors linked to the suboptimal achievement of these standards in the midwifery programs.

Figure 3: Changes in the aggregated rapid assessment results in five MCSP-supported Midwifery Pre-service Institutions (baseline vs. endline)

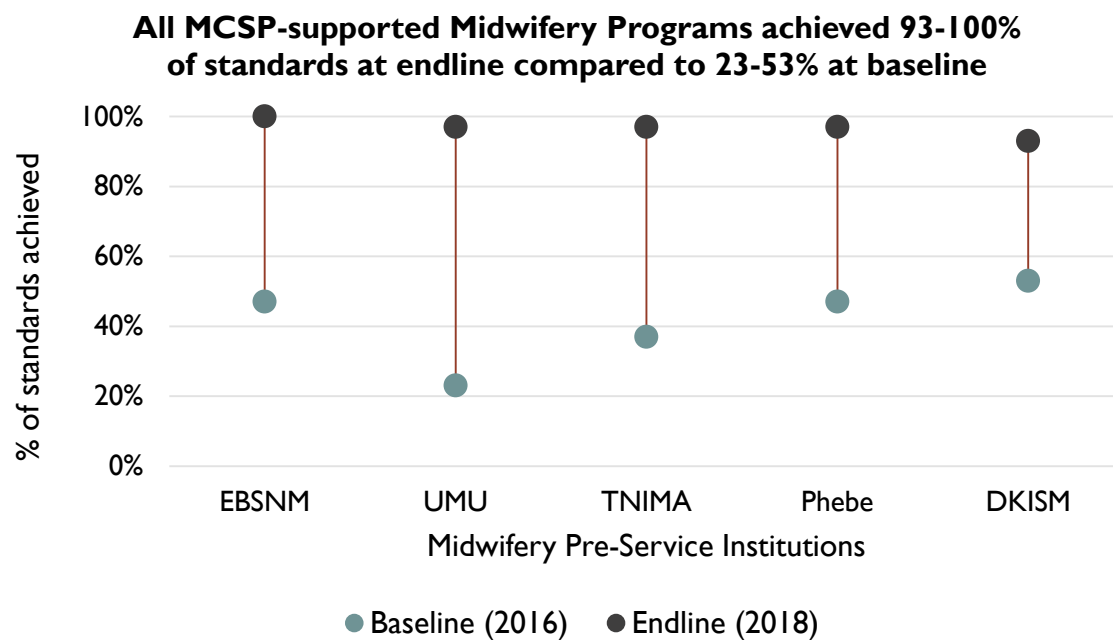
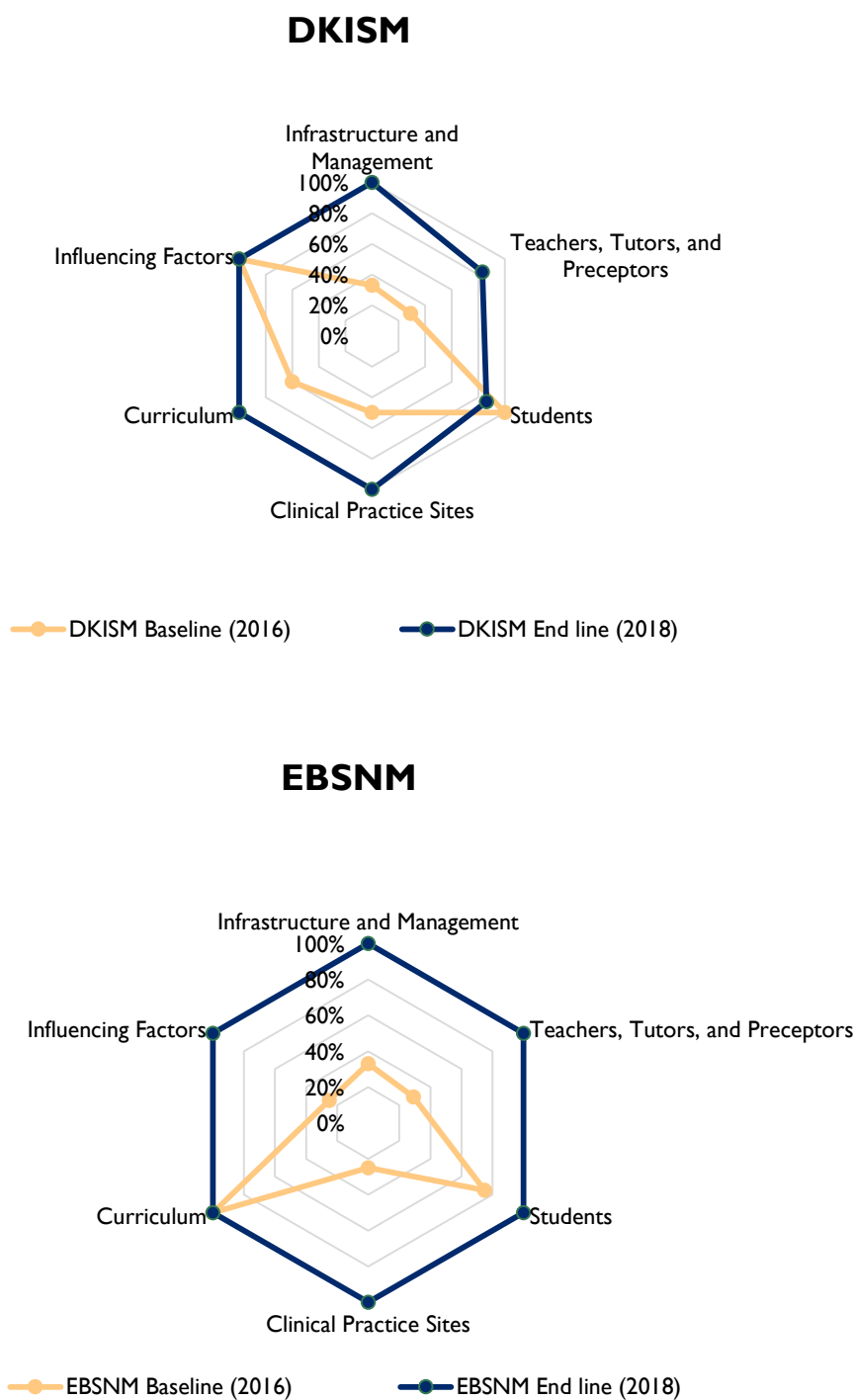
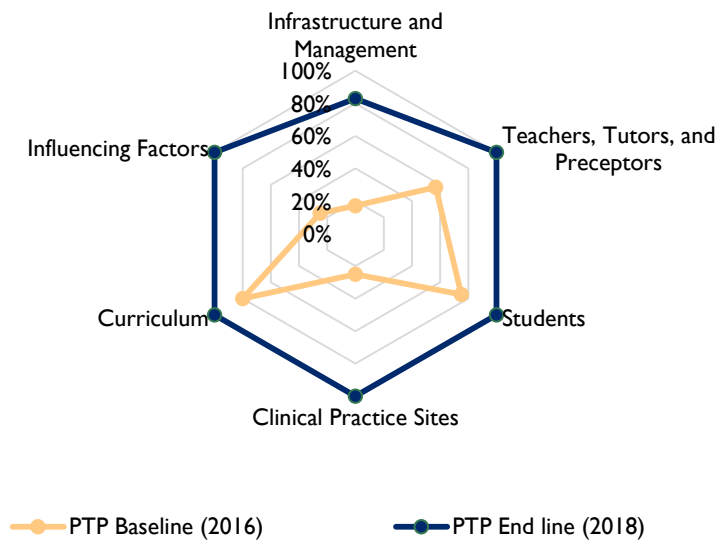


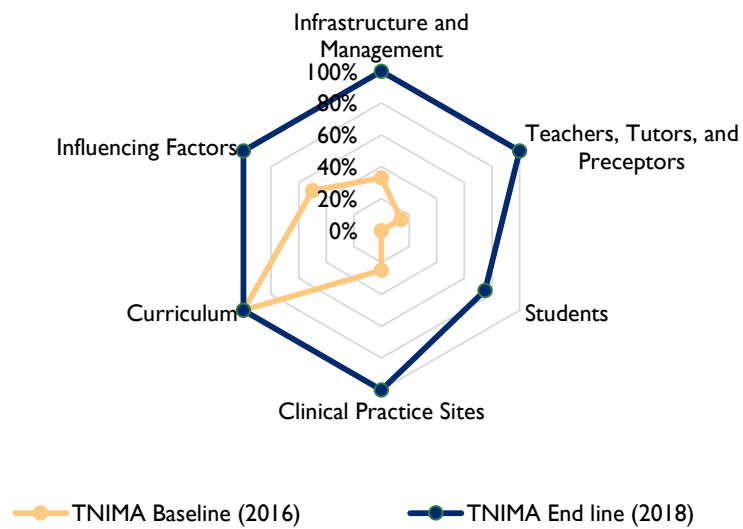
Figure 4: Improvement in standards achieved across six technical domains between baseline and endline in MCSP-supported Midwifery Programs

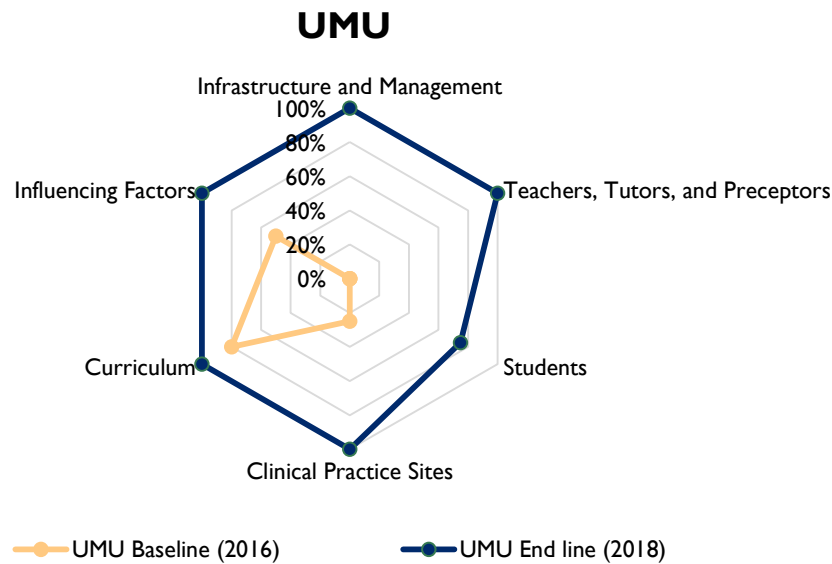


PTP



TNIMA





Key findings from the endline rapid assessment in the eight programs across the six PSEIs shows improvement in teaching methodology and proven factors for effective learning include the following:

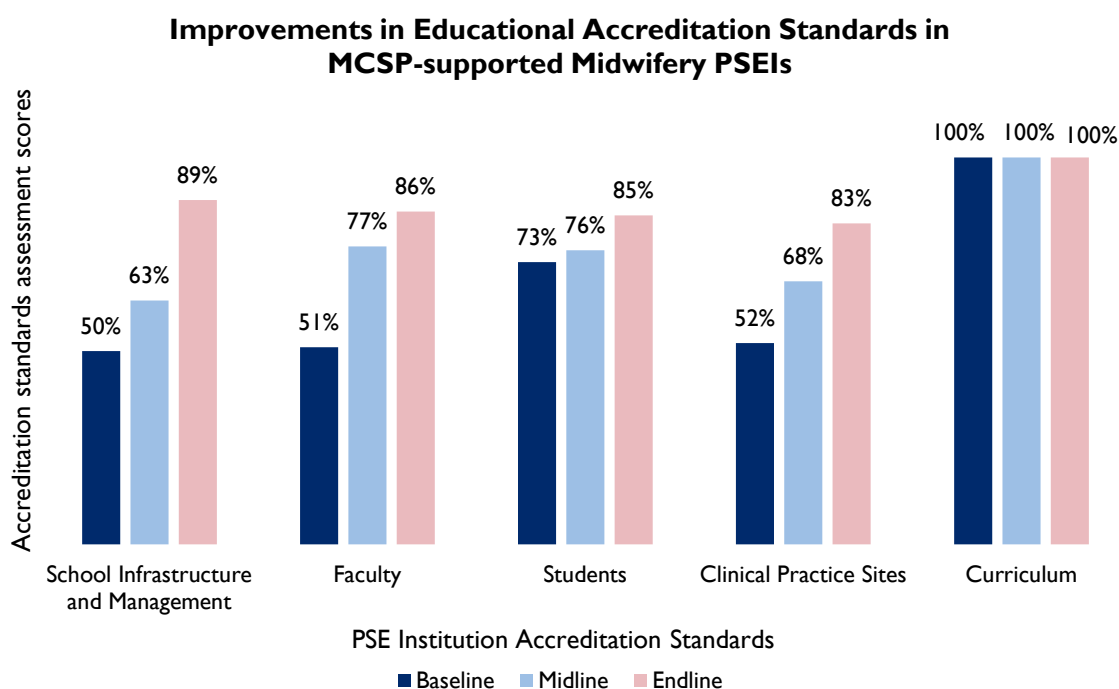
- The curriculum domain had the highest scores for both the midwifery and MLT programs in all institutions, with both programs using the Revised 2017 RM curriculum and the updated MLT curriculum. The curriculum harmonization was an early priority for MCSP Liberia/HRH as it mitigates disparities in the quality and completeness of the education received at different institutions across the country.
- While there are now more qualified RM and Lab teachers and the schools did meet the midwifery LBNM Quality Improvement PSE standards for ratio of teachers to student, significant work remains to ensure increased numbers of available and qualified RM and Lab Tech teachers across Liberia.
- All PSEIs have adequate teaching materials (projectors, flip chart stand, projector screen, white boards) to facilitate student learning meeting the PSE quality Improvement standards.
- All PSEIs have up-to-date textbooks according to the curricula and the LBNM requirements and journals in the library for use by both the students and the faculty.
- All PSEIs have high-speed internet for use by both the students and faculty for research.
- All of the simulation centers and practicum labs in PSEIs have up-to-date equipment and models for students to practice to competency.
- There are designated preceptors and clinical supervisors with terms of reference (TOR) and preceptor corners for both midwifery and MLT Programs.
- All PSEIs have an equipped computer lab (20 desktop and accessories each).
- The simulation centers at DKISM and PTP, the practicum lab at MPCHS and PTP, and the library at PTP is too small to accommodate many students at one time. A new state of the art simulation center is in progress at PTP, and this will give space to expand the library as well. The MOH still report plans to construct the simulation center at DKISM as part of the health work force program
- At all PSEIs, teachers, simulation lab staff, clinical teachers or preceptors, heads of computer labs, and heads of libraries have all participated in more than one professional development activity at the time of the endline assessment.

- All schools have reliable transportation to enable students and preceptors to commute to and from clinical sites
- All programs (midwifery and MLT) have had high student enrollment meeting the regulatory bodies requirements for number of students
- All programs, except for PTP have more than two clinical sites. PTP two clinical sites are very busy hospitals that provide more than the required case load of patients for effective learning

Findings from the PSE Accreditation Standards Assessment of PSEIs

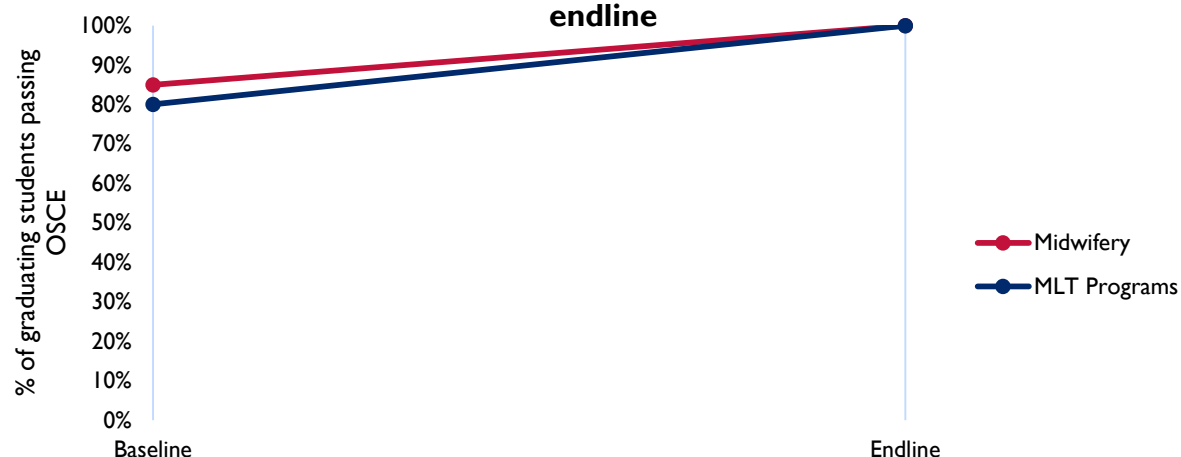
Similar to the results of the rapid assessment, the PSE accreditation standards assessment in the midwifery schools also revealed that the MCSP-supported PSEIs demonstrated improvement in the quality of instructions and learning environment for students and faculty. This is evidenced by the increase in schools' accreditation scores across all five areas (School Infrastructure & Management; Faculty; Students; Clinical Practice Sites; Curriculum) assessed at baseline, midline and endline (Figure 5). Key resources and structures to improve PSE, including the Faculty Development Program, revised curricula, simulation centers and practicum laboratories, the Leadership & Management Development Program, MOUs between school and clinical practice sites, and scholarships have been developed, and plans are in place to ensure that each is maintained by the PSE schools and other Liberian institutions.

Figure 5: Improvements in Educational Accreditation Standards in MCSP-supported Midwifery PSEIs Institutions



The PSEIs also showed substantial improvements in students' performance outcomes. Midwifery and MLT graduating students' final OSCE results improved from 85% at baseline to 100% at endline, and from 80% at baseline to 100% at endline, respectively (Figure 6). This demonstrates that graduates were more competent in carrying out key clinical tasks upon graduation. Midwifery graduate pass rates increased from 81% in 2016 to 97% in 2017, resulting in increased numbers of qualified midwives and improving the return on PSE investment for the Government of Liberia.

Figure 6: Improvements in students' OSCE results in RM and MLT Schools
All midwifery and MLT graduating students pass OSCE at endline



Findings from the Clinical Standards and Performance Assessment of Primary Clinical Sites

Summary of Clinical Standards Results

All five MCSP-supported primary clinical practices sites associated with the midwifery programs demonstrated improvement in the quality of health services provided to clients, as evidenced by scores on the clinical standards assessment. The average facility score on the clinical standards assessment at endline was 82%, compared to 41% at midline and 18% at baseline (Figure 7). This substantial improvement in standards of care was observed across all service areas (Figure 8), as the endline assessment scores for all service areas increased by a range of 39-89 percentage-point compared to the baseline scores. The greatest improvements were noted in provision of post-partum family planning (84% increase), followed by normal labor & delivery (80% increase) and ANC (64% increase). There was also significant improvement in quality of care for obstetric complications (39% increase), documentation and record (50% increase) and waste management (50% increase).

Figure 7: Changes in average facility score on the clinical standards assessment

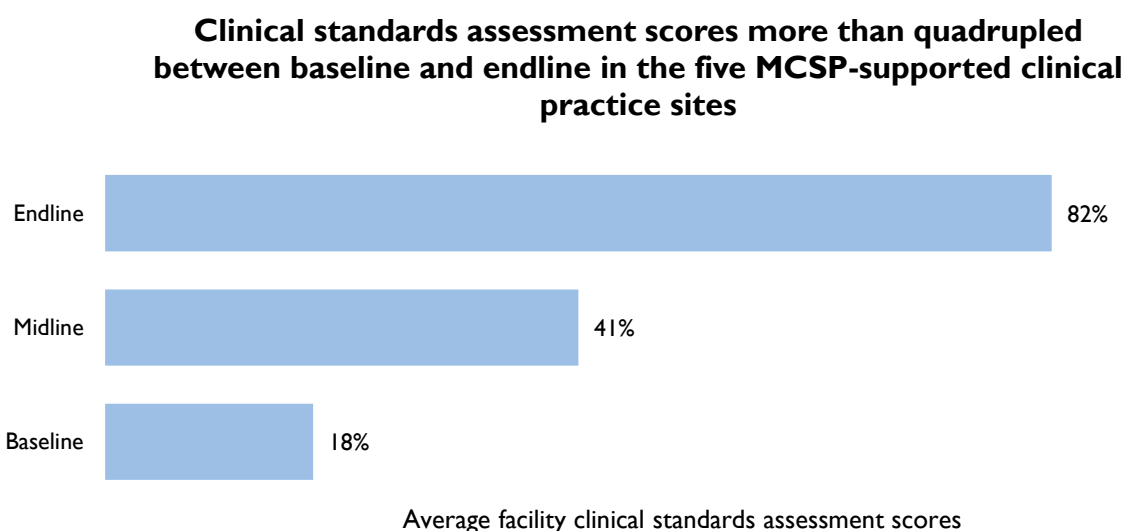
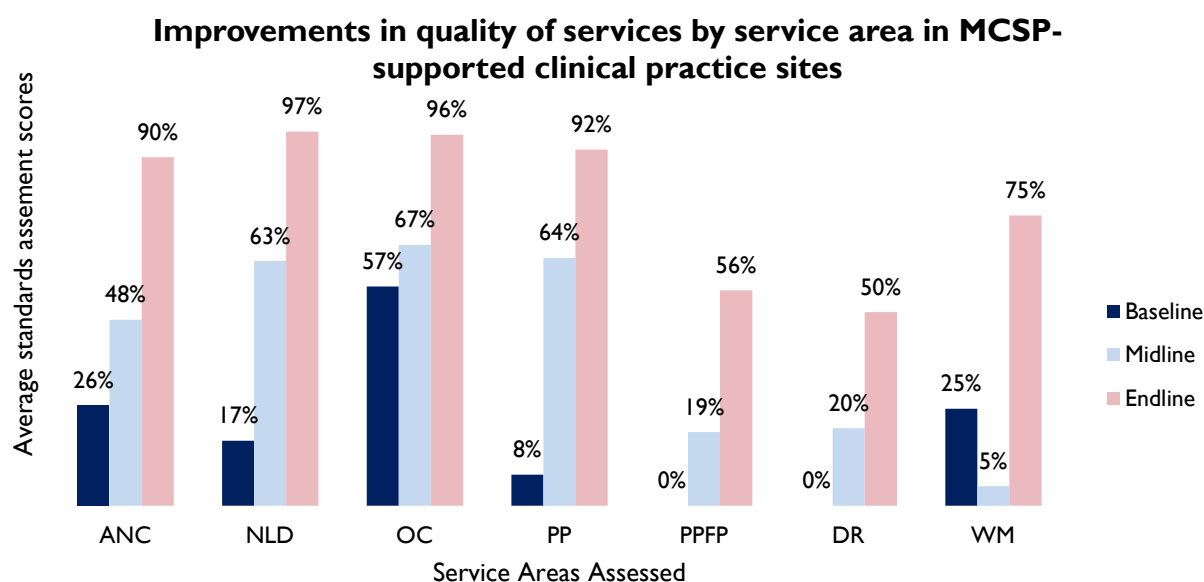


Figure 8: Changes in clinical standards results by service area in MCSP-supported clinical practice sites



Findings on Clinical Quality of Care and Service Utilization by Technical Area

Quality of Care Indicator Performance in Clinical Sites

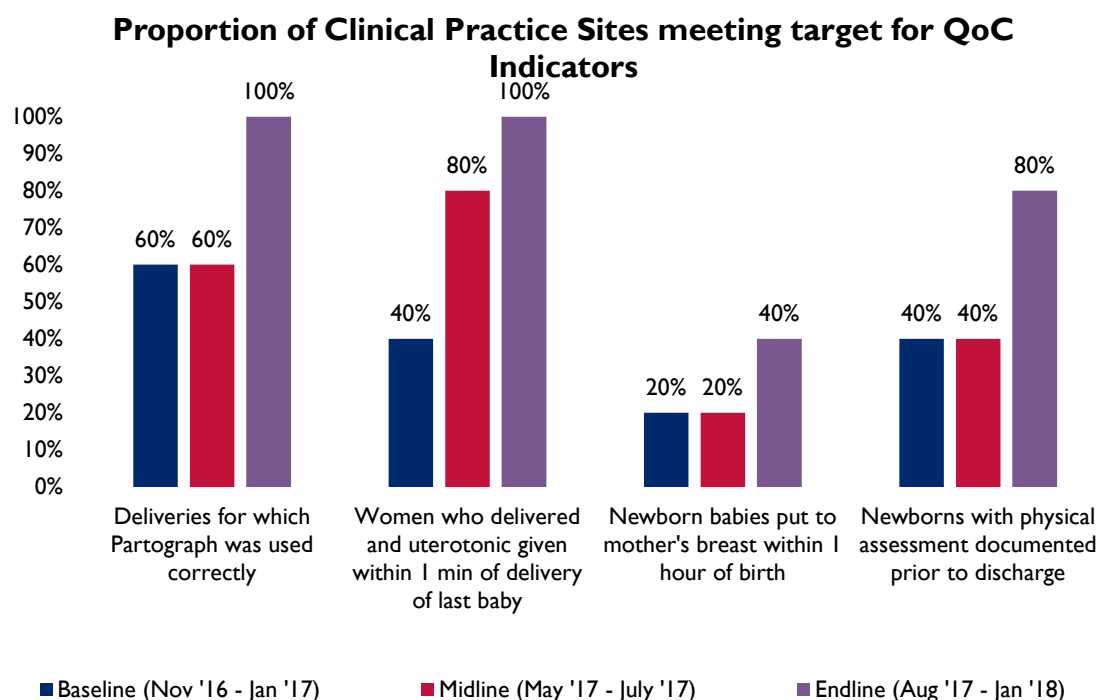
Lot quality assurance sampling (LQAS) was used to randomly select 19 patient charts to review quality of care indicator performance across three 6-month periods: baseline (January 2017), midline (July 2017) and endline (January 2018). Data related to quality of MNH clinical practices extracted from the 19 charts in each facility were analyzed by comparing the proportion of facilities that met the pre-agreed target for each quality of care (QoC) indicator over the three periods. All five hospitals had the same targets for the quality of care indicators as shown below:

Table 2: QoC Indicators and Targets for Clinical Practice Sites

Indicator	Target
Proportion of deliveries with a correctly filled partograph	35%
Proportion of women who delivered and received uterotonic within 1 minute of delivery of the last baby	80%
Proportion of newborn babies breastfed within 1 hour of birth	75%
Proportion of or newborns with a complete physical assessment documented prior to discharge	80%

Figure 9 Shows that all clinical practice sites met the target for proportion of deliveries with a correctly filled Partograph, compared to 60% of the sites at baseline and endline. Similarly, all facilities met the target for proportion of women who delivered and received uterotonic within 1 minute of delivery, compared to 40% at baseline. At baseline and midline only 20% of the sites met the 75% target set for newborn babies breastfed within 1 hour of birth, but this had doubled at endline; while 80% of facilities met target for newborns with a complete physical assessment documented prior to discharge at endline compared to 40% at baseline and midline. Overall, the quality of maternal and newborn clinical practices improved over the three periods assessed in the five hospitals.

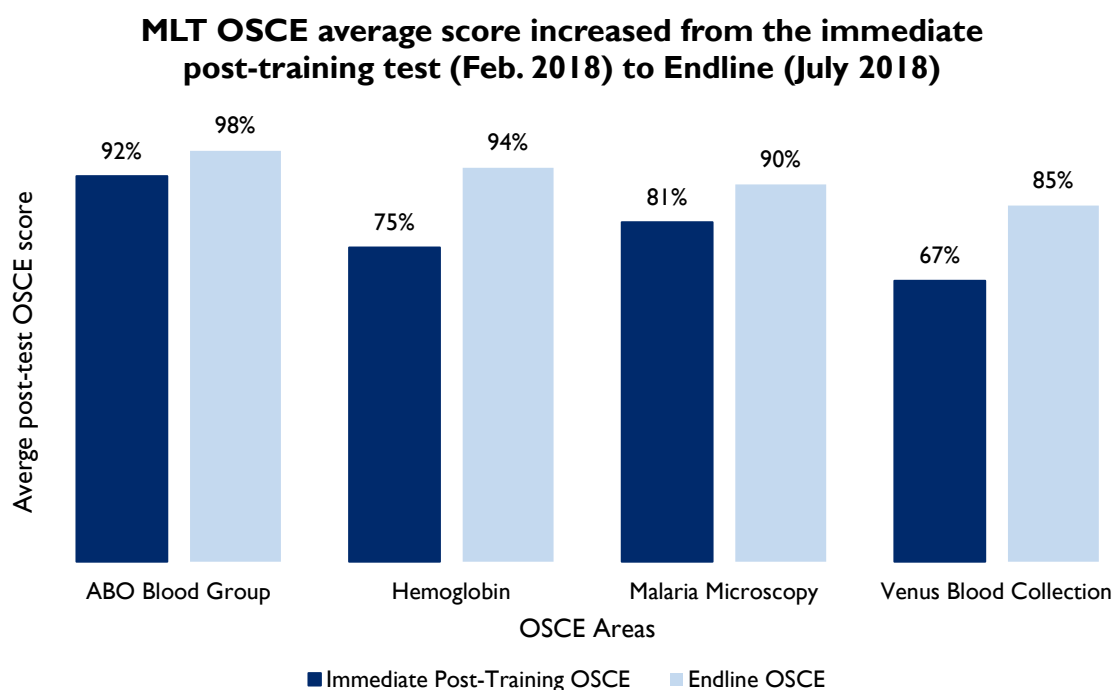
Figure 9: Changes in proportion of clinical practice sites meeting target for QoC Indicators (baseline, midline, endline)



Post-training OSCE Performance in Midwifery and MLT Practice Sites

Immediate post-training OSCE data, compared to OSCE data collected at endline, shows that participants' skills were not only sustained but continued to improve through the low-dose high-frequency practice and learning sessions and mMentoring. The average post-test score for the midwifery OSCE was 90% for the immediate post-training OSCE (administered in March 2017), while it was 98% at MCSP's endline assessment (conducted March 2018). The average OSCE scores for the MLT practice labs also increased from an average of 79% in the immediate post-training OSCE administered in February 2018 to 92% in the July 2018 endline OSCE. Figure 10 shows how the OSCE scores increased for each of the four MLT OSCEs administered.

Figure 10: Changes in MLT OSCE average scores from the immediate post-training test (February 2018) to Endline (July 2018), by MLT OSCE areas



Qualitative Findings from After-Action Review of LMDP

The most significant change (MSC) approach is a participatory monitoring system, and not indicators based. The method, which analyze actual events, enables the identification of change, how change happens and why. This process enabled MSCP Liberia/HRH to have a central part in the evaluation process as a means of identifying and aggregating the views of different stakeholders on a large scale. Following the 4th LMDP session, perspectives from participants (PSE directors and deans of the LMDP) on the MCSP Liberia/HRH project implementation and impact across the following four domains were sought: resource management, documentation and using information (data), communication (inter/intra school) and quality of improvement approaches. A story capture form was used to record significant change stories obtained during the after-action review.

Analyses of the feedback from the LMDP beneficiaries highlighted improvement in coordination between the PSEIs and clinical practical sites, improvement in resource mobilization skills, and introduction and use of the pre-service information system (Pre-SIS) in all MCSP-supported schools – migrating students’ data from paper trail to web-based internet information system – as the most substantial gains from the program. The tree top change-stories are highlighted below.

MCSP Liberia/HRH LMDP—Top 3 MSC Stories

Willimai Weetol-Geninyan

Director

Esther Bacon School of Nursing and Midwifery

Domain: *Quality Improvement Approaches on LMDP*

I got involved as participant of the Leadership Management Development Program through my position as a Director of the School which is one of the supported USAID funded MCSP Liberia/HRH project.

I am very much excited for the level of coordination between the institution and the clinical sites. There is clear communication and teamwork that include all preceptors in planning and implementing all clinical activities. It has greatly improved and enhanced the quality and skills improvement at all of our clinical sites. From the training, we were able to set-up preceptor corner at Konia Health center to add on the already existing one at Curran Lutheran Hospital that really improves the skill development at these sites.

We at Esther Bacon deem this significant because of the level of improvement in the quality of services from our students, by providing the knowledge and technical support in achieving quality performance at our school. It has helped with deficiency among clinical supervisors, theoretical instructors and preceptors in the learning process of students. This coordination brought standard effective teaching skills and leadership roles.

This story was selected as the Top story of LMDP MSC stories.

The story outlasted three rounds of selection by the committee, in-country leadership team.

Willimai's story is not unusual. The program bridge the gap between preceptors and instructional staff at PSE Institutions which in time past, preceptors were never involved with what was happening at the school instead of handling students at their respective wall.

Humphrey G. Loweal

Director

Phebe Training Program, Bong County

Domain: *Resource Management on LMDP*

Being a Director and an agent of change of the Phebe Training program in Suakoko, Bong County my participation at the LMDP has taught the requisite skills in resource mobilization strategy. This story all started when the institution faced difficulty of sending out students for affiliation due to hardship in receiving funding from National Government. This issues became a huge task for the school but due to the knowledge acquired from the LMDP, ***we consolidated efforts with Ellein of Seed and got a grant of four thousand United States Dollars.***

The skills for resource mobilization has helped to relive the school from this huge embarrassment.

MCSP LIBERIA/HRH Staff contributed to the process. Firstly, the knowledge acquired was passed on by MCSP and staff assigned at the school were helpful for their follow-ups and reminders.

This story was selected as the second top story of LMDP MSC stories.

The story outlasted three rounds of selection by the committee, in-country leadership team.

Humphrey's story stressed on the knowledge and skill gained from the leadership academy management and development program. A skill which a director for the past years at Phebe Training Program never had was to write proposal or mobilize resources for project or activities implementation at the school.

Arwee Miller Korkorlor
Instructor/ Quality Assurance Committee member
Esther Bacon School of Nursing and Midwifery, Zorzor, Lofa County
Domain: *Documentation and Information use (data) on LMDP*

As a member of the Quality Assurance Committee of Esther Bacon School of Nursing and Midwifery, my role of coordinating with clinical staff and preceptors and encouraging staff members of various committee on their responsibilities made the Director to enlist me to participate in the leadership Management and development program.

Documentation was really an issue at the school, but the level of improvement is remarkable. We can tally student's result, record in split second to make logical decision. Instructional staff can now monitor student progress on semester basis due to the manner information are shared.

The introduction of Pre-Service School Information System (PreSIS) give us information on routine basis graduating from paper-based.

This story was selected as the third top story of LMDP MSC stories.

The story outlasted three rounds of selection by the committee, in-country leadership team.

Arwee's story emphasized the importance of documentation and use of information; migrating students' data from paper trail to web-based internet information system (PreSIS).

Strengths & Limitations

The use of independent assessors, all of whom were licensed clinicians, and members of Liberian Board for Nursing and Midwifery, Liberia Midwifery Association, and Liberia Association of Medical Laboratory Technician for data collection and the data collector training and data quality measures shows the strengths of this endline assessment.

While we are confident that the results presented reflect the achievement of the MCSP Liberia/HRH project, the assessment has some limitations. The use of LQAS which is a statistical methodology used for data collection in health and other programs by several organizations was originated in manufacturing and factory production. Lot Quality Assurance Sampling (LQAS) is a simple technique involving a small sample size (lot) of 19. It is used to assess whether objectives and targets are achieved within a specified organization or other unit of interest. It is a quick, cost-effective and simple methodology that empowers program managers to evaluate performance. LQAS does not offer information on why there is a problem. Other sources of information are needed to explain the underlying reasons for quantitative results from an LQAS survey, and to identify strategies for improvement. It is important to clarify that the LQAS approach is not intended to measure incremental change over time. It is designed to assess whether a target has been “met” or “not met” in a designated program supervision area.

Conclusions

In conclusion, the endline assessment revealed remarkable improvements in the quality of learning, students' performance, and institutional standards across all three MLT and five midwifery programs over the two years of MCSP/HRH implementation. All eight programs have updated curricula and course materials; standard computer labs meeting program needs; updated simulation centers and practicum labs with state of the arts equipment; improved quality of training and practical application in their teaching sites; sufficient and qualified instructors who have undergone various trainings conducted by MCSP to prepare them in their role as teachers and/or preceptors, and ultimately to prepare students to competency. There was also corresponding improvement in both the educational accreditation standards in the PSEIs and clinical standards in the associated clinical practice sites.

A few gaps persist in the PSEIs including inadequate space for libraries and simulation labs that will promote effective learning and lack of policies or process for preferential enrollment for students willing to serve the underserved population. These gaps are significant, because quality of care that is dependent primarily on adequate quantity of qualified health workers. The lack of adequate, space needed for the increase number of students needed to enter the PSEIs and the lack of preferential enrollment for adequate number of students from some isolated areas will lead to inadequate numbers of qualified health workers, especially in these areas and thus lack of quality care.

However, the improvements have translated in improved performance of graduating students in OSCEs and other examinations. The PSEIs and health facilities leadership have established some sustainability structures and activities to maintain these gains. These include internal quality improvement committee for the 6 domains of the rapid needs assessment tool, linkages with the MOH and other stakeholders for resource mobilization, developing and implementing plans to strengthen PSEIs and their clinical sites with the continuation of the LDHF, preceptor corners and on-site trainings.

Recommendations

To sustain and build upon the gains realized by MCSP Liberia/HRH, the program recommends the following to the PSEIs, regulatory bodies and professional associations, MOH and donors:

- Increasing the quality of instruction at PSEIs and strengthening the learning environment at targeted pre-service training institutions and clinical sites are cardinal for the provision of quality health care services and therefore PSE must be scaled up for both midwifery and laboratory services.
- The regulatory bodies should work with the PSEIs, MOH and other stakeholders to revise, update and implement policies and interventions to promote enrollment and deployment of students to serve in underserved populations in order to achieve equitable distribution of health workers, even from onset of training.
- PSEIs, MOH and partners should work on obtaining adequate space for simulation centers and practicum labs in the PSEIs to promote effective learning.
- As the LDHF approach has been proven as a process for ensuring quality respectful maternity care, it is important to scale it up the LDHF for improving maternal newborn health quality of care
- MOH/GOL and partners should allocate funding for PSEIs to improve infrastructure needed to promote teaching and learning for provision of quality care.
- PSEIs should provide basic medical supplies to clinical sites that can be used during clinical practice by preceptors and students to aid students in practicing safely and building their competencies and confidence.

References

Reference: 2012 Liberia Health Outcome Monitoring Report: Using Lot Quality Assurance Sampling.

Midwifery Education Rapid Assessment Tool: User's Guide and Handbook, Version June 1, 2016 by UNPFA

Rapid Assessment Tool for Education in the Health Professions: User's Guide and Handbook, Version June 1, 2016 by Jhpiego

LISGIS, MOH Liberia, National AIDS Control Program Liberia, ICF International. 2014. Liberia Demographic and Health Survey 2013. Monrovia, Liberia: LISGIS and ICF International.

Ministry of Health. Health Information System of Liberia. 2018. Available with permission from: <http://liberia.dhis2.org/>

Appendix A: Rapid Assessment Tool Medical Laboratory Technician Results per PSEI

MPCHS: General Information

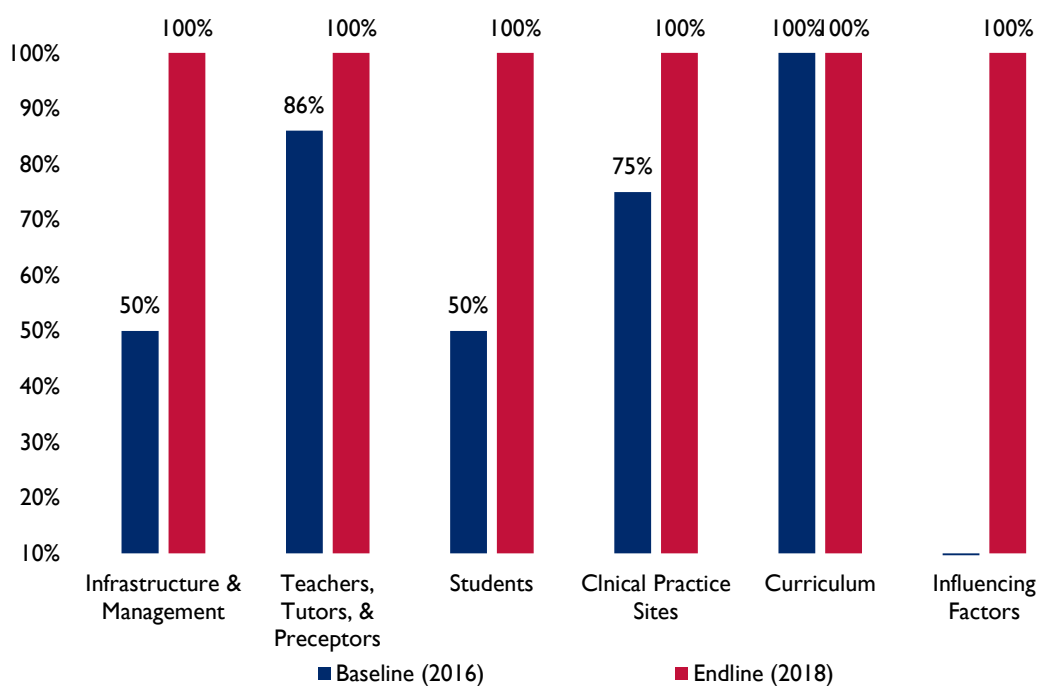
District: Monrovia, Montserrado County

Assessment Team: Michael Mukibii, David B. Vessellee, Daisajou V. Woods, Emmanuel T. Cooper. (LAMLIT), and Veronica R. Karlor (**Laboratory Association**)

Summary

Rapid Assessment Component	Baseline		Endline	
	Achieved	Percent Score	Achieved	Percent Score
1. Infrastructure and Management	3 out of 6	50%	6 out of 6	100%
2. Teachers, Tutors and Preceptors	6 out of 7	86%	7 out of 7	100%
3. Students	2 out of 4	50%	2 out of 4	50%
4. Clinical Practice Sites	3 out of 4	75%	4 out of 4	100%
5. Curriculum	5 out of 5	100%	5 out of 5	100%
6. Influencing Factors	0 out of 4	0%	4 out of 4	100%

Figure AI-AI.1 Key Highlights MPCHS-MLT — Baseline & Endline



MPCHS MLT RAT Standards Met/Not Met

Infrastructure and Management

This component has six standards (1.1 to 1.6; see Table 1) and 29 verification criteria. **The school met six out of the six standards.**

Code	Standards	Baseline	Endline	Comment
I.1	The country has sufficient schools needed to produce the number of fully competent members of the specialties needed in the workforce.	Not Met	Met	All of the available slots were filled for MPCHS per the intake of 25 students to a class
I.2	The program or school being assessed is led by an educator with appropriate clinical, administrative, academic and leadership experience.	Met	Met	The head of the program is fully qualified (diploma, ASc, BSc, and MSc in laboratory science), has over 12 years teaching experience, has been doing clinical since 1989, and has served the JFK and Lab Association and has supervised more than 15 persons.
I.3	The school being assessed has sufficient space needed to facilitate theoretical (classroom) learning needs of students.	Met	Met	It was observed that the program has sufficient space to accommodate theoretical learning for students. Room is well ventilated with enough lighting. Each student has an armchair, and there is enough elbowroom for each student. The classroom is appropriately equipped for teaching purposes.
I.4	The school has the textbooks and journals or library internet access to journals, and other library resources needed for existing students.	Not Met	Met	The school has a functional library with up-to-date textbooks and journals and internet access for research purposes
I.5	The school has a functional clinical skills lab needed for practice and simulation, including inter-professional education.	Not Met	Met	The program has an organized lab to accommodate student learning. The hot plate and two of the 13 microscopes were tested and are all-functional. Supplies are available during students' practice.
I.6	The school has a room to be use as computer lab that can take a sufficient number of functional computers and appropriately skilled teaching/support staff.	Met	Met	The school has access to a computer lab with 21 functional computers with MS Office package installed. However it is at another location and students have difficulty accessing that location, except after school hours. The head of the computer lab is qualified (ASc in library science).
Total score:		50% (3 out of 6)	100% (6 out of 6)	

Teachers, Tutors and Preceptors

This component has seven standards and 26 verification criteria. **The school met seven of the seven standards.**

Code	Standards	Baseline	Endline	Comment
2.1	The school has sufficient academic teachers to educate existing students in the academic/theory components of the curriculum (1:30 teacher-to-student ratio).	Met	Met	The ratio is one teacher to 22 students. The teachers are qualified (BSc to MSc in laboratory science); six teachers are lab professionals in the MLT program; eight teachers do not have a specialty in MLT but are prepared in the relevant science or art and teach math, English, anatomy and physiology (A&P) and religion. All courses have assigned teachers.
2.2	Teachers have completed a course preparing them for their teaching role	Met	Met	Teachers assigned to lab specialty courses have a minimum of BSc and some have an MSc. Moreover, the teachers have participated in teacher training courses such as the ETS and SPA.
2.3	Teachers have acquired and maintain their clinical competency.		Met	The majority have been doing clinical practice since 1990.
2.4	Teachers have the resources that they need to be effective.	Met	Met	Teachers have the necessary resources to be effective. Classrooms and skilled labs are accessible; there are functional computers for each teacher; and the campus has Internet access and MS Office installed. Textbooks and other resources are also available for teacher to do research on course materials
2.5	Teachers receive a salary at least equal to practitioners of the specialty who have at minimum 1 full year of clinical practice experience	Met	Met	Teachers receive a salary but said it is not equivalent for the task performed. Salary scale not known; however, salary is consistent, meaning it does not fluctuate from semester to semester.
2.6	The education system has clinicians prepared for the role of clinical preceptor (clinical teacher).	Met	Met	The education system has clinicians prepared for the role of clinical preceptor (clinical teacher).
2.7	The education system has clinicians supported in the role of clinical preceptor (clinical teacher).	Not met	Met	The education system has clinicians supported in the role of clinical preceptor (clinical teacher).
Total score:		86% (6 out of 7)	100% (7 out of 7)	

Students

This component has four standards and 14 verification criteria. **The school met two of the four standards.**

Code	Standards	Baseline	Endline	Comment(s)
3.1	The country (and this school) have sufficiently qualified applicants for the specialty education programs (2:1 qualified applicant/enrollment).	Met	Met	All those who applied to be enrolled into the program completed high school, with WAEC Certificate, passed school entrance requirements, presented and presented transcripts, and so on. Slot are never filled; 22 students are admitted for the academic year; there is no waiting list; and the ratio of qualified applicants to students admitted is 3:1.
3.2	The school is located in communities accessible to targeted students (commutable from residence to school on a daily basis).	Not Met	Met	Most if not all of the students lived far from the program campus, which is a cause for undue tardiness and absences. However, they were able to commute to school on a daily basis.
3.3	The majority of students enrolled are enthusiastic about entering the specialty.	Met	Not Met	All but one of the students interviewed said that he prefer another profession to the MLT profession. He said that he will choose Biochemistry over the lab profession.
3.4	The country and/or school has student selection criteria that account for anticipated deployment and retention.	Met	Not Met	Students are not given extra considerations based on urban or rural location, status or stated intention to serve in an underserved population after graduation.
Total score:		75% (3 out of 4)	50% (2 out of 4)	

Clinical Practice Sites

This component has four standards and 13 verification criteria. **The school met four of the four standards.**

Code	Standards	Baseline	Endline	Comment(s)
4.1	The school has sufficient clinical sites needed to prepare students for competency.	Met	Met	The school has clinical sites (St. Joseph Catholic, JDJ, ELWA hospitals) for practical sessions.
4.2	The school has clinical practice sites that are accessible to students and teachers (commutable from school to clinical facility in accord with the schedule of clinical experiences).	Met	Met	There are five sites that are not located on the campus of the training institution; however, students are able to commute on a daily basis.
4.3	The clinical practice site has sufficient supplies and other resources needed to train students for competency.	Not Met	Met	There were sufficient supplies at the two clinical sites in the month prior to the assessment and during the assessment—supplies like gloves, chemistry reagents and so on.

Code	Standards	Baseline	Endline	Comment(s)
4.4	The clinical practice site models practice that is consistent with evidence-based best practices, including inter-professional education.	Met	Met	At the three practical sites visited, ELWA, St. Joseph Catholic and JDJ Hospitals all had practice or procedural guidelines; there are qualified staff on every shift, and no student is given preferential care over the other.
Total score:		75% (3 out of 4)	100% (4 out of 4)	

Curriculum

This component has five standards and 16 verification criteria. **The school met five of the five standards.**

Code	Standards	Baseline	Endline	Comment(s)
5.1	The curriculum is aligned with national health priorities and has been endorsed by the ministry of health and the relevant regulatory and professional bodies.	Met	Met	The curriculum is aligned with national health priorities. There were lists of names and titles of key players from both relevant authorities and training institutions.
5.2	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).	Not Met	Met	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).
5.3	The curriculum content is current and evidence-based	Met	Met	The laboratory curriculum has its objectives matched to its content.
5.4	The curriculum has been reviewed and updated within the past five years	Met	Met	It was last reviewed and updated in September 2017.
5.5	Teachers have an active role in updating and revising the curriculum	Met	Met	The teachers interviewed said that they had an active role in the curriculum review process as a participant/ reviewer in 2016 (draft developed) 2017(revision).
Total score:		80% (4 out of 5)	100% (5 out of 5)	

Influential Factors

Code	Standards	Baseline	Endline	Comment(s)
6.1	The country has quality standards for education of the specialty that address, at minimum, the domains of this framework.	Not Met	Met	The laboratory board (LAML T) sets these standards.
6.2	An accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework.	Not Met	Met	The laboratory board serves this function.
6.3	The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).	Not Met	Met	Graduates must pass a state board exam in order to be issued licenses.
6.4	The government (country or administrative district) has a committed budget for sustaining education programs in the specialty to meet current and anticipated workforce needs (not dependent on external support).	Not Met	Met	The school has a committed budget for sustaining the MLT program.
Total score:		0% (4 out of 4)	100% (4 out of 4)	

This component has four standards and 14 verification criteria. **The school met four out of the four standards.**

Phebe Training Program: General Information

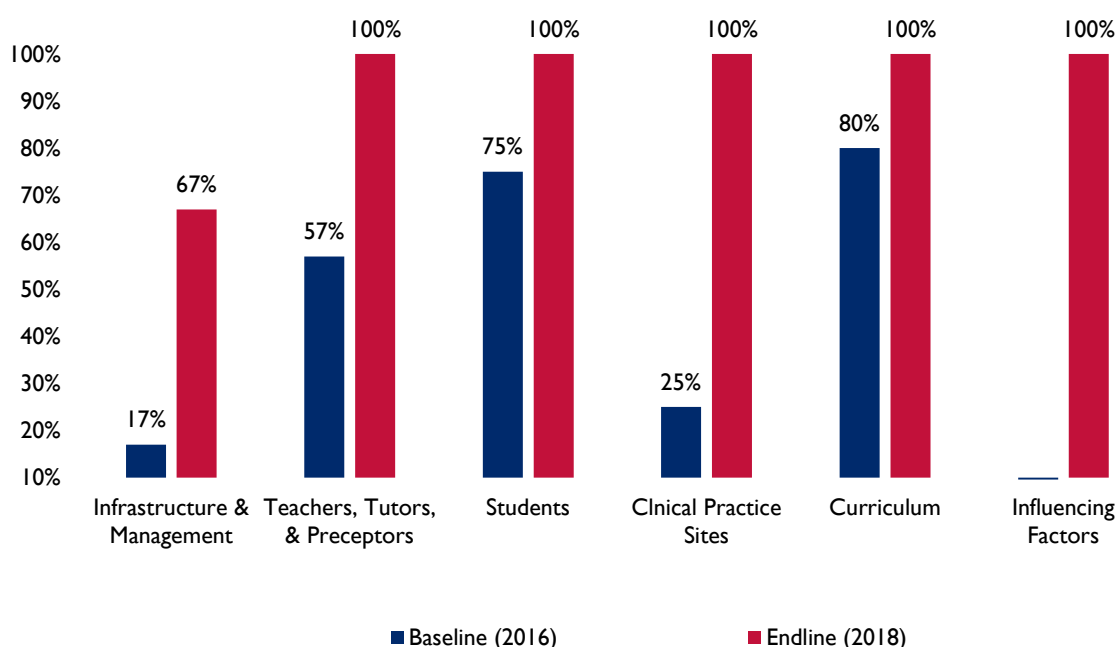
District: Suacoco, Bong County

Assessment Team: Michael Mukibii, David B. Vessellee, Daisajou V. Woods, Emmanuel T. Cooper. (LAML T), and Veronica R. Karlor (Laboratory Association)

Summary

Rapid Assessment Component	Baseline		Endline	
	Achieved	Percent Score	Achieved	Percent Score
1. Infrastructure and Management	1 out of 6	17%	4 out of 6	67%
2. Teachers, Tutors and Preceptors	4 out of 7	57%	7 out of 7	100%
3. Students	3 out of 4	75%	4 out of 4	100%
4. Clinical Practice Sites	1 out of 4	25%	4 out of 4	100%
5. Curriculum	4 out of 5	80%	5 out of 5	100%
6. Influencing Factors	0 out of 4	0%	5 out of 4	100%
Total Achieved	13 out of 30	43%	28 out of 30	93%

Figure A2-A2.1 Key Highlights Phebe Training Program-MLT — Baseline & Endline



Phebe MLT RAT Standards Met/Not Met

Infrastructure and Management

This component has six standards (1.1 to 1.6; see Table 5.2) and 29 verification criteria. **The school met four of the six standards.**

Code	Standards	Baseline	Endline	Comment
I.1	The country has sufficient schools needed to produce the number of fully competent members of the specialties needed in the workforce.	Not Met	Met	The school has 42 (\$ females, 38 males) students enrolled at the time of this assessment.
I.2	The program or school being assessed is led by an educator with appropriate clinical, administrative, academic and leadership experience.	Not Met	Met	The head of the MLT program is fully qualified. He has more than two years of teaching experience and over 10 years of clinical experience and has supervised more than 15 staff members; he does have a diploma in laboratory science and BSc in Biology.
I.3	The school being assessed has sufficient space needed to facilitate theoretical (classroom) learning needs of students.	Not Met	Met	The school has sufficient space to facilitate the theoretical learning needs of the students. Each student has an armchair and the room is spacious; the instructor can move freely between chairs and students have elbowroom.
I.4	The school has the textbooks and journals or library internet access to journals, and other library resources needed for existing students.	Not Met	Not Met	The school has textbooks and journals in the library that are recent with functional internet for students to do research; however, the library is not spatial enough to accommodate more students at one time.

Code	Standards	Baseline	Endline	Comment
1.5	The school has a functional clinical skills lab needed for practice and simulation, including inter-professional education.	Not Met	Not Met	The skill lab practicum is in use and is fully equipped with the necessary supplies, equipment, and a trained staff. The centrifuge was tested and working. The lab is organized; tables and chairs are well placed and all stations are labelled. Students are scheduled, but the skill lab practicum is not spatial enough to accommodate more students
1.6	The school has a room to be use as computer lab that can take a sufficient number of functional computers and appropriately skilled teaching/support staff.	Met	Met	The computer lab is functional with only 20 desktop computers with MS Office installed. The head of the computer lab has a certificate in computer science and a BSc in management/economics
Total score:		16% (1 out of 6)	66% (4 out of 6)	

Teachers, Tutors and Preceptors

This component has seven standards and 26 verification criteria. **The school met seven of the seven standards.**

Code	Standards	Baseline	Endline	Comment
2.1	The school has sufficient academic teachers to educate existing students in the academic/theory components of the curriculum (1:30 teacher-to-student ratio).	Not Met	Met	The program has five teachers (four full-time and three part-time) with a specialty in MLT and four teachers with no MLT specialty (but with a specialty in a relevant art or science).
2.2	Teachers have completed a course preparing them for their teaching role	Not Met	Met	Of all the teachers interviewed, all did instructional courses.
2.3	Teachers have acquired and maintain their clinical competency.	Not Met	Met	Each of the teachers has 2–37 years of practice before assuming the teaching role and they are still practicing to date. They last attended a clinical update course between 2002 and 2018.
2.4	Teachers have the resources that they need to be effective.	Met	Met	Teachers in this program have a shared office and individual desk. They have a computer with MS Office and Internet access. They have up-to-date textbooks for lesson preparation.
2.5	Teachers receive a salary at least equal to practitioners of the specialty who have at minimum 1 full year of clinical practice experience	Met	Met	Salary is based on qualification and experience according to the teachers interviewed; there was no document available to check. They also said that the salary is constant

Code	Standards	Baseline	Endline	Comment
2.6	The education system has clinicians prepared for the role of clinical preceptor (clinical teacher).	Met	Met	In the MLT program, there is one clinical supervisor for every four students at all of the clinical sites (Phebe, ST Joseph, JDJ, ELWA, and C.B. Dunbar Hospitals), and all have had training as a clinical supervisor. Serving as a clinical supervisor is based on qualification and years of experience in the specialty.
2.7	The education system has clinicians supported in the role of clinical preceptor (clinical teacher).	Met	Met	The preceptors in the MLT program received support in the role from the program. And when the students are during clinical, the workload is adjusted for the preceptors, and workload may reduce or increase depending on status of students.
Total score:		57% (4 out of 7)	100% (7 out of 7)	

Students

This component has 4 standards and 14 verification criteria. The school met four of the four standards. The four

Code	Standards	Baseline	Endline	Comment(s)
3.1	The country (and this school) have sufficiently qualified applicants for the specialty education programs (2:1 qualified applicant/enrollment).	Not Met	Met	The enrollment criteria into the MLT program is high school graduate with WAEC Certificate, transcript, pass entrance exams, interview, and letter of recommendation. There were a little over three hundred applicants for the MLT entrance exams and 25 were successful.
3.2	The school is located in communities accessible to targeted students (commutable from residence to school on a daily basis).	Met	Met	All of the students live in the school dorm, which give them easy access to the classroom, library and computer lab.
3.3	The majority of students enrolled are enthusiastic about entering the specialty.	Met	Met	The students interviewed said they are enthusiastic about the specialty and that they do not prefer any other profession.
3.4	The country and/or school has student selection criteria that account for anticipated deployment and retention.	Met ²	Not Met	According to the administrator, consideration is given based on the demand for the profession and requests by institutions in underserved locations.
Total score:		75% (3 out of 4)	75% (3 out of 4)	

² The findings at endline and baseline were actually the same, but the interpretation of the standard changed after baseline data was collected. During the baseline data collection, the PSE Institutions reported that the institutions had the policies, but it was not made clear whether the policies were actually in practice. During the endline data collection, data was collected on the true meaning of the standard, which is whether or not an institution was actually using a policy or enforcing them in practice. Through the endline data collected, it is noted that except for MTPSER (now DKI), the PSEs actually weren't utilizing/enforcing the policies, therefore the standard is best interpreted as not met.

Clinical Practice Sites

This component has 4 standards and 13 verification criteria. The school met 4 of the four standards.

Code	Standards	Baseline	Endline	Comment(s)
4.1	The school has sufficient clinical sites needed to prepare students for competency.	Not Met	Met	The program have enough clinical sites (6 sites)
4.2	The school has clinical practice sites that are accessible to students and teachers (commutable from school to clinical facility in accord with the schedule of clinical experiences).	Not Met	Met	The program provides a bus for students to commute between the clinical sites outside the school premises.
4.3	The clinical practice site has sufficient supplies and other resources needed to train students for competency.	Not Met	Met	There were no shortages of supplies during the period of the assessment.
4.4	The clinical practice site models practice that is consistent with evidence-based best practices, including inter-professional education.	Met	Met	There were clinical practice guidelines (procedural manual and job aides) available for assessors to see.
Total score:		25% (1 out of 4)	100% (4 out of 4)	

Curriculum

This component has five standards and 16 verification criteria. **The school met five of the five standards.**

Code	Standards	Baseline	Endline	Comment(s)
5.1	The curriculum is aligned with national health priorities and has been endorsed by the ministry of health and the relevant regulatory and professional bodies.	Met	Met	The curriculum is aligned with national health priorities. There were lists of names and titles of key players from both relevant authorities and training institutions
5.2	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).	Not Met	Met	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).
5.3	The curriculum content is current and evidence-based	Met	Met	The laboratory curriculum has its objectives matched to its content.
5.4	The curriculum has been reviewed and updated within the past five years	Met	Met	It was last reviewed and updated in September 2017.
5.5	Teachers have an active role in updating and revising the curriculum	Met	Met	The teachers interviewed said that they had an active role in the curriculum review process as a participant/reviewer in 2016 (draft developed) 2017(revision).
Total score:		80% (4 out of 5)	100% (5 out of 5)	

Influential Factors

Code	Standards	Baseline	Endline	Comment(s)
6.1	The country has quality standards for education of the specialty that address, at minimum, the domains of this framework.	Not Met	Met	These standards are set by the laboratory board (LAML T).
6.2	An accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework.	Not Met	Met	The laboratory board serves this function.
6.3	The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).	Not Met	Met	Graduates must pass a state board exam in order to be issued licenses.
6.4	The government (country or administrative district) has a committed budget for sustaining education programs in the specialty to meet current and anticipated workforce needs (not dependent on external support).	Not Met	Met	The school has a committed budget for sustaining the MLT program.

This component has four standards and 14 verification criteria. The school met four out of the four standards. The board of accreditation and licensure of the LAML T is a formally recognized legal regulatory body.

Tubman National Institute of Medical Arts (TNIMA)

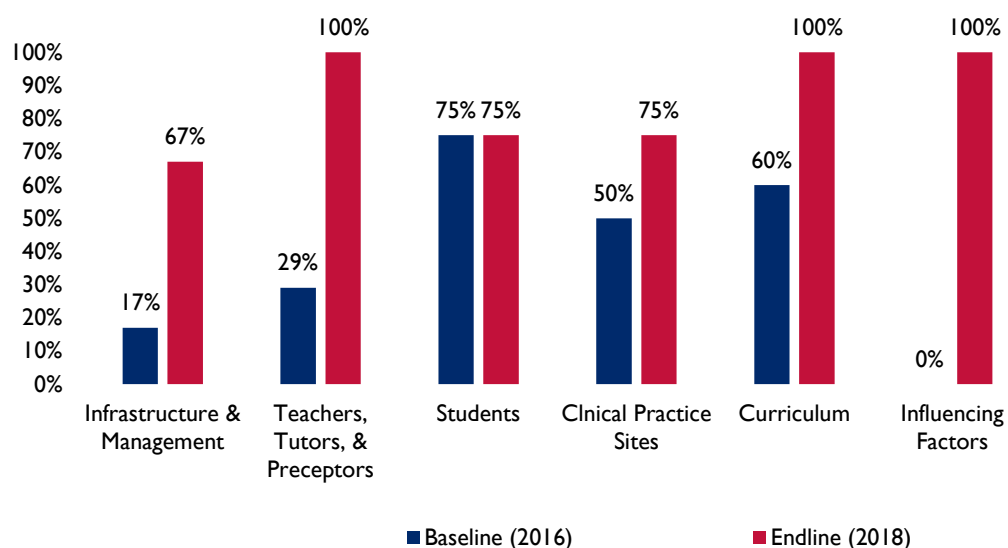
District: Monrovia, Montserrado County

Assessment Team: Michael Mukibii, David B. Vessellee, Daisajou V. Woods, Emmanuel T. Cooper. (LAML T), and Veronica R. Karlor (Laboratory Association)

Summary

Rapid Assessment Component	Baseline		Endline	
	Achieved	Percent Score	Achieved	Percent Score
1. Infrastructure and Management	1 out of 6	17%	6 out of 6	100%
2. Teachers, Tutors and Preceptors	2 out of 7	29%	7 out of 7	100%
3. Students	3 out of 4	75%	3 out of 4	75%
4. Clinical Practice Sites	2 out of 4	50%	3 out of 4	75%
5. Curriculum	3 out of 5	60%	5 out of 5	100%
6. Influencing Factors	0 out of 4	0%	4 out of 4	100%
Total achieved	11 out of 30	37%	28 out of 30	93%

Figure A3–A3 TNIMA – MLT – Baseline & Endline Results



TNIMA MLT RAT Standards Met/Not Met

Infrastructure and Management

This component has six standards (Table 5.3) and 29 verification criteria. The school has both lab and midwifery programs. Concerning the laboratory program, **the school met six of the six standards.**

The one standard met was as follows:

Code	Standards	Baseline	Endline	Comment
I.1	The country has sufficient schools needed to produce the number of fully competent members of the specialties needed in the workforce.	Not Met	Met	The school has fifty-four (13 junior, 41 freshman) students.
I.2	The program or school being assessed is led by an educator with appropriate clinical, administrative, academic and leadership experience.	Met	Met	The MLT program is coordinated by a qualified professional with over 6 years of teaching and clinical experience and have managed over seven staff for more than 7 years.
I.3	The school being assessed has sufficient space needed to facilitate theoretical (classroom) learning needs of students.	Not Met	Met	Each student has an armchair and the room is spacious so that the instructor can move freely between chairs. There is sufficient elbowroom for the students.
I.4	The school has the textbooks and journals or library internet access to journals, and other library resources needed for existing students.	Met	Met	90% of the textbooks are up-to-date. The library has a computer and Internet access. There is a designated head trained in library science.
I.5	The school has a functional clinical skills lab needed for practice and simulation, including inter-professional education.	Met	Met	The school have a functional and equipped skilled lab practicum.

Code	Standards	Baseline	Endline	Comment
1.6	The school has a room to be use as computer lab that can take a sufficient number of functional computers and appropriately skilled teaching/support staff.	Not Met	Met	The school have a functional computer lab with 24 desktops and all have MS Office and DVD player and USB flash port and a trained designated head for teaching and an IT staff for hardware and software maintenance.

Teachers, Tutors and Preceptors

This component has 7 standards and 26 verification criteria. **The school met seven of the seven standards.**

Code	Standards	Baseline	Endline	Comment
2.1	The school has sufficient academic teachers to educate existing students in the academic/theory components of the curriculum (1:30 teacher-to-student ratio).	Not Met	Met	The program have two full time and one part-time that is volunteering (recruiting 1 full-time & 2 part-time). Medical Doctors from the JFK Hospital do volunteer to teach some courses for which there is no teach if the need arises.
2.2	Teachers have completed a course preparing them for their teaching role	Not Met	Met	All teachers interviewed have completed a course preparing them for the role as teacher.
2.3	Teachers have acquired and maintain their clinical competency.	Met	Met	The teachers interviewed has been doing clinical practice for over 10 years and maintain their clinical competency to date.
2.4	Teachers have the resources that they need to be effective.	Not Met	Met	All of the resources need (computer, internet access, up-to-date textbooks, office supplies; etc.) are available for teachers.
2.5	Teachers receive salary equal to or greater than midwives in clinical practice	Not Met	Met	Teachers receive salary based on experience and qualification and this is consistent.
2.6	The education system has clinicians prepared for the role of clinical preceptor (clinical teacher).	Met	Met	There is one preceptor for every four students on shift. All of the lab practices are done at all of the clinical site.
2.7	The education system has clinicians supported in the role of clinical preceptor (clinical teacher).	Not Met	Met	

Students

This component has four standards and 14 verification criteria. **The school met three of the four standards.**

Code	Standards	Baseline	Endline	Comment(s)
3.1	The country (and this school) have sufficiently qualified applicants for the specialty education programs (2:1 qualified applicant/enrollment).	Met	Met	A little over 100 students applied and forty-one were admitted, and no students on wait list.
3.2	The school is located in communities accessible to targeted students (commutable from residence to school on a daily basis).	Not Met	Met	Students do commute from as far as Harbel (a little over 40 miles away) to get to the campus. The dorm is not still habitable for students; the school has bus (es) that helps transport students to campus.
3.3	The majority of students enrolled are enthusiastic about entering the specialty.	Met	Met	All of the students interviewed are enthusiastic about the MLT program. They said that they do not prefer any other profession to the lab field.
3.4	The country and/or school has student selection criteria that account for anticipated deployment and retention.	Not Met	Not Met	Enrollment criteria is set high above preferential treatment; no extra considerations to students as it relates to enrollment or due to stated intention to serve in underserved location upon study completion.

Clinical Practice Sites

This component has 4 standards and 13 verification criteria. **The school met three of the four standards.**

Code	Standards	Baseline	Endline	Comment(s)
4.1	The school has sufficient clinical sites needed to prepare students for competency.	Not Met	Met	There are four clinical sites (both JFK Maternity and Memorial, JDJ and Redemption); for the number of students enrolled. The students are expected to go for clinical 8hrs a day, three times a week.
4.2	The school has clinical practice sites that are accessible to students and teachers (commutable from school to clinical facility in accord with the schedule of clinical experiences).	Met	Met	The clinical sites are accessible to students. More beside, the school provide transport to and fro clinical sites
4.3	The clinical practice site has sufficient supplies and other resources needed to train students for competency.	Not Met	Not Met	At two of the clinical sites visited, there are shortages of gloves and logbook when students go for practice.
4.4	The clinical practice site models practice that is consistent with evidence-based best practices, including inter-professional education.	Met	Met	There are standard operating procedures and job aides seen during the time of the assessment.

Curriculum

This component has 5 standards and 16 verification criteria. **The school met five of the five standards.**

Code	Standards	Baseline	Endline	Comment(s)
5.1	The curriculum is aligned with national health priorities and has been endorsed by the ministry of health and the relevant regulatory and professional bodies.	Not Met	Met	The curriculum is aligned with national health priorities. There were lists of names and titles of key players from both relevant authorities and training institutions.
5.2	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).	Met	Met	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).
5.3	The curriculum content is current and evidence-based	Met	Met	The laboratory curriculum has its objectives matched to its content.
5.4	The curriculum has been reviewed and updated within the past five years	Met	Met	It was last reviewed and updated in September 2017.
5.5	Teachers have an active role in updating and revising the curriculum	Met	Met	The teachers interviewed said that they had an active role in the curriculum review process as a participant/reviewer in 2016 (draft developed) 2017(revision).

Influential Factors

This component has four standards and 14 verification criteria. **The school met four out of the four standards.**

Code	Standards	Baseline	Endline	Comment(s)
6.1	The country has quality standards for education of the specialty that address, at minimum, the domains of this framework.	Not Met	Met	These standards are set by the laboratory board (LMLT).
6.2	An accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework.	Not Met	Met	The laboratory board serves this function.
6.3	The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system-licensing exam).	Not Met	Met	Graduates must pass a state board exam in order to be issued licenses.
6.4	The government (country or administrative district) has a committed budget for sustaining education programs in the specialty to meet current and anticipated workforce needs (not dependent on external support).	Not Met	Met	The school has a committed budget for sustaining the MLT program.

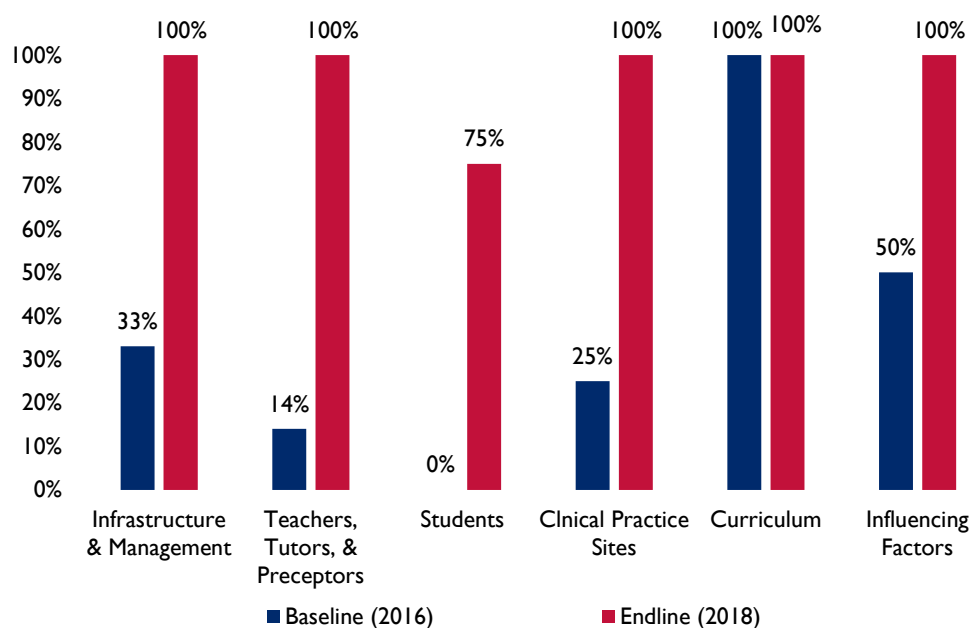
Appendix B: Midwifery Schools: Summary of Findings

Tubman National Institute of Medical Arts (TNIMA)

Summary

Rapid Assessment Component	Baseline		Endline	
	Achieved	Percent Score	Achieved	Percent Score
1. Infrastructure and Management	2 out of 6	33%	6 out of 6	100%
2. Teachers, Tutors and Preceptors	1 out of 7	14%	7 out of 7	100%
3. Students	0 out of 4	0%	3 out of 4	75%
4. Clinical Practice Sites	1 out of 4	25%	4 out of 4	100%
5. Curriculum	5 out of 5	100%	5 out of 5	100%
6. Influencing Factors	2 out of 4	50%	4 out of 4	100%
Total achieved	11 out of 30	37%	29 out of 30	97%

Figure A4–A4 TNIMA Midwifery Baseline & Endline Results



TNIMA RM RAT Standards Met/Not Met

Infrastructure and Management (six standards and 29 verification criteria)

Code	Standards	Baseline	Endline	Comment
I.1	The country has sufficient schools needed to produce the number of fully competent midwives needed in the workforce	Not Met	Met	The school has space enough students enrolled at the time of this assessment.
I.2	The midwifery program or school being assessed is led by a midwife with appropriate clinical, administrative, academic and leadership experience	Met	Met	The head of the MLT program is fully qualified.
I.3	The school being assessed has sufficient space needed to facilitate theoretical (classroom) learning needs of students	Met	Met	The school has sufficient space to facilitate the theoretical learning needs of the students. Each student has an armchair and the room is spacious; the instructor can move freely between chairs and students have elbowroom.
I.4	The school has the textbooks and journals or library internet access to journals, and other library resources needed for existing students	Not Met	Met	The school has textbooks and journals in the library that are recent with functional internet for students to do research; however, the library is not spatial enough to accommodate more students at one time.
I.5	The school has a functional clinical skills lab needed for practice and simulation	Not Met	Met	The skill lab practicum is in use and is fully equipped with the necessary supplies, equipment, and a trained staff. The centrifuge was tested and working. The lab is organized; tables and chairs are well placed and all stations are labelled. Students are scheduled, but the skill lab practicum is not spatial enough to accommodate more students
I.6	The school has a computer lab with sufficient functional computers, and appropriately skilled teaching/support staff	Not Met	Met	The computer lab is functional with only 20 desktop computers with MS Office installed. The head of the computer lab has a certificate in computer science and a BSc in management/economics

Teacher, Tutors and Preceptors (seven standards and 27 verification criteria)

Code	Standards	Baseline	Endline	Comment
2.1	The school has sufficient midwives and appropriate non-midwives that are needed to educate existing students in the academic/theory components of the curriculum (1:30 teacher: student ratio)	Not Met	Met	The program have two full time and one part-time that is volunteering (recruiting 1 full-time & 2 part-time). Medical Doctors from the JFK Hospital do volunteer to teach some courses for which there is no teach if the need arises.
2.2	Teachers have completed a course preparing them for their teaching role	Met	Met	All teachers interviewed have completed a course preparing them for the role as teacher.
2.3	Teachers have acquired and maintain their clinical competency	Not Met	Met	The teachers interviewed has been doing clinical practice for over 10 years and maintain their clinical competency to date.
2.4	Teachers have the resources that they need to be effective	Not Met	Met	All of the resources need (computer, internet access, up-to-date textbooks, office supplies; etc.) are available for teachers.
2.5	Teachers receive salary equal to or greater than midwives in clinical practice	Not Met	Met	Teachers receive salary based on experience and qualification and this is consistent.
2.6	The education system has clinicians prepared for the role of clinical preceptor (clinical teacher)	Not Met	Met	There is one preceptor for every four students on shift. All of the lab practices are done at all of the clinical site.
2.7	The education system has clinicians supported in the role of clinical preceptor (clinical teacher)	Not Met	Met	The education system has clinicians supported in the role of clinical preceptor (clinical teacher)

Students (four standards and 14 verification criteria)

Code	Standards	Baseline	Endline	Comment
3.1	The country (and this school) have sufficiently qualified applicants for the specialty education programs (2:1 qualified applicant/enrollment).	Not Met	Met	A little over 100 students applied and forty-one were admitted, and no students on wait list.
3.2	The school is located in communities accessible to targeted students (commutable from residence to school on a daily basis).	Not Met	Met	Students do commute from as far as Harbel (a little over 40 miles away) to get to the campus. The dorm is not still habitable for students; the school has bus (es) that helps transport students to campus.
3.2	The majority of students enrolled are enthusiastic about entering the specialty.	Not Met	Met	All of the students interviewed are enthusiastic about the MLT program. They said that they do not prefer any other profession to the lab field
3.4	The country and/or school has student selection criteria that account for anticipated deployment and retention.	Not Met	Not Met	Enrollment criteria is set high above preferential treatment; no extra considerations to students as it relates to enrollment or due to stated intention to serve in underserved location upon study completion.

Clinical Practice Sites (four standards and 11 verification criteria)

Code	Standards	Baseline	Endline	Comment(s)
4.1	The school has sufficient clinical sites needed to prepare students for competency.	Not Met	Met	There are four clinical sites (both JFK Maternity and Memorial, JDJ and Redemption); for the number of students enrolled. The students are expected to go for clinical 8hrs a day, three times a week.
4.2	The school has clinical practice sites that are accessible to students and teachers (commutable from school to clinical facility in accord with the schedule of clinical experiences).	Met	Met	The clinical sites are accessible to students. More beside, the school provide transport to and fro clinical sites
4.3	The clinical practice site has sufficient supplies and other resources needed to train students for competency.	Not Met	Met	The clinical sites visited, all practice sites has sufficient supplies and other resources needed to train students
4.4	The clinical practice site models practice that is consistent with evidence-based best practices, including inter-professional education.	Not Met	Met	There are standard operating procedures and job aides seen during the time of the assessment. The program being assessed have enough clinical sites (JDJ, Liberian-Japanese Friendship Maternity, Benson, Redemption Bensonville, and ES Grant Mental Hospitals) to prepare students to competency and all sites are accessible to students and teachers. All sites visited during the endline assessment had enough consumables/supplies for students' practices.

Curriculum (five 5 standards and 15 verification criteria)

Code	Standards	Baseline	Endline	Comment(s)
5.1	The curriculum is aligned with national health priorities and has been endorsed by the ministry of health and the relevant regulatory and professional bodies.	Met	Met	The curriculum is aligned with national health priorities. There were lists of names and titles of key players from both relevant authorities and training institutions.
5.2	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).	Met	Met	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).
5.3	The curriculum content is current and evidence-based	Met	Met	The laboratory curriculum has its objectives matched to its content.
5.4	The curriculum has been reviewed and updated within the past five years	Met	Met	It was last reviewed and updated in September 2017.
5.5	Teachers have an active role in updating and revising the curriculum	Met	Met	The teachers interviewed said that they had an active role in the curriculum review process as a participant/reviewer in 2016 (draft developed) 2017(revision).

Influential Factors (four standards and 15 verification criteria)

Code	Standards	Baseline	Endline	Comment(s)
6.1	The country has quality standards for education of the specialty that address, at minimum, the domains of this framework.	Not Met	Met	These standards are set by the laboratory board (LAMLTL).
6.2	An accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework.	Met	Met	A midwifery education accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework and ICM educational standards
6.3	The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).	Not Met	Met	The school has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).
6.4	The government (country or administrative district) has a committed budget for sustaining education programs in the specialty to meet current and anticipated workforce needs (not dependent on external support).	Met	Met	There is an influential body (JFK administration) that manages the operation of the school. In addition, there is also a budget for the school.

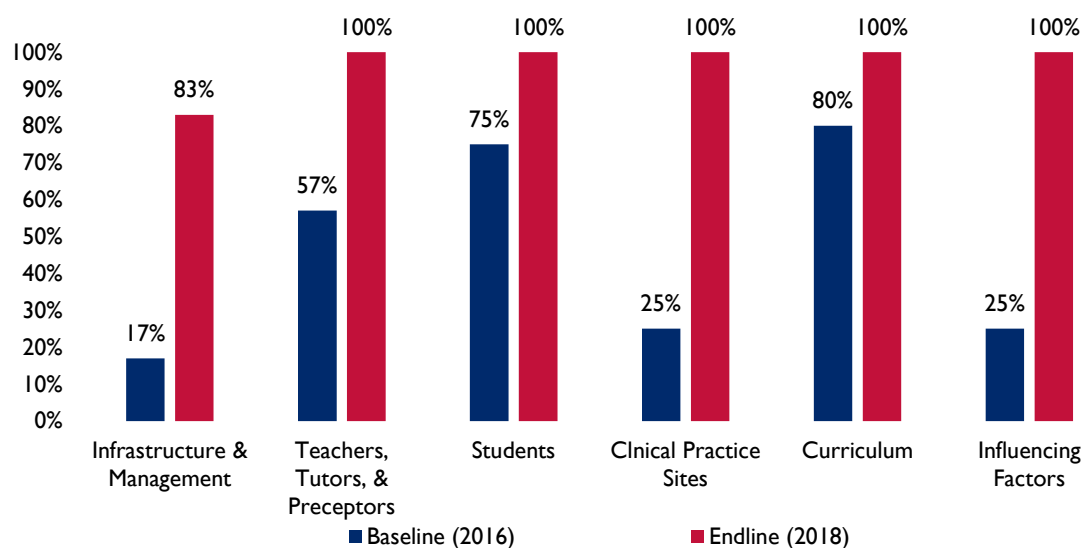
Phebe Paramedical Training Program (PTP)

Summary

Table A5-A5 PTP Midwifery Component Scores

Rapid Assessment Component	Baseline		Endline	
	Achieved	Percent Score	Achieved	Percent Score
1. Infrastructure and Management	1 out of 6	17%	5 out of 6	83%
2. Teachers, Tutors and Preceptors	4 out of 7	57%	7 out of 7	100%
3. Students	3 out of 4	75%	4 out of 4	100%
4. Clinical Practice Sites	1 out of 4	25%	4 out of 4	100%
5. Curriculum	4 out of 5	80%	5 out of 5	100%
6. Influencing Factors	1 out of 4	25%	4 out of 4	100%
Total achieved	14 out of 30	47%	29 out of 30	97%

Figure A5-A5 PTP — Midwifery Baseline & Endline Results



Phebe RM RAT Standards Met/Not Met

Infrastructure and Management (six standards and 29 verification criteria)

Code	Standards	Baseline	Endline	Comment
I.1	The country has sufficient schools needed to produce the number of fully competent members of the specialties needed in the workforce.	Not Met	Met	The school has space for students enrolled at the time of this assessment.
I.2	The program or school being assessed is led by an educator with appropriate clinical, administrative, academic and leadership experience.	Met	Met	The head of the MLT program is fully qualified. He has more than two years of teaching experience and over 10 years of clinical experience and has supervised more than 15 staff members; he does have a diploma in laboratory science and BSc in Biology.
I.3	The school being assessed has sufficient space needed to facilitate theoretical (classroom) learning needs of students.	Not Met	Met	The school has sufficient space to facilitate the theoretical learning needs of the students. Each student has an armchair and the room is spacious; the instructor can move freely between chairs and students have elbowroom.
I.4	The school has the text books and journals or library internet access to journals, and other library resources needed for existing students.	Not Met	Not Met	The school has textbooks and journals in the library that are recent with functional internet for students to do research; however, the library is not spatial enough to accommodate more students at one time.
I.5	The school has a functional clinical skills lab needed for practice and simulation, including inter-professional education.	Not Met	Met	The skill lab practicum is in use and is fully equipped with the necessary supplies, equipment, and a trained staff. The centrifuge was tested and working. The lab is organized; tables and chairs are well placed and all stations are labelled. Students are scheduled, but the skill lab practicum is not spatial enough to accommodate more students
I.6	The school has a room to be use as computer lab that can take a sufficient number of functional computers and appropriately skilled teaching/support staff.	Not Met	Met	The computer lab is functional with only 20 desktop computers with MS Office installed. The head of the computer lab has a certificate in computer science and a BSc in management/economics

Teachers, Tutors and Preceptors

This component has seven standards and 26 verification criteria. **The school met seven of the seven standards.**

The seven standards met were as follows:

Code	Standards	Baseline	Endline	Comment
2.1	The school has sufficient academic teachers to educate existing students in the academic/theory components of the curriculum (1:30 teacher-to-student ratio).	Met	Met	The program has five teachers (five full-time and three part-time) with a specialty in midwifery and four teachers with no specialty in midwifery (but with a specialty in a relevant art or science).
2.2	Teachers have completed a course preparing them for their teaching role	Met	Met	Of all the teachers interviewed, all did instructional courses.
2.3	Teachers have acquired and maintain their clinical competency.	Met	Met	Each of the teachers has 2–37 years of practice before assuming the teaching role and they are still practicing to date. They last attended a clinical update course between 2002 and 2018.
2.4	Teachers have the resources that they need to be effective.	Not Met	Met	Teachers in this program have a shared office and individual desk. They have a computer with MS Office and Internet access. They have up-to-date textbooks for lesson preparation.
2.5	Teachers receive a salary at least equal to practitioners of the specialty who have at minimum 1 full year of clinical practice experience	Met	Met	Salary is based on qualification and experience according to the teachers interviewed; there was no document available to check. They also said that the salary is constant
2.6	The education system has clinicians prepared for the role of clinical preceptor (clinical teacher).	Not Met	Met	In the Midwifery program, there is one clinical supervisor for every four students at all of the clinical sites (Phebe, ST Jospeh, JDJ, ELWA, and C.B. Dunbar Hospitals), and all have had training as a clinical supervisor. Serving as a clinical supervisor is based on qualification and years of experience in the specialty.
2.7	The education system has clinicians supported in the role of clinical preceptor (clinical teacher).	Not Met	Met	The preceptors in the midwifery program received support in the role from the program. And when the students are during clinical, the workload is adjusted for the preceptors, and workload may reduce or increase depending on status of students.
Total Score:		57% (3 out of 7)	100% (7 out of 7)	

Students (4 standards and 14 verification criteria)

This component has 4 standards and 14 verification criteria. The school met four of the four standards. The four standard met were as follows:

Code	Standards	Baseline	Endline	Comment(s)
3.1	The country (and this school) have sufficiently qualified applicants for the specialty education programs (2:1 qualified applicant/enrollment).	Not Met	Met	The enrollment criteria into the midwifery program is high school graduate with WAEC Certificate, transcript, pass entrance exams, interview, and letter of recommendation. The school have sufficient qualified applicant for the program being assessed and it is accessible to students. All ten students interviewed said that they are enthusiastic about the midwifery program.
3.2	The school is located in communities accessible to targeted students (commutable from residence to school on a daily basis).	Met	Met	All of the students live in the school dorm, which give them easy access to the classroom, library and computer lab.
3.3	The majority of students enrolled are enthusiastic about entering the specialty.	Met	Met	The students interviewed said they are enthusiastic about the specialty and that they do not prefer any other profession.
3.4	The country and/or school has student selection criteria that account for anticipated deployment and retention.	Met	Met	According to the administrator, consideration is given based on the demand for the profession and requests by institutions in underserved locations.
Total score:		75% (3 out of 4)	100% (4 out of 4)	

Clinical Practice Site (four standards and 11 verification criteria)

The one standard met was as follows:

Code	Standards	Baseline	Endline	Comment(s)
4.1	The school has sufficient clinical sites needed to prepare students for competency.	Not Met	Met	The program have two clinical sites (Phebe and C. B. Dunbar Hospitals) where the students go three days weekly from 7am to 3pm.
4.2	The school has clinical practice sites that are accessible to students and teachers (commutable from school to clinical facility in accord with the schedule of clinical experiences).	Met	Met	The program provides a bus for students to commute between the clinical sites outside the school premises. The practice sites are accessible to students via foot (Phebe Hospital) and bus (C. B. Dunbar) which is outside of the school proximity
4.3	The clinical practice site has sufficient supplies and other resources needed to train students for competency.	Not Met	Met	There were no shortages of supplies during the period of the assessment. The clinical sites reported having sufficient supplies for student practice to competency.
4.4	The clinical practice site models practice that is consistent with evidence-based best practices, including inter-professional education.	Not Met	Met	There were clinical practice guidelines (procedural manual and job aides) available for assessors to see.
Total score:		25% (1 out of 4)	100% (4 out of 4)	

Curriculum (five standards and 15 verification criteria)

The five standards met were as follows:

Code	Standards	Baseline	Endline	Comment(s)
5.1	The curriculum is aligned with national health priorities and has been endorsed by the ministry of health and the relevant regulatory and professional bodies.	Met	Met	The curriculum is aligned with national health priorities. There were lists of names and titles of key players from both relevant authorities and training institutions.
5.2	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).	Met	Met	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).
5.3	The curriculum content is current and evidence-based	Met	Met	The laboratory curriculum has its objectives matched to its content.
5.4	The curriculum has been reviewed and updated within the past five years	Met	Met	It was last reviewed and updated in September 2017.
5.5	Teachers have an active role in updating and revising the curriculum	Not Met	Met	The teachers interviewed said that they had an active role in the curriculum review process as a participant/reviewer in 2016 (draft developed) 2017(revision).
Total score:		80% (4 out of 5)	100% (5 out of 5)	

Influential Factors (four standards and 15 verification criteria)

Code	Standards	Baseline	Endline	Comment(s)
6.1	The country has quality standards for education of the specialty that address, at minimum, the domains of this framework.	Not Met	Met	These standards are set by the midwifery board (LNMB).
6.2	An accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework.	Met	Met	A midwifery education accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework and ICM educational standards;
6.3	The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).	Not Met	Met	Graduates must pass a state board exam in order to be issued licenses. The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).
6.4	The government (country or administrative district) has a committed budget for sustaining education programs in the specialty to meet current and anticipated workforce needs (not dependent on external support).	Not Met	Met	The school has a committed budget for sustaining the MLT program.
Total score:		25% (3 out of 4)	100% (4 out of 4)	

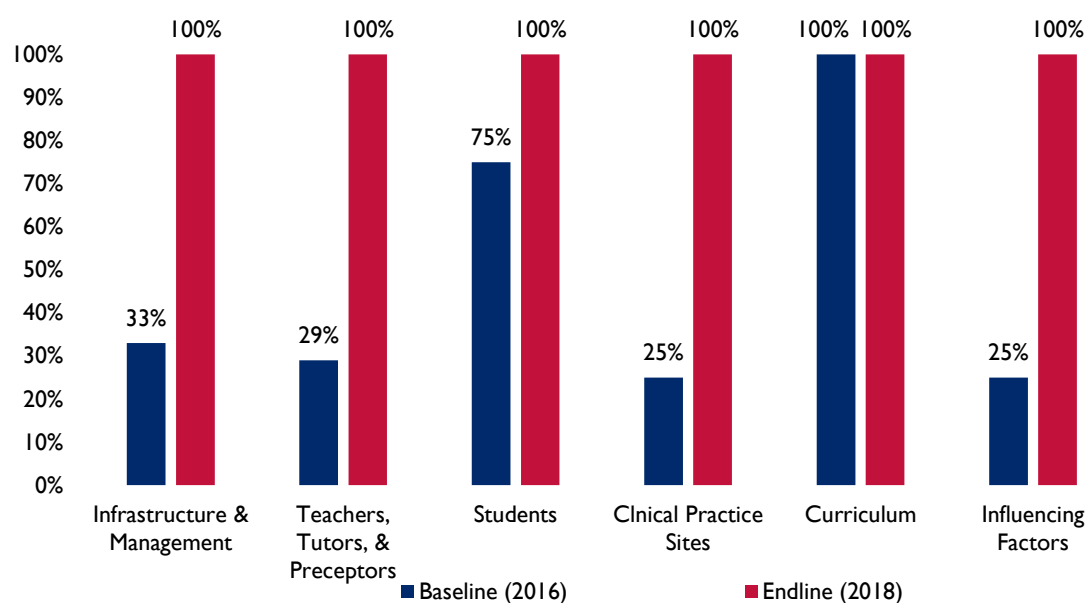
Esther Bacon School of Nursing and Midwifery (EBSNM)

Summary

Table A6-A6: EBSNM Midwifery Component Scores

Rapid Assessment Component	Baseline		Endline	
	Achieved	Percent Score	Achieved	Percent Score
1. Infrastructure and Management	2 out of 6	33%	6 out of 6	100%
2. Teachers, Tutors and Preceptors	2 out of 7	29%	7 out of 7	100%
3. Students	3 out of 4	75%	4 out of 4	100%
4. Clinical Practice Sites	1 out of 4	25%	4 out of 4	100%
5. Curriculum	5 out of 5	100%	5 out of 5	100%
6. Influencing Factors	1 out of 4	25%	4 out of 4	100%
Total achieved	14 out of 30	47%	30 out of 30	100%

Figure A6-A6: EBSNM – Midwifery Baseline & Endline Results



EBSNM RM RAT Standards Met/Not Met

Infrastructure and Management (six standards and 29 verification criteria)

The one standard met was as follows:

Code	Standards	Baseline	Endline	Comment
I.1	The country has sufficient schools needed to produce the number of fully competent members of the specialties needed in the workforce.	Met	Met	The school has space for students enrolled at the time of this assessment.
I.2	The program or school being assessed is led by an educator with appropriate clinical, administrative, academic and leadership experience.	Not Met	Met	The head of the midwifery program is fully qualified. She has more than two years of teaching experience and over 10 years of clinical experience and has supervised more than 15 staff members;
I.3	The school being assessed has sufficient space needed to facilitate theoretical (classroom) learning needs of students.	Met	Met	The school has sufficient space to facilitate the theoretical learning needs of the students. Each student has an armchair and the room is spacious; the instructor can move freely between chairs and students have elbowroom.
I.4	The school has the text books and journals or library internet access to journals, and other library resources needed for existing students.	Not Met	Met	The school has textbooks and journals in the library that are recent with functional internet for students to do research; however, the library is not spatial enough to accommodate more students at one time.
I.5	The school has a functional clinical skills lab needed for practice and simulation, including inter-professional education.	Not Met	Met	The skill lab practicum is in use and is fully equipped with the necessary supplies, equipment, and a trained staff. The centrifuge was tested and working. The lab is organized; tables and chairs are well placed and all stations are labelled. Students are scheduled, but the skill lab practicum is not spatial enough to accommodate more students
I.6	The school has a room to be use as computer lab that can take a sufficient number of functional computers and appropriately skilled teaching/support staff.	Not Met	Met	The computer lab is functional with only 20 desktop computers with MS Office installed. The head of the computer lab has a certificate in computer science
Total Score:		33% (2 of 6)	100% (6 of 6)	

Teacher, Tutors and Preceptors (seven standards and 27 verification criteria)

The program met all seven standards.

Code	Standards	Baseline	Endline	Comment
2.1	The school has sufficient academic teachers to educate existing students in the academic/theory components of the curriculum (1:30 teacher-to-student ratio).	Not Met	Met	The program have enough qualified (4 fulltime midwifery and 5 non midwifery) instructors;
2.2	Teachers have completed a course preparing them for their teaching role	Not Met	Met	Of all the teachers interviewed, all did instructional courses. They have all completed course(s) preparing them for their teaching role and they are maintaining their clinical competency to date.
2.3	Teachers have acquired and maintain their clinical competency.	Not Met	Met	Each of the teachers has 5–25 years of practice before assuming the teaching role and they are still practicing to date. They last attended a clinical update course between 2002 and 2018.
2.4	Teachers have the resources that they need to be effective.	Not Met	Met	Teachers in this program have a shared office and individual desk. They have a computer with MS Office and Internet access. They have up-to-date textbooks for lesson preparation.
2.5	Teachers receive a salary at least equal to practitioners of the specialty who have at minimum 1 full year of clinical practice experience	Not Met	Met	Salary is based on qualification and experience according to the teachers interviewed; there was no document available to check. They also said that the salary is constant
2.6	The education system has clinicians prepared for the role of clinical preceptor (clinical teacher).	Not Met	Met	In the Midwifery program, there is one clinical supervisor for every four students at all of the clinical sites (and all have had training as a clinical supervisor. Serving as a clinical supervisor is based on qualification and years of experience in the specialty.
2.7	The education system has clinicians supported in the role of clinical preceptor (clinical teacher).	Met	Met	The preceptors in the midwifery program received support in the role from the program. And when the students are during clinical, the workload is adjusted for the preceptors, and workload may reduce or increase depending on status of students.
Total Score:		29% (1 of 7)	100% (7 of 7)	

Students (four standards and 14 verification criteria)

The program met all the standards.

Code	Standards	Baseline	Endline	Comment(s)
3.1	The country (and this school) have sufficiently qualified applicants for the specialty education programs (2:1 qualified applicant/enrollment).	Met	Met	The program have seventy-five midwifery students at the time of the endline assessment (July 2018) and all qualified applicants were enrolled. The enrollment criteria into the midwifery program is high school graduate with WAEC Certificate, transcript, pass entrance exams, interview, and letter of recommendation. The school have sufficient qualified applicant for the program being assessed and it is accessible to students. All ten students interviewed said that they are enthusiastic about the midwifery program.
3.2	The school is located in communities accessible to targeted students (commutable from residence to school on a daily basis).	Not Met	Met	The school have a dormitory that host all of its students within the proximity of the campus.
3.3	The majority of students enrolled are enthusiastic about entering the specialty.	Met	Met	The students interviewed said they are enthusiastic about the specialty and that they do not prefer any other profession.
3.4	The country and/or school has student selection criteria that account for anticipated deployment and retention.	Met	Met	According to the administrator, consideration is given based on the demand for the profession and requests by institutions in underserved locations.
Total Score:		75% (3 of 4)	100% (4 of 4)	

Clinical Practice Site (four standards and 11 verification criteria)

The school met all of the standards

Code	Standards	Baseline	Endline	Comment(s)
4.1	The school has sufficient clinical sites needed to prepare students for competency.	Not Met	Met	The program have sufficient clinical sites, five (Curran Lutheran Hospital, Konia Health Center, Salayea Health Center, Fissebu and Sucromu clinics).
4.2	The school has clinical practice sites that are accessible to students and teachers (commutable from school to clinical facility in accord with the schedule of clinical experiences).	Met	Met	One of the clinical sites, Curran is located on the school campus; the students are transported to and from the remaining four sites three days a week.
4.3	The clinical practice site has sufficient supplies and other resources needed to train students for competency.	Not Met	Met	All of the sites visited reported having sufficient supplies for student practice and they model practice that are evidence-based and consistent with LBNM standards.
4.4	The clinical practice site models practice that is consistent with evidence-based best practices, including inter-professional education.	Not Met	Met	There were clinical practice guidelines (procedural manual and job aides) available for assessors to see.
Total Score:		25% (1 of 4)	100% (4 of 4)	

Curriculum (five standards and 15 verification criteria)

The five standards met were as follows:

Code	Standards	Baseline	Endline	Comment(s)
5.1	The curriculum is aligned with national health priorities and has been endorsed by the ministry of health and the relevant regulatory and professional bodies.	Met	Met	The curriculum is aligned with national health priorities. There were lists of names and titles of key players from both relevant authorities and training institutions.
5.2	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).	Met	Met	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).
5.3	The curriculum content is current and evidence-based	Met	Met	The laboratory curriculum has its objectives matched to its content.
5.4	The curriculum has been reviewed and updated within the past five years	Met	Met	It was last reviewed and updated in September 2017.
5.5	Teachers have an active role in updating and revising the curriculum	Met	Met	The teachers interviewed said that they had an active role in the curriculum review process as a participant/reviewer in 2016 (draft developed) 2017(revision).
Total Score:		100% (5 of 5)	100% (5 of 5)	

Influential Factors (four standards and 15 verification criteria)

The school met four of the four standards.

Code	Standards	Baseline	Endline	Comment(s)
6.1	The country has quality standards for education of the specialty that address, at minimum, the domains of this framework.	Not Met	Met	These standards are set by the midwifery board (LNMB).
6.2	An accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework.	Met	Met	A midwifery education accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework and ICM educational standards;
6.3	The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).	Not Met	Met	Graduates must pass a state board exam in order to be issued licenses. The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).
6.4	The government (country or administrative district) has a committed budget for sustaining education programs in the specialty to meet current and anticipated workforce needs (not dependent on external support).	Not Met	Met	An influential body manages the operation of the school. Moreover, there is a budget for the school.
Total Score:		25% (1 of 4)	100% (4 of 4)	

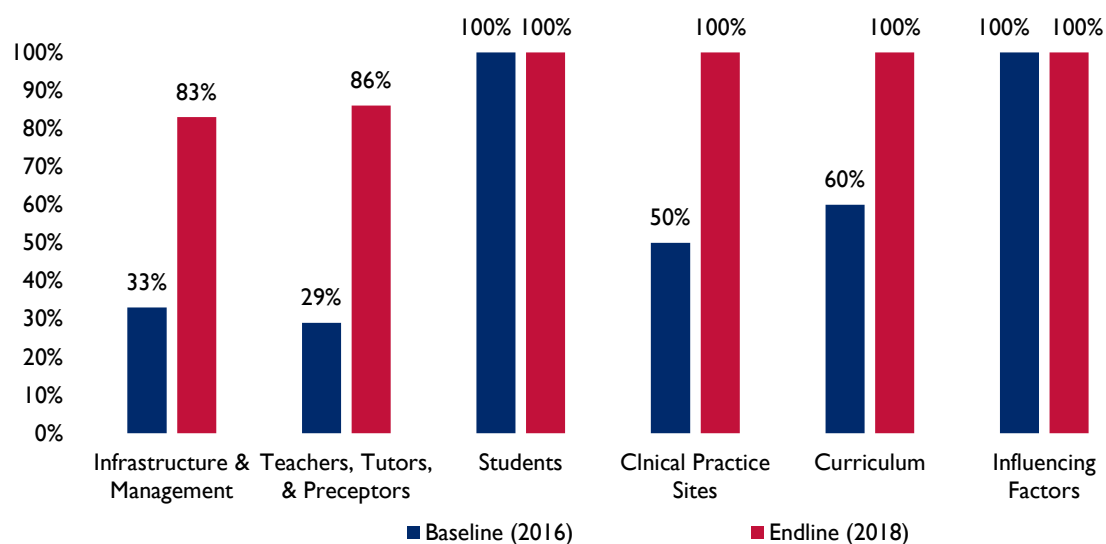
Deanna Kay Isaacson School of Midwifery (DKISM)

Summary

Table A7-A7: DKISM Midwifery Component Scores

Rapid Assessment Component	Baseline		Endline	
	Achieved	Percent Score	Achieved	Percent Score
1. Infrastructure and Management	2 out of 6	33%	5 out of 6	83%
2. Teachers, Tutors and Preceptors	2 out of 7	29%	6 out of 7	86%
3. Students	4 out of 4	100%	4 out of 4	100%
4. Clinical Practice Sites	2 out of 4	50%	4 out of 4	100%
5. Curriculum	3 out of 5	60%	5 out of 5	100%
6. Influencing Factors	4 out of 4	100%	4 out of 4	100%
Total achieved	16 out of 30	53%	28 out of 30	93%

Figure A7-A7: DKISM – Midwifery Baseline & Endline Results



DKISM RM RAT Standards Met/Not Met

Infrastructure and Management (six standards and 29 verification criteria)

The school met five of the six standards:

Code	Standards	Baseline	Endline	Comment
I.1	The country has sufficient schools needed to produce the number of fully competent members of the specialties needed in the workforce.	Met	Met	The school has space for students enrolled at the time of this assessment.
I.2	The program or school being assessed is led by an educator with appropriate clinical, administrative, academic and leadership experience.	Met	Met	The midwifery program or school being assessed is led by a midwife with appropriate clinical, administrative, academic and leadership experience. The school is 100% midwifery program only, and the director is an RNM with master in Public Health and has more than 10 years of teaching and supervision experience.
I.3	The school being assessed has sufficient space needed to facilitate theoretical (classroom) learning needs of students.	Not Met	Met	The school has sufficient space to facilitate the theoretical learning needs of the students. Each student has an armchair and the room is spacious; the instructor can move freely between chairs and students have elbowroom.
I.4	The school has the text books and journals or library internet access to journals, and other library resources needed for existing students.	Not Met	Met	The school has textbooks and journals in the library that are recent with functional internet for students to do research; however, the library is not spatial enough to accommodate more students at one time.
I.5	The school has a functional clinical skills lab needed for practice and simulation, including inter-professional education.	Not Met	Not Met	The program simulation center is not spatial as was observed at baseline. Construction for a more spatial simulation center is ongoing.
I.6	The school has a room to be use as computer lab that can take a sufficient number of functional computers and appropriately skilled teaching/support staff.	Not Met	Met	The computer lab is functional with only 20 desktop computers with MS Office installed. The head of the computer lab has a certificate in computer science
Total Score:		33% (2 of 6)	83% (5 of 6)	

Teacher, Tutors and Preceptors (seven standards and 27 verification criteria)

Code	Standards	Baseline	Endline	Comment
2.1	The school has sufficient academic teachers to educate existing students in the academic/theory components of the curriculum (1:30 teacher-to-student ratio).	Not Met	Met	The program have enough qualified (4 fulltime midwifery and 5 non midwifery) instructors; There are three Masters prepared nurse educators, all of whom are full-time non-midwifery instructors
2.2	Teachers have completed a course preparing them for their teaching role	Not Met	Met	Of all the teachers interviewed, all did instructional courses. They have all completed course(s) preparing them for their teaching role and they are maintaining their clinical competency to date.
2.3	Teachers have acquired and maintain their clinical competency.	Not Met	Met	Each of the teachers has 5–25 years of practice before assuming the teaching role and they are still practicing to date. They last attended a clinical update course between 2002 and 2018.
2.4	Teachers have the resources that they need to be effective.	Not Met	Not Met	Teachers in this program do shared office but don't have individual desk. They have a computer with MS Office and Internet access. They have up-to-date textbooks for lesson preparation.
2.5	Teachers receive a salary at least equal to practitioners of the specialty who have at minimum 1 full year of clinical practice experience	Met	Met	Salary is based on qualification and experience according to the teachers interviewed; there was no document available to check. They also said that the salary is constant
2.6	The education system has clinicians prepared for the role of clinical preceptor (clinical teacher).	Not Met	Met	In the Midwifery program, there is one clinical supervisor for every four students at all of the clinical sites (and all have had training as a clinical supervisor. Serving as a clinical supervisor is based on qualification and years of experience in the specialty.
2.7	The education system has clinicians supported in the role of clinical preceptor (clinical teacher).	Not Met	Met	The preceptors in the midwifery program received support in the role from the program. And when the students are during clinical, the workload is adjusted for the preceptors, and workload may reduce or increase depending on status of students.
Total Score:		29% (2 of 7)	86% (6 of 7)	

Students (four standards and 14 verification criteria)

The program met all the standards.

Code	Standards	Baseline	Endline	Comment(s)
3.1	The country (and this school) have sufficiently qualified applicants for the specialty education programs (2:1 qualified applicant/enrollment).	Met	Met	The school enrolled 85 midwifery students, of which there were 41 juniors (19 males and 22 females) and 33 freshman students (16 males and 17 females). All the midwifery students enrolled met the LBNM enrollment standards (high school diploma, WAEC certificate, transcript, two letters of recommendation, two photos and a passing grade on both entrance exam and interview). All of the 10 students interviewed originally applied for the midwifery program and they expressed a desire to remain in the midwifery profession, with an emphasis on getting higher education in midwifery.
3.2	The school is located in communities accessible to targeted students (commutable from residence to school on a daily basis).	Met	Met	The program have a dormitory for enrolled students that is within approximately one minute walk to the classes. As per the agreement between the school and ministry of health, extra considerations are given to students for admission based on minority population group.
3.3	The majority of students enrolled are enthusiastic about entering the specialty.	Met	Met	The students interviewed said they are enthusiastic about the specialty and that they do not prefer any other profession.
3.4	The country and/or school has student selection criteria that account for anticipated deployment and retention.	Met	Met	According to the administrator, consideration is given based on the demand for the profession and requests by institutions in underserved locations.
Total Score:		100% (4 of 4)	100% (4 of 4)	

Clinical Practice Sites (four standards and 11 verification criteria)

The school met four of the four standards.

Code	Standards	Baseline	Endline	Comment(s)
4.1	The school has sufficient clinical sites needed to prepare students for competency.	Met	Met	The school has sufficient clinical sites (five clinical sites (one hospital, one health center and three clinics) needed to prepare students to competency in accordance with ICM guidelines.
4.2	The school has clinical practice sites that are accessible to students and teachers (commutable from school to clinical facility in accord with the schedule of clinical experiences).	Met	Met	The assessors interacted with two preceptors at two different locations, one CM on the OB ward at Martha Tubman Memorial Hospital and one RM at Gbarzon Health Center
4.3	The clinical practice site has sufficient supplies and other resources needed to train students for competency.	Not Met	Met	All of the sites visited reported having sufficient supplies for student practice and they model practice that are evidence-based and consistent with LBNM standards.
4.4	The clinical practice site models practice that is consistent with evidence-based best practices, including inter-professional education.	Not Met	Met	All of these preceptors have completed the preceptor orientation package preparing them for the role. All the sites visited reported that they have sufficient supplies for students' practice and the practice is consistent with evidence-based best practices.
Total Score:		50% (2 of 4)	100% (4 of 4)	

Curriculum (five standards and 15 verification criteria)

The school met five of five standards.

Code	Standards	Baseline	Endline	Comment(s)
5.1	The curriculum is aligned with national health priorities and has been endorsed by the ministry of health and the relevant regulatory and professional bodies.	Met	Met	The curriculum is aligned with national health priorities. There were lists of names and titles of key players from both relevant authorities and training institutions.
5.2	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).	Not Met	Met	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).
5.3	The curriculum content is current and evidence-based	Met	Met	The laboratory curriculum has its objectives matched to its content.
5.4	The curriculum has been reviewed and updated within the past five years	Met	Met	It was last reviewed and updated in September 2017.
5.5	Teachers have an active role in updating and revising the curriculum	Not Met	Met	The teachers interviewed said that they had an active role in the curriculum review process as a participant/reviewer in 2016 (draft developed) 2017(revision).
Total Score:		60% (3 of 5)	100% (5 of 5)	

Influential Factors (four standards and 15 verification criteria)

The school met four of the four standards.

Code	Standards	Baseline	Endline	Comment(s)
6.1	The country has quality standards for education of the specialty that address, at minimum, the domains of this framework.	Met	Met	These standards are set by the midwifery board (LNMB).
6.2	An accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework.	Met	Met	A midwifery education accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework and ICM educational standards;
6.3	The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).	Met	Met	Graduates must pass a state board exam in order to be issued licenses. The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).
6.4	The government (country or administrative district) has a committed budget for sustaining education programs in the specialty to meet current and anticipated workforce needs (not dependent on external support).	Met	Met	An influential body manages the operation of the school. Moreover, there is a budget for the school.
Total Score:		100%(4 of 4)	100%(4 of 4)	

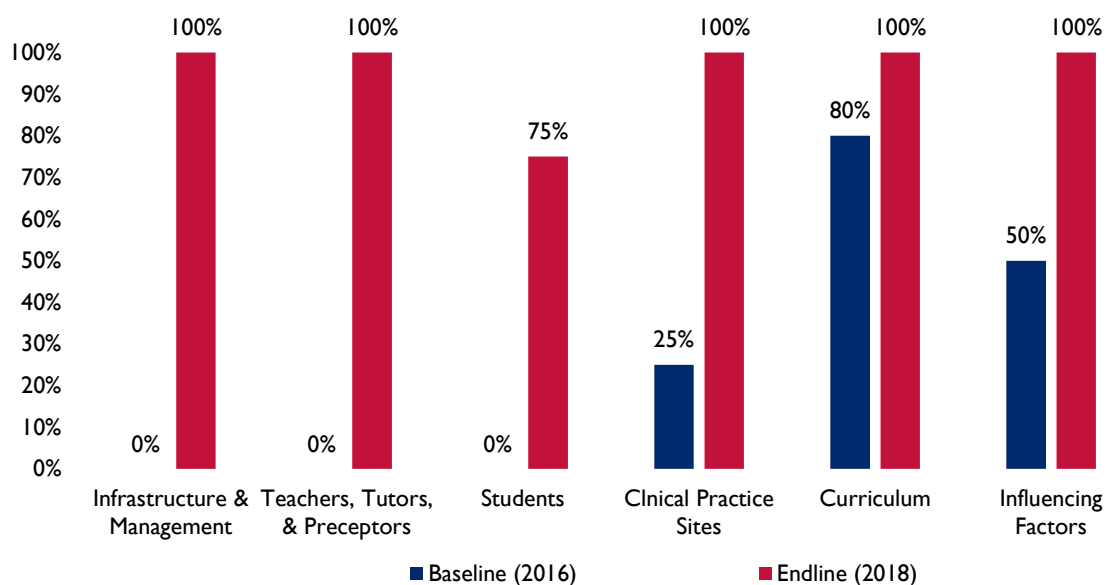
United Methodist University (UMU)

Summary

Table A8-A8 UMU Midwifery Component Scores

Rapid Assessment Component	Baseline		Endline	
	Achieved	Percent Score	Achieved	Percent Score
1. Infrastructure and Management	0 out of 6	0%	6 out of 6	100%
2. Teachers, Tutors and Preceptors	0 out of 7	0%	7 out of 7	100%
3. Students	0 out of 4	0%	3 out of 4	75%
4. Clinical Practice Sites	1 out of 4	25%	4 out of 4	100%
5. Curriculum	4 out of 5	80%	5 out of 5	100%
6. Influencing Factors	2 out of 4	50%	4 out of 4	100%
Total achieved	7 out of 30	23%	29 out of 30	97%

Figure A8-A8 UMU – Midwifery Baseline & Endline Results



UMU RM RAT Standards Met/Not Met

Infrastructure and Management (six standards and 29 verification criteria)

There are six standards in this area and all six were met.

Code	Standards	Baseline	Endline	Comment
I.1	The country has sufficient schools needed to produce the number of fully competent members of the specialties needed in the workforce.	Not Met	Met	At baseline, none of the six standards in this category was achieved/met. It was recorded during the endline (July 5 – 6, 2018) that this post basic midwifery program have 78 students (23 freshman, 31 junior, & 24 senior) across three section.
I.2	The program or school being assessed is led by an educator with appropriate clinical, administrative, academic and leadership experience.	Not Met	Met	The program is headed by a qualified administrator (RNM, BSN, MSN-Ed) who have over 10 years' experience in a school of nursing or midwifery and also over 5 years of clinical experience in midwifery.
I.3	The school being assessed has sufficient space needed to facilitate theoretical (classroom) learning needs of students.	Not Met	Met	The program have two classrooms that is rotationally used to facilitate theoretical learning needs of students.
I.4	The school has the text books and journals or library internet access to journals, and other library resources needed for existing students.	Not Met	Met	The school has textbooks and journals in the library that are recent with functional internet for students to do research; however, the library is not spatial enough to accommodate more students at one time.
I.5	The school has a functional clinical skills lab needed for practice and simulation, including inter-professional education.	Not Met	Met	The program also have a functional clinical skills lab needed for practice and simulation.
I.6	The school has a room to be use as computer lab that can take a sufficient number of functional computers and appropriately skilled teaching/support staff.	Not Met	Met	There are sufficient computers (24 desktops, 4 laptops) in the computer lab and teachers office for students and instructors research need.
Total Score:		0% (0 of 6)	100% (6 of 6)	

Teacher, Tutors and Preceptors (seven standards and 27 verification criteria)

All of the seven standards in this area were met.

Code	Standards	Baseline	Endline	Comment
2.1	The school has sufficient academic teachers to educate existing students in the academic/theory components of the curriculum (1:30 teacher-to-student ratio).	Not Met	Met	The program have enough qualified seven full-time and four part-time faculty members.
2.2	Teachers have completed a course preparing them for their teaching role	Not Met	Met	There has been refresher trainings for all of the instructors and administrator, which included LDHF, Preceptor Orientation Package, Simulation Llab Management, Faculty Development Program, Effective Teaching Skill, etc
2.3	Teachers have acquired and maintain their clinical competency.	Not Met	Met	Each of the teachers has 5–25 years of practice before assuming the teaching role and they are still practicing to date. They last attended a clinical update course between 2002 and 2018.
2.4	Teachers have the resources that they need to be effective.	Not Met	Met	The teachers have all the resources like desktop computers, printer, photocopiers, assigned textbooks, and adequate office space to effectively do their work.
2.5	Teachers receive a salary at least equal to practitioners of the specialty who have at minimum 1 full year of clinical practice experience	Not Met	Met	There is no salary standard or scale used to pay faculty according to qualifications. There are designated preceptors to mentor and coach students during clinical rotations.
2.6	The education system has clinicians prepared for the role of clinical preceptor (clinical teacher).	Not Met	Met	In the Midwifery program, there is one clinical supervisor for every four students at all of the clinical sites (and all have had training as a clinical supervisor. Serving as a clinical supervisor is based on qualification and years of experience in the specialty.
2.7	The education system has clinicians supported in the role of clinical preceptor (clinical teacher).	Not Met	Met	The preceptors in the midwifery program received support in the role from the program. And when the students are during clinical, the workload is adjusted for the preceptors, and workload may reduce or increase depending on status of students. There is now a signed MOU between school administration and the primary clinical site.
Total Score:		0%(0 of 7)	100% (7 of 7)	

Students (four standards and 14 verification criteria)

The program met three of the four standards.

Code	Standards	Baseline	Endline	Comment(s)
3.1	The country (and this school) have sufficiently qualified applicants for the specialty education programs (2:1 qualified applicant/enrollment).	Not Met	Met	The program have seventy-five midwifery students at the time of the endline assessment (July 2018) and all qualified applicants were enrolled. The enrollment criteria into the midwifery program is high school graduate with WAEC Certificate, transcript, pass entrance exams, interview, and letter of recommendation. The school have sufficient qualified applicant for the program being assessed and it is accessible to students. All ten students interviewed said that they are enthusiastic about the midwifery program.
3.2	The school is located in communities accessible to targeted students (commutable from residence to school on a daily basis).	Not Met	Met	The school do not have a dormitory that host all of its students within the proximity of the campus.
3.3	. The majority of students enrolled are enthusiastic about entering the specialty.	Not Met	Met	The students interviewed said they are enthusiastic about the specialty and that they do not prefer any other profession.
3.4	The country and/or school has student selection criteria that account for anticipated deployment and retention.	Not Met	Not Met	According to the administrator, there is consideration given based on the demand for the profession and requests by institutions in underserved locations.
Total Score:		0% (0 of 4)	75% (3 of 4)	

Clinical Practice Sites (four standards and I I verification criteria)

The school met four of the four standards. The school has three clinical sites to prepare students to competency in accordance with ICM guidelines. All of these preceptors have completed the preceptor orientation package preparing them for the role. All the sites visited reported that they have sufficient supplies for students' practice and the practice is consistent with evidence-based best practices.

Code	Standards	Baseline	Endline	Comment(s)
4.1	The school has sufficient clinical sites needed to prepare students for competency.	Not Met	Met	The school has three clinical sites to prepare students to competency in accordance with ICM guidelines.
4.2	The school has clinical practice sites that are accessible to students and teachers (commutable from school to clinical facility in accord with the schedule of clinical experiences).	Not Met	Met	One of the clinical sites, all the clinical sites are accessible to students and the school have vehicle to transport students to these sites
4.3	The clinical practice site has sufficient supplies and other resources needed to train students for competency.	Not Met	Met	All of the sites visited reported having sufficient supplies for student practice and they model practice that are evidence-based and consistent with LBNM standards.
4.4	The clinical practice site models practice that is consistent with evidence-based best practices, including inter-professional education.	Met	Met	There were clinical practice guidelines (procedural manual and job aides) available for assessors to see.
Total Score:		25% (1 of 4)	100% (4 of 4)	

Curriculum (five standards and 15 verification criteria)

The five standards met were as follows:

Code	Standards	Baseline	Endline	Comment(s)
5.1	The curriculum is aligned with national health priorities and has been endorsed by the ministry of health and the relevant regulatory and professional bodies.	Met	Met	The curriculum is aligned with national health priorities. There were lists of names and titles of key players from both relevant authorities and training institutions.
5.2	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).	Met	Met	The curriculum is competency-based (contains varied teaching approaches, simulation, clinical practice opportunity, assessment of measurable clinical behaviors).
5.3	The curriculum content is current and evidence-based	Met	Met	The laboratory curriculum has its objectives matched to its content.
5.4	The curriculum has been reviewed and updated within the past five years	Met	Met	It was last reviewed and updated in September 2017.
5.5	Teachers have an active role in updating and revising the curriculum	Not Met	Met	The teachers interviewed said that they had an active role in the curriculum review process as a participant/reviewer in 2016 (draft developed) 2017(revision).
Total Score:		80% (4 of 5)	100% (5 of 5)	

Influential Factors (four standards and 15 verification criteria)

The school met four of the four standards.

Code	Standards	Baseline	Endline	Comment(s)
6.1	The country has quality standards for education of the specialty that address, at minimum, the domains of this framework.	Not Met	Met	These standards are set by the midwifery board (LNMB). A midwifery education accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework and ICM educational standards;
6.2	An accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework.	Met	Met	A midwifery education accreditation system is operative in the country that reviews and documents educational quality at least every five years addressing, at minimum, the domains of this framework and ICM educational standards;
6.3	The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).	Met	Met	Graduates must pass a state board exam in order to be issued licenses. The country has a mechanism for independently assessing the competency of graduates prior to deployment within the health system (licensing exam).
6.4	The government (country or administrative district) has a committed budget for sustaining education programs in the specialty to meet current and anticipated workforce needs (not dependent on external support).	Not Met	Met	An influential body manages the operation of the school. Moreover, there is a budget for the school.
Total Score:		50% (2 out of 4)	100% (4 out of 4)	

Appendix C: Results from Pre-Service Education Standards Tool by PSEI

Esther Bacon School of Nursing and Midwifery (EBSNM), Zorzor, Lofa County

Average PSE Standards for EBSNM		Baseline	Midline	Endline
1	Clinical Sites	40%	100%	60%
2	Curriculum	100%	100%	100%
3	Faculty	57%	71%	57%
4	School Infrastructure And Management	50%	67%	72%
5	Students	71%	100%	71%

Area: student		Period		
Performance standards		Baseline	Midline	Baseline
1.	There are records of the number and percentage of newly trained health workers who are granted licensure or certification status.	1	1	1
2.	School entry requirements are sufficiently rigorous.	1	1	1
3.	School has transparent student admission policy that specifies selection criteria and recruitment strategies.	0	0	0
4.	Selection criteria are appropriate and appropriately applied.	1	1	1
5.	Student academic policies exist and are applied.	0	1	1
6.	Mechanisms exist for student participation in program input or committees.	1	1	1
7.	Graduates meet all curricular requirements.	1	1	0
TOTAL STANDARDS OBSERVED		7	7	7
TOTAL STANDARDS ACHIEVED		5	7	5
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)		71%	100%	71%

Area: clinical site				
Performance standards		Baseline	Midline	Endline
Environment				
1.	The number, availability and variety of clinical practice sites meets requirements of curriculum.	0	1	0
2.	Clinical volume and practice provides students with sufficient practice to meet clinical objectives.	1	1	1
3.	The school has an agreement with the clinical practice sites that allows student learning. (See Reference Performance Standards—School Infrastructure and Management).	1	1	1
4.	The clinical practice sites are prepared for student teaching.	0	1	1
5.	Tutors and preceptors/clinical instructors regularly communicate to support students' clinical education.	0	1	0

Area: clinical site				
Performance standards		Baseline	Midline	Endline
		TOTAL STANDARDS		
TOTAL STANDARDS OBSERVED		5	5	5
TOTAL STANDARDS ACHIEVED		2	5	3
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)		40%	100%	60%

Area: curriculum				
Performance standards		Baseline	Midline	Endline
1. The curriculum is based on international or national core competencies for the cadre.				
2. The curriculum adheres to and addresses the relevant code of ethics and scope of practice.				
3. The sequence and content of the curriculum enables the student to achieve the core competencies for their cadre.				
4. Curriculum meets national and international educational criteria, as well as professional and regulatory requirements for practice.				
5. The theory and practice ratio is consistent with international requirements.				
6. Evidence-based approaches for teaching and learning are used.				
7. Programs offer multidisciplinary content and learning experiences.				
8. Faculty use valid and reliable formative and summative assessments of learner progress for: knowledge, behaviors, psychomotor skills, clinical decision-making and critical thinking and communication skills.				
9. Means and criteria for assessment of student progress, including identifying learning difficulties, are written and shared with students.				
10. Regular review of curriculum as part of quality improvement, including input from students, graduates, clients, and other stakeholders, occurs.				
TOTAL STANDARDS OBSERVED		10	10	10
TOTAL STANDARDS ACHIEVED		10	10	10
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)		100%	100%	100%

Area: faculty				
Performance standards		Baseline	Midline	Endline
1. Faculty has the required qualifications.				
2. Guest teachers are appropriately selected.				
3. Preceptors/clinical instructors have the required qualifications.				0
4. Preceptors/clinical instructors have the necessary resources to effectively guide students in clinical practice.		0		
5. Faculty and preceptors/clinical instructors regularly communicate to support students' clinical education.		0		0

Area: faculty				
Performance standards		Baseline	Midline	Endline
6.	Ratio of students to preceptors/clinical instructors complies with requirements of regulatory body.	1	1	1
7.	A faculty performance evaluation system is utilized.	0	1	0
TOTAL STANDARDS OBSERVED		7	7	7
TOTAL STANDARDS ACHIEVED		4	5	4
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)		57%	71%	57%

Area: school infrastructure and management				
Performance standards		Baseline	Midline	Endline
Infrastructure				
1.	Physical infrastructure of school is adequate to meet learning needs.	1	1	1
2.	There are adequate human resources, including support staff, to support theoretical and clinical teaching (ICM, WHO).	1	1	1
3.	Sufficient teaching and learning resources to meet program needs are available.	0	1	1
4.	Policies to address student and faculty safety and well-being in teaching and clinical environments exist.	0	0	0
5.	A policy and system are in place to validate updated clinical and educational expertise and competency of faculty.	1	0	1
6.	A system is in place to provide opportunities for faculty for continuing professional development, scholarship, and professional activities.	0	0	0
7.	The school has an agreement with the clinical practice sites that allows students' learning.	1	1	1
8.	Periodic external review of program effectiveness takes place.	0	0	0
9.	The school has a budget and budget control that meets program requirements.	0	0	1
Governance				
10.	The educational and clinical outcomes of the education program are articulated.	1	1	1
11.	The head of the program is qualified in the related cadre and has experience in management or administration.	1	0	1
12.	The faculty is responsible and has autonomy to implement the curriculum.	0	1	1
13.	There is a system of formative and summative assessment of the program's educational objectives and outcomes.	0	1	0
14.	Role descriptions exist for tutors and preceptors/clinical instructors.	0	1	1
15.	The school is part of a higher education institution that meets internal standards and national accreditation or inspection criteria.	1	1	1
16.	Schools are recognized or accredited by credible, relevant regulatory bodies in their country and re-accredited as required.	1	1	1

Area: school infrastructure and management			
Performance standards	Baseline	Midline	Endline
17. Criteria are in place for clinical practice components, academic content, and demonstration of learning outcomes that comply with accreditation standards.	1	1	1
18. Student retention systems are in place.	0	1	0
TOTAL STANDARDS OBSERVED	18	18	18
TOTAL STANDARDS ACHIEVED	9	12	13
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	50%	67%	72%

Dianna K. Isaacson Midwifery Training Program (Southeastern Region)

Average PSE Standards for DKISIM		Baseline	Midline	Endline
1.	Clinical Sites	40%	40%	100%
2.	Curriculum	100%	100%	100%
3.	Faculty	29%	57%	57%
4.	School Infrastructure And Management	44%	67%	72%
5.	Students	71%	29%	100%

Area: student		Period		
Performance standards		Baseline	Midline	Baseline
1.	There are records of the number and percentage of newly trained health workers who are granted licensure or certification status.	1	0	1
2.	School entry requirements are sufficiently rigorous.	1	1	1
3.	School has transparent student admission policy that specifies selection criteria and recruitment strategies.	1	0	1
4.	Selection criteria are appropriate and appropriately applied.	0	1	1
5.	Student academic policies exist and are applied.	1	0	1
6.	Mechanisms exist for student participation in program input or committees.	1	0	1
7.	Graduates meet all curricular requirements.	0	0	1
TOTAL STANDARDS OBSERVED		7	7	7
TOTAL STANDARDS ACHIEVED		5	2	7
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)		71%	29%	100%

Area: clinical site			
Performance standards	Baseline	Midline	Baseline
Environment			
1. The number, availability and variety of clinical practice sites meets requirements of curriculum.	0	0	1
2. Clinical volume and practice provides students with sufficient practice to meet clinical objectives.	1	1	1
3. The school has an agreement with the clinical practice sites that allows student learning. (See Reference Performance Standards—School Infrastructure and Management).	0	1	1
4. The clinical practice sites are prepared for student teaching.	1	0	1
5. Tutors and preceptors/clinical instructors regularly communicate to support students' clinical education.	1	0	1
TOTAL STANDARDS OBSERVED	5	5	5
TOTAL STANDARDS ACHIEVED	2	2	5
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	40%	40%	100%

Area: curriculum			
Performance standards	Baseline	Midline	Endline
1. The curriculum is based on international or national core competencies for the cadre.	1	1	1
2. The curriculum adheres to and addresses the relevant code of ethics and scope of practice.	1	1	1
3. The sequence and content of the curriculum enables the student to achieve the core competencies for their cadre.	1	1	1
4. Curriculum meets national and international educational criteria, as well as professional and regulatory requirements for practice.	1	1	1
5. The theory and practice ratio is consistent with international requirements.	1	1	1
6. Evidence-based approaches for teaching and learning are used.	1	1	1
7. Programs offer multidisciplinary content and learning experiences.	1	1	1
8. Faculty use valid and reliable formative and summative assessments of learner progress for: knowledge, behaviors, psychomotor skills, clinical decision-making and critical thinking and communication skills.	1	1	1
9. Means and criteria for assessment of student progress, including identifying learning difficulties, are written and shared with students.	1	1	1
10. Regular review of curriculum as part of quality improvement, including input from students, graduates, clients, and other stakeholders, occurs.	1	1	1
TOTAL STANDARDS OBSERVED	10	10	10
TOTAL STANDARDS ACHIEVED	10	10	10
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	100%	100%	100%

Area: faculty			
Performance standards	Baseline	Midline	Endline
1. Faculty has the required qualifications.	1	1	0
2. Guest teachers are appropriately selected.	1	1	0
3. Preceptors/clinical instructors have the required qualifications.	0	1	1
4. Preceptors/clinical instructors have the necessary resources to effectively guide students in clinical practice.	0	0	1
5. Faculty and preceptors/clinical instructors regularly communicate to support students' clinical education.	0	0	0
6. Ratio of students to preceptors/clinical instructors complies with requirements of regulatory body.	0	1	1
7. A faculty performance evaluation system is utilized.	0	0	1
TOTAL STANDARDS OBSERVED	7	7	7
TOTAL STANDARDS ACHIEVED	2	4	4
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	29%	57%	57%

Area: school infrastructure and management			
Performance standards	Baseline	Midline	Endline
Infrastructure			
1. Physical infrastructure of school is adequate to meet learning needs.	0	0	1
2. There are adequate human resources, including support staff, to support theoretical and clinical teaching (ICM, WHO).	1	1	1
3. Sufficient teaching and learning resources to meet program needs are available.	0	0	1
4. Policies to address student and faculty safety and well-being in teaching and clinical environments exist.	0	0	1
5. A policy and system are in place to validate updated clinical and educational expertise and competency of faculty.	0	1	1
6. A system is in place to provide opportunities for faculty for continuing professional development, scholarship, and professional activities.	0	0	0
7. The school has an agreement with the clinical practice sites that allows students' learning.	0	1	1
8. Periodic external review of program effectiveness takes place.	0	0	0
9. The school has a budget and budget control that meets program requirements.	0	0	1
Governance			
10. The educational and clinical outcomes of the education program are articulated.	1	1	1
11. The head of the program is qualified in the related cadre and has experience in management or administration.	1	1	1
12. The faculty is responsible and has autonomy to implement the curriculum.	1	1	1
13. There is a system of formative and summative assessment of the program's educational objectives and outcomes.	0	1	0

Area: school infrastructure and management			
Performance standards	Baseline	Midline	Endline
14. Role descriptions exist for tutors and preceptors/clinical instructors.	1	1	1
15. The school is part of a higher education institution that meets internal standards and national accreditation or inspection criteria.	0	1	1
16. Schools are recognized or accredited by credible, relevant regulatory bodies in their country and re-accredited as required.	1	1	1
17. Criteria are in place for clinical practice components, academic content, and demonstration of learning outcomes that comply with accreditation standards.	1	1	1
18. Student retention systems are in place.	1	1	0
TOTAL STANDARDS OBSERVED	18	18	18
TOTAL STANDARDS ACHIEVED	8	12	13
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	44%	67%	72%

Phebe Training Program (PTP), Suakoko Bong County

Average PSE Standards for PTP		Baseline	Midline	Endline
1	Clinical Sites	40%	100%	80%
2	Curriculum	100%	100%	90%
3	Faculty	71%	100%	100%
4	School Infrastructure And Management	50%	78%	94%
5	Students	67%%	71%	86%

Area: student		Period		
Performance standards		Baseline	Midline	Baseline
1.	There are records of the number and percentage of newly trained health workers who are granted licensure or certification status.	1	0	1
2.	School entry requirements are sufficiently rigorous.	1	1	1
3.	School has transparent student admission policy that specifies selection criteria and recruitment strategies.	0	1	0
4.	Selection criteria are appropriate and appropriately applied.	1	1	1
5.	Student academic policies exist and are applied.	0	0	1
6.	Mechanisms exist for student participation in program input or committees.	1	1	1
7.	Graduates meet all curricular requirements.	1	1	1
TOTAL STANDARDS OBSERVED		7	7	7
TOTAL STANDARDS ACHIEVED		4	5	6
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)		67%%	71%	86%

Area: clinical site			
Performance standards	Baseline	Midline	Endline
Environment			
1. The number, availability and variety of clinical practice sites meets requirements of curriculum.	0	1	1
2. Clinical volume and practice provides students with sufficient practice to meet clinical objectives.	1	1	1
3. The school has an agreement with the clinical practice sites that allows student learning. (See Reference Performance Standards—School Infrastructure and Management).	1	1	0
4. The clinical practice sites are prepared for student teaching.	0	1	1
5. Tutors and preceptors/clinical instructors regularly communicate to support students' clinical education.	0	1	1
TOTAL STANDARDS OBSERVED	5	5	5
TOTAL STANDARDS ACHIEVED	2	5	4
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	40%	100%	80%

Area: curriculum			
Performance standards	Baseline	Midline	Endline
1. The curriculum is based on international or national core competencies for the cadre.	1	1	1
2. The curriculum adheres to and addresses the relevant code of ethics and scope of practice.	1	1	1
3. The sequence and content of the curriculum enables the student to achieve the core competencies for their cadre.	1	1	1
4. Curriculum meets national and international educational criteria, as well as professional and regulatory requirements for practice.	1	1	1
5. The theory and practice ratio is consistent with international requirements.	1	1	1
6. Evidence-based approaches for teaching and learning are used.	1	1	1
7. Programs offer multidisciplinary content and learning experiences.	1	1	1
8. Faculty use valid and reliable formative and summative assessments of learner progress for: knowledge, behaviors, psychomotor skills, clinical decision-making and critical thinking and communication skills.	1	1	1
9. Means and criteria for assessment of student progress, including identifying learning difficulties, are written and shared with students.	1	1	0
10. Regular review of curriculum as part of quality improvement, including input from students, graduates, clients, and other stakeholders, occurs.	1	1	1
TOTAL STANDARDS OBSERVED	10	10	10
TOTAL STANDARDS ACHIEVED	10	10	9
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	100%	100%	90%

Area: faculty			
Performance standards	Baseline	Midline	Endline
1. Faculty has the required qualifications.	0	I	I
2. Guest teachers are appropriately selected.	I	I	I
3. Preceptors/clinical instructors have the required qualifications.	I	I	I
4. Preceptors/clinical instructors have the necessary resources to effectively guide students in clinical practice.	I	I	I
5. Faculty and preceptors/clinical instructors regularly communicate to support students' clinical education.	0	I	I
6. Ratio of students to preceptors/clinical instructors complies with requirements of regulatory body.	I	I	I
7. A faculty performance evaluation system is utilized.	I	I	I
TOTAL STANDARDS OBSERVED	7	7	7
TOTAL STANDARDS ACHIEVED	5	7	7
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	71%	100%	100%

Area: school infrastructure and management			
Performance standards	Baseline	Midline	Endline
Infrastructure			
1. Physical infrastructure of school is adequate to meet learning needs.	0	0	0
2. There are adequate human resources, including support staff, to support theoretical and clinical teaching (ICM, WHO).	I	I	I
3. Sufficient teaching and learning resources to meet program needs are available.	0	I	I
4. Policies to address student and faculty safety and well-being in teaching and clinical environments exist.	0	I	I
5. A policy and system are in place to validate updated clinical and educational expertise and competency of faculty.	0	0	I
6. A system is in place to provide opportunities for faculty for continuing professional development, scholarship, and professional activities.	0	0	I
7. The school has an agreement with the clinical practice sites that allows students' learning.	I	I	I
8. Periodic external review of program effectiveness takes place.	I	I	I
9. The school has a budget and budget control that meets program requirements.	0	0	I
Governance			
10. The educational and clinical outcomes of the education program are articulated.	I	I	I
11. The head of the program is qualified in the related cadre and has experience in management or administration.	I	I	I
12. The faculty is responsible and has autonomy to implement the curriculum.	I	I	I
13. There is a system of formative and summative assessment of the program's educational objectives and outcomes.	I	I	I

Area: school infrastructure and management			
Performance standards	Baseline	Midline	Endline
14. Role descriptions exist for tutors and preceptors/clinical instructors.	1	1	1
15. The school is part of a higher education institution that meets internal standards and national accreditation or inspection criteria.	1	1	1
16. Schools are recognized or accredited by credible, relevant regulatory bodies in their country and re-accredited as required.	1	1	1
17. Criteria are in place for clinical practice components, academic content, and demonstration of learning outcomes that comply with accreditation standards.	0	1	1
18. Student retention systems are in place.	0	1	1
TOTAL STANDARDS OBSERVED	18	18	18
TOTAL STANDARDS ACHIEVED	9	14	17
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	50%	78%	94%

Tubman National Institute of Medical Arts (TNIMA), Monrovia, Montserrado

Average PSE Standards for TNIMA		Baseline	Midline	Endline
1	Clinical Sites	100%	60%	100%
2	Curriculum	100%	100%	100%
3	Faculty	86%	71%	100%
4	School Infrastructure And Management	61%	72%	89%
5	Students	100%	100%	100%

Area: student		Period		
Performance standards		Baseline	Midline	Baseline
1.	There are records of the number and percentage of newly trained health workers who are granted licensure or certification status.	1	1	1
2.	School entry requirements are sufficiently rigorous.	1	1	1
3.	School has transparent student admission policy that specifies selection criteria and recruitment strategies.	1	1	1
4.	Selection criteria are appropriate and appropriately applied.	1	1	1
5.	Student academic policies exist and are applied.	1	1	1
6.	Mechanisms exist for student participation in program input or committees.	1	0	1
7.	Graduates meet all curricular requirements.	1	1	1
TOTAL STANDARDS OBSERVED		7	7	7
TOTAL STANDARDS ACHIEVED		7	6	7
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)		100%	100%	100%

Area: clinical site			
Performance standards	Baseline	Midline	Endline
Environment			
1. The number, availability and variety of clinical practice sites meets requirements of curriculum.	I	0	I
2. Clinical volume and practice provides students with sufficient practice to meet clinical objectives.	I	I	I
3. The school has an agreement with the clinical practice sites that allows student learning. (See Reference Performance Standards—School Infrastructure and Management).	I	I	I
4. The clinical practice sites are prepared for student teaching.	I	0	I
5. Tutors and preceptors/clinical instructors regularly communicate to support students' clinical education.	I	I	I
TOTAL STANDARDS OBSERVED	5	5	5
TOTAL STANDARDS ACHIEVED	5	3	5
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	100%	60%	100%

Area: curriculum			
Performance standards	Baseline	Midline	Endline
1. The curriculum is based on international or national core competencies for the cadre.	I	I	I
2. The curriculum adheres to and addresses the relevant code of ethics and scope of practice.	I	I	I
3. The sequence and content of the curriculum enables the student to achieve the core competencies for their cadre.	I	I	I
4. Curriculum meets national and international educational criteria, as well as professional and regulatory requirements for practice.	I	I	I
5. The theory and practice ratio is consistent with international requirements.	I	I	I
6. Evidence-based approaches for teaching and learning are used.	I	I	I
7. Programs offer multidisciplinary content and learning experiences.	I	I	I
8. Faculty use valid and reliable formative and summative assessments of learner progress for: knowledge, behaviors, psychomotor skills, clinical decision-making and critical thinking and communication skills.	I	I	I
9. Means and criteria for assessment of student progress, including identifying learning difficulties, are written and shared with students.	I	I	I
10. Regular review of curriculum as part of quality improvement, including input from students, graduates, clients, and other stakeholders, occurs.	I	I	I
TOTAL STANDARDS OBSERVED	10	10	10
TOTAL STANDARDS ACHIEVED	10	10	10
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	100%	100%	100%

Area: faculty			
Performance standards	Baseline	Midline	Endline
1. Faculty has the required qualifications.	1	1	1
2. Guest teachers are appropriately selected.	1	1	1
3. Preceptors/clinical instructors have the required qualifications.	1	1	1
4. Preceptors/clinical instructors have the necessary resources to effectively guide students in clinical practice.	1	0	1
5. Faculty and preceptors/clinical instructors regularly communicate to support students' clinical education.	0	1	1
6. Ratio of students to preceptors/clinical instructors complies with requirements of regulatory body.	1	1	1
7. A faculty performance evaluation system is utilized.	1	0	1
TOTAL STANDARDS OBSERVED	7	7	7
TOTAL STANDARDS ACHIEVED	6	5	7
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	86%	71%	100%

Area: school infrastructure and management			
Performance standards	Baseline	Midline	Endline
Infrastructure			
1. Physical infrastructure of school is adequate to meet learning needs.	0	0	1
2. There are adequate human resources, including support staff, to support theoretical and clinical teaching (ICM, WHO).	1	1	1
3. Sufficient teaching and learning resources to meet program needs are available.	0	0	1
4. Policies to address student and faculty safety and well-being in teaching and clinical environments exist.	1	0	0
5. A policy and system are in place to validate updated clinical and educational expertise and competency of faculty.	1	1	1
6. A system is in place to provide opportunities for faculty for continuing professional development, scholarship, and professional activities.	1	1	1
7. The school has an agreement with the clinical practice sites that allows students' learning.	1	1	1
8. Periodic external review of program effectiveness takes place.	0	0	0
9. The school has a budget and budget control that meets program requirements.	0	0	1
Governance			
10. The educational and clinical outcomes of the education program are articulated.	0	1	1
11. The head of the program is qualified in the related cadre and has experience in management or administration.	0	1	1
12. The faculty is responsible and has autonomy to implement the curriculum.	1	1	1
13. There is a system of formative and summative assessment of the program's educational objectives and outcomes.	1	1	1

Area: school infrastructure and management			
Performance standards	Baseline	Midline	Endline
14. Role descriptions exist for tutors and preceptors/clinical instructors.	1	1	1
15. The school is part of a higher education institution that meets internal standards and national accreditation or inspection criteria.	0	1	1
16. Schools are recognized or accredited by credible, relevant regulatory bodies in their country and re-accredited as required.	1	1	1
17. Criteria are in place for clinical practice components, academic content, and demonstration of learning outcomes that comply with accreditation standards.	1	1	1
18. Student retention systems are in place.	1	1	1
TOTAL STANDARDS OBSERVED	18	18	18
TOTAL STANDARDS ACHIEVED	11	13	16
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	61%	72%	89%

United Methodist University (UMU), Monrovia, Montserrado

Average PSE Standards for UMU		Baseline	Midline	Endline
1.	Clinical Sites	60%	40%	80%
2.	Curriculum	100%	100%	100%
3.	Faculty	29%	86%	57%
4.	School Infrastructure And Management	44%	33%	72%
5.	Students	67%	86%	57%

Area: student		Period		
Performance standards		Baseline	Midline	Baseline
1.	There are records of the number and percentage of newly trained health workers who are granted licensure or certification status.	1	1	0
2.	School entry requirements are sufficiently rigorous.	1	1	0
3.	School has transparent student admission policy that specifies selection criteria and recruitment strategies.	0	0	1
4.	Selection criteria are appropriate and appropriately applied.	1	1	0
5.	Student academic policies exist and are applied.	0	0	1
6.	Mechanisms exist for student participation in program input or committees.	0	1	0
7.	Graduates meet all curricular requirements.	0	1	0
TOTAL STANDARDS OBSERVED		7	7	7
TOTAL STANDARDS ACHIEVED		4	5	4
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)		67%	86%	57%

Area: clinical site			
Performance standards	Baseline	Midline	Endline
Environment			
1. The number, availability and variety of clinical practice sites meets requirements of curriculum.	0	1	1
2. Clinical volume and practice provides students with sufficient practice to meet clinical objectives.	0	1	1
3. The school has an agreement with the clinical practice sites that allows student learning. (See Reference Performance Standards—School Infrastructure and Management).	1	0	0
4. The clinical practice sites are prepared for student teaching.	1	0	1
5. Tutors and preceptors/clinical instructors regularly communicate to support students' clinical education.	1	0	1
TOTAL STANDARDS OBSERVED	5	5	5
TOTAL STANDARDS ACHIEVED	3	2	4
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	60%	40%	80%

Area: curriculum			
Performance standards	Baseline	Midline	Endline
1. The curriculum is based on international or national core competencies for the cadre.	1	1	1
2. The curriculum adheres to and addresses the relevant code of ethics and scope of practice.	1	1	1
3. The sequence and content of the curriculum enables the student to achieve the core competencies for their cadre.	1	1	1
4. Curriculum meets national and international educational criteria, as well as professional and regulatory requirements for practice.	1	1	1
5. The theory and practice ratio is consistent with international requirements.	1	1	1
6. Evidence-based approaches for teaching and learning are used.	1	1	1
7. Programs offer multidisciplinary content and learning experiences.	1	1	1
8. Faculty use valid and reliable formative and summative assessments of learner progress for: knowledge, behaviors, psychomotor skills, clinical decision-making and critical thinking and communication skills.	1	1	1
9. Means and criteria for assessment of student progress, including identifying learning difficulties, are written and shared with students.	1	1	1
10. Regular review of curriculum as part of quality improvement, including input from students, graduates, clients, and other stakeholders, occurs.	1	1	1
TOTAL STANDARDS OBSERVED	10	10	10
TOTAL STANDARDS ACHIEVED	10	10	10
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	100%	100%	100%

Area: faculty			
Performance standards	Baseline	Midline	Endline
1. Faculty has the required qualifications.	0	1	1
2. Guest teachers are appropriately selected.	1	1	1
3. Preceptors/clinical instructors have the required qualifications.	1	1	0
4. Preceptors/clinical instructors have the necessary resources to effectively guide students in clinical practice.	0	1	1
5. Faculty and preceptors/clinical instructors regularly communicate to support students' clinical education.	0	1	0
6. Ratio of students to preceptors/clinical instructors complies with requirements of regulatory body.	0	1	1
7. A faculty performance evaluation system is utilized.	0	0	0
TOTAL STANDARDS OBSERVED	7	7	7
TOTAL STANDARDS ACHIEVED	2	6	4
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	29%	86%	57%

Area: school infrastructure and management			
Performance standards	Baseline	Midline	Endline
Infrastructure			
1. Physical infrastructure of school is adequate to meet learning needs.	0	0	1
2. There are adequate human resources, including support staff, to support theoretical and clinical teaching (ICM, WHO).	1	1	1
3. Sufficient teaching and learning resources to meet program needs are available.	0	0	1
4. Policies to address student and faculty safety and well-being in teaching and clinical environments exist.	0	0	0
5. A policy and system are in place to validate updated clinical and educational expertise and competency of faculty.	0	1	1
6. A system is in place to provide opportunities for faculty for continuing professional development, scholarship, and professional activities.	0	0	0
7. The school has an agreement with the clinical practice sites that allows students' learning.	1	0	1
8. Periodic external review of program effectiveness takes place.	0	0	0
9. The school has a budget and budget control that meets program requirements.	0	0	1
Governance			
10. The educational and clinical outcomes of the education program are articulated.	0	0	1
11. The head of the program is qualified in the related cadre and has experience in management or administration.	1	1	1
12. The faculty is responsible and has autonomy to implement the curriculum.	1	1	1
13. There is a system of formative and summative assessment of the program's educational objectives and outcomes.	1	0	0

Area: school infrastructure and management			
Performance standards	Baseline	Midline	Endline
14. Role descriptions exist for tutors and preceptors/clinical instructors.	0	0	1
15. The school is part of a higher education institution that meets internal standards and national accreditation or inspection criteria.	1	1	1
16. Schools are recognized or accredited by credible, relevant regulatory bodies in their country and re-accredited as required.	1	1	1
17. Criteria are in place for clinical practice components, academic content, and demonstration of learning outcomes that comply with accreditation standards.	0	1	1
18. Student retention systems are in place.	0	1	0
TOTAL STANDARDS OBSERVED	18	18	18
TOTAL STANDARDS ACHIEVED	8	6	13
PERCENT ACHIEVEMENT (STANDARDS ACHIEVED/STANDARDS OBSERVED)	44%	33%	72%

