CAPACITY KENYA

TECHNICAL BRIEF
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KITUI CENTER OF EXCELLENCE IN REPRODUCTIVE HEALTH AND FAMILY PLANNING

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BACKGROUND

Kenya has a fertility rate of 4.6 children per woman, with an unacceptably high number of 488 in every 100,000 mothers dying from birth related complications (Kenya Demographic and Health Survey 2008-09), most of which, result from unplanned pregnancies. Consistent with global efforts, Millennium Development Goal 5 strives to reduce the maternal mortality ratio by three-quarters between 1990 and 2015. A 2010 policy brief by the National Council for Population and Development (NCPD), reports that one in every four women prefers to either not have more children or delay the birth of their next child. These same women do not use any family planning methods and are consequently exposed to increased number of unexpected pregnancies; a factor indicating an unmet need in family planning programs. In a more recent 2012 brief, the NCPD puts Kenya's unmet need at 43 percent.

PURPOSE

The United States President's Emergency Plan for AIDS Relief through the United States Agency for International Development (USAID) has supported IntraHealth International-led Capacity Kenya Project to strengthen health workforce policy and planning, build the knowledge and skills of health workers, and improve health worker productivity and retention.

IntraHealth partnered with the African Medical and Research Foundation (AMREF) to strengthen training systems and improve family planning and reproductive health (FP/RH) service delivery. The design of the partnership is to support Kenya's health workforce in obtaining the requisite competencies necessary to deliver the Kenya Essential Package for Health, with a strong focus on family planning and reproductive health. Also critical to meeting millennium development goal is the need to improve the skills levels and the number of family planning service providers at the preservice level of training. In line with these aspirations, the Capacity Kenya Project established a Center of Excellence (COE) for FP/RH training at the Kenya Medical Training College (KMTC) Kitui campus to strengthen FP/RH services and enhance the quality and methodology of training for nursing and clinical medicine students in the public sector.

APPROACH

The methodology of strengthening FP/RH services focused on effective use of information and communication technology teaching resources using an eLearning maturity model integrated with six pillars of effectiveness at the KMTC Kitui campus. The pillars are: (1) organizational alignment in planning; (2) learning design and development; (3) provision of adequate resources; (4) learning administration; (5) learning delivery; and, (6) provision of operational support (AMREF 2013).

Capacity Kenya conducted assessments and supported review of the RH/FP module in the curriculum for diploma certification as a requirement for Kenya Registered Community Health Nurse. The assessment sought to determine faculty needs, and evaluate institutional effectiveness. The identified gaps enabled Capacity Kenya and KMTC to align and establish a steering committee to oversee implementation of the faculty action plans. In addition, the project provided both program and infrastructural support for the establishment of the COE.

Ministry of Health

SUPPORTING THE HEALTH WORKFORCE

Because Health Workers Save Lives.

Faculty mLearning training at the KMTC Kitui COE

Program level support

IntraHealth, through the Capacity Kenya Project, introduced the FP/RH eLearning modules as an innovative teaching methodology for the faculty and utilized its performance improvement approach to improve teaching and clinical supervisory skills. The faculty and the MOH Division of Reproductive Health, together reviewed the RH curriculum for eLearning compatibility. The project converted the content into eLearning modules, then later introduced mobile learning (mLearning) and provided mobile phones to faculty and students to enhance accessibility of FP/RH content. mLearning complemented training, especially during students' rural attachment easing their access to training content through mobile phones. Elements of training methodologies initiated in 2010 have taken root within the campus, with others such as eLearning introduced to four additional (Muranga, Garissa, Mombasa and Kisumu) campuses as demonstration sites.

University of North Carolina at Chapel Hill School of Nursing, United States of America, supported installation and training on utilization of modernized skills laboratory as well as remote support to faculty through a twinning program.

Infrastructural support

Capacity Kenya has installed a local area network, information and communication technology infrastructure, and furniture to strengthen the institution's resource center. The center allows faculty and students to access computers for undertaking research, developing content and learning using the FP/RH eLearning content. The project installed a power generator to mitigate frequent power outages, and sustain the upgraded skills laboratory and resource center functionality. The skills lab was upgraded and equipped with training aids to enhance FP/RH skills development including FP/RH mannequins and simulators for delivery procedures, distressed patient situations, and comprehensive physical examinations.
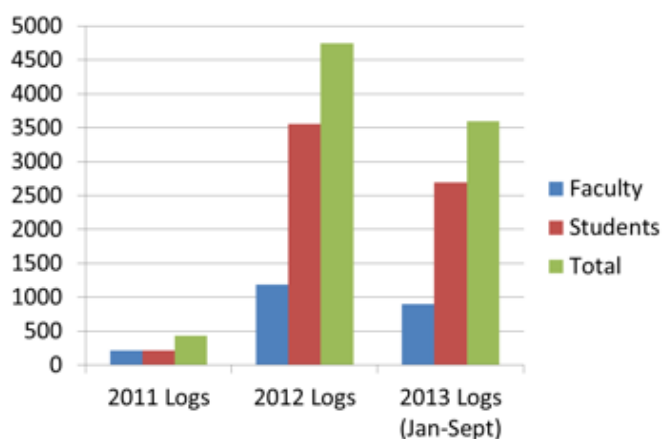
RESULTS

The COE Center

In 2011, Capacity Kenya and faculty piloted a modular object oriented dynamic learning environment (Moodle) learning management system (LMS) with ten Kitui faculty instructors and fifty second-year students, purposefully selected and enrolled based on their information and communication technology proficiency. KMTC faculty and MOH-DRH revised the FP/RH curriculum and converted into a format appropriate for distance learning. In 2012, the faculty uploaded and piloted HIV/AIDS Management and Research Methods course content into the system. The Kitui campus LMS log records (Figure 1) indicate the frequency that faculty and students accessed the eLearning content. The increase demonstrates faculty and student self-motivation to supplement curriculum and learning methods respectively.

FIGURE 1: KMTC Kitui Campus Log Records

Source: KMTC Kitui eLearning access logs (2013)

Capacity Kenya conducted a Kirkpatrick level 1 evaluation of the eLearning program. Kirkpatrick evaluation is modeled around four key areas of reaction, learning, behavior, and results. The level 1 evaluation assessed students and faculty perspective and perception on the overall program, materials, classroom comparisons, and confidence level in utilizing acquired knowledge and skills. Figure 2 depicts the highlights of the evaluation. Both faculty and students rated a high satisfaction level for skill development. Additionally, mLearning content has been uploaded and is available to enhance students' virtual access to course materials.

FIGURE 2: Perception of users on eLearning

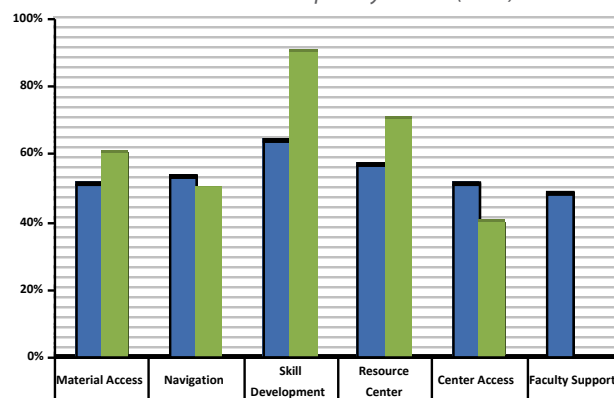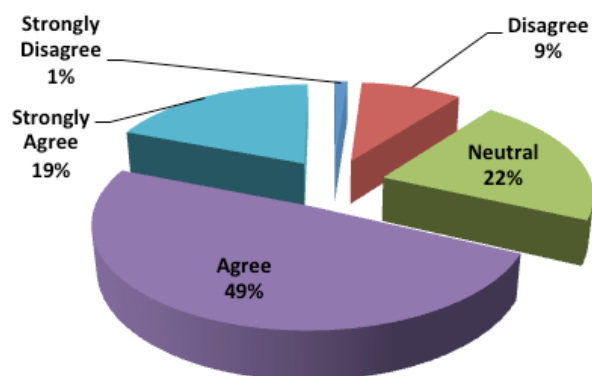*Source: Evaluation Report by AMREF (2013)*

FIGURE 3: Confidence Levels of Students in eModule Exams

Source: Evaluation Report by AMREF (2013)

In comparison to the classroom experience, both students and faculty prefer a comprehensive approach to teaching and learning. The eLearning material is sufficient; however, the opportunities for discussion and feedback sessions have been more beneficial in a classroom setting. A platform is yet to be established for online discussions.

In determining levels of confidence in using knowledge and skills acquired for eModule exams, 68 percent of the students responded in affirmative as shown in Figure 3 above.

Skills laboratory utilization

The upgrades within the skills lab enhanced FP/RH skills development by simulating clinical situations in the real world. Utilizing the mannequins, especially in distressed situations, exposes students to learning opportunities that previously only theoretically existed in the classroom settings.

KMTC headquarters, health records personnel and principals from remote KMTC campuses have used Kitui COE to conduct training and demonstrate its functionality. Nongovernmental organization managers and coordinators, including the USAID funded APHIA*plus*, have also utilized the COE skills lab as a training center in FP rules and regulations. In addition, the center has trained student champions who mentor others in the use of skills lab resulting into improved performance in Objective Structured Clinical Examinations.

TABLE 1: Students Enrollment at Kitui KMTC Campus

Faculty	2009	2013
Clinical Medicine	0	99
Health Records and Information	0	115
Nursing	250	357
Medical laboratory sciences	99	115
Faculty staff in above four departments	8	22
Environmental Health Sciences	0	92

Institutional growth

KMTC Kitui campus has experienced growth within the Capacity Kenya Project period. The growth is partly attributed to the newly established Kitui COE and the expanded scope of courses employing ICT. Table 1 shows the expanded enrollment of students in past five years.

CONCLUSION

Kitui COE is emerging as a hallmark of quality eHealth training in the country. The Capacity Kenya Project has supported FP/RH eLearning modules on LMS and mobile system to complement faculty-students' interactions through application of innovative teaching methodologies. With the supported resource center and the skills lab, KMTC Kitui campus has expanded students enrollment in clinical medicine, health records and information, nursing, and medical laboratory sciences. This has increased the number of students accessing the eLearning FP/RH content and utilizing both the center and skills lab. The support has equally increased the number of faculty members from 8 to 21 in the 4 departments.

The Kitui COE has been modeled to provide the first inroad to the possibility of revolutionizing the learning environment for FP/RH. Scaling up to collaborate with other KMTC institutions across the country has the potential to transform, strengthen, and expand the quality of training toward better provision of the Kenya Essential Package for Health, and consequently transform Kenya's health sector.

> **The eLearning has made things simple, reliable, and saves time. Now mLearning will allow me to maximize my time while on transit or in my room.**
>
> **Jacinta Swinnerstone, Third-year Nursing Student**

RECOMMENDATIONS

KMTC Kitui COE is a first step to transforming education for mid-level health professionals in Kenya. It has the potential to expand beyond Kenya to east and southern Africa regions. The recommendations below are ingredients to optimal utilization of the COE as a best practice and model for other medical training colleges.

- Establish a steering committee to address resource allocation, faculty support, and budgetary issues early in the process, and facilitate interactions with other institutions and organizations in the new decentralized government system.
- Establish systems and indicators for tracking utilization and impact.
- Ensure availability of Internet bandwidth, as well as adequate computers to faculty for ease of individualized access to eLearning content.

The KMTC students undertake self-directed eLearning.

- Establish an eLearning ICT policy to support use of technology for students and faculty training while providing a supportive environment that allows eContent delivered to students, to be examinable.

- Develop an online eLearning network to share best practices and innovative ideas, which would increase training resources within the Kenyan health care system.

- Create a recognition program that includes certificates and internal KMTC awards to highlight individuals and departments for teamwork and innovative ideas that go beyond traditional teaching methods to generate learning and teaching models that impact the Kenya health care system.

- Expand eLearning module content to include demonstration procedures in FP, such as: insertion of an intrauterine contraceptive device (IUCD), illustration of a cesarean section delivery, management of eclampsia, and the management of the menstrual cycle.

- Investigate frequency of student LMS activity and examination performance to identify correlations. Coordinate with organizations, such as the Nursing Council of Kenya, and using the Kitui eLearning model, to maintain continuing professional development accreditation of all health workers. IntraHealth's FUNZOKenya is building upon the Capacity Kenya efforts to continue rolling out the initiated interventions.

- Link the Kitui COE with the community by implementing a training network with neighboring public, private, and faith-based health institutions to enhance county health worker development, potentially increase the desire of students to work within remote areas after graduation, and ultimately improve health care within the regions.

"The skills lab is an important training approach for clinical nursing in particular. KMTC Kitui is one of the best equipped facilities in the country. Even the University of Nairobi visited and admired the facility. Since launch of the COE, I've seen practical signs of improvement in necessary nursing skills because of these learning enhancements. The last National examination by the NCK indicated that Kitui was top in the country. The students are very excited about it!"

Justus Kioko, KMTC Kitui Principal

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Additional information on the project is available at **www.capacitykenya.org** and **www.intrahealth.org**.