Saving Lives Through Continuing Education: Supporting Nigeria's Medical Laboratory Scientists

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What is the general context in which the story takes place?

Medical laboratory science has been called "the hidden profession that saves lives."[1] Medical laboratory scientists are scientific investigators, analyzing bodily fluids and specimens to aid in the detection, diagnosis, and treatment of disease. In Africa, these scientists are champions in the fight to contain and eliminate infectious diseases such as Ebola, HIV/AIDS, tuberculosis, and malaria, a fact that makes it essential that they stay up-to-date on advances in the field. Medical laboratory scientists working in Nigeria, however, had limited opportunities for their continuing professional development. Given that approximately 70 percent of the evidence in evidence-based medicine comes from a lab, this is a public health concern.

In 1996, the Medical Laboratory Science Council of Nigeria (MLSCN), the governmental regulatory body for the profession, made earning continuing professional development (CPD) credits a requirement for relicensing. But few medical laboratory scientists adhered to the requirement and enforcement was nonexistent, largely due to a lack of stakeholder engagement and a lack of comprehensive and accessible accredited activities.

Seeing a need to better support the advancement of the medical laboratory science field, in 2011 USAID/Nigeria provided funding for the Web-Based Continuing Medical Laboratory Education Program, locally referred to as the "eLearning CPD" project. The project is implemented by the USAID-funded Knowledge for Health (K4Health) Project, in partnership with MLSCN and the Association of Medical Laboratory Scientists of Nigeria (AMLSN). Two international organizations, Management Sciences for Health and IntraHealth International, were later brought in to provide additional capacity building expertise. K4Health is led by the Johns Hopkins Center for Communication Programs.

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[1] http://www.elsevier.com/connect/the-hidden-profession-that-saves-lives

What was the main challenge/opportunity you were addressing with this CLA approach or activity?

The ultimate goal of the K4Health/Nigeria eLearning CPD project was to improve the skills and proficiency of medical laboratory scientists. To do so, the project needed to first determine the challenges of institutionalizing the 1996 MLSCN policy. We conducted a baseline needs assessment in which we sought to:

- Examine MLS training and information needs, including preferred sources of information, issues of access, and information-sharing preferences

- Better understand medical laboratory scientists' comfort level with and use of Web-based resources

- Inform the topics of the eLearning courses that would be developed as part of the K4Health/Nigeria eLearning CPD project.

We learned that although the majority of medical laboratory scientist respondents did not have any formal computer training, nearly 100 percent were comfortable or very comfortable using a computer. In addition, 82 percent reported access to computers at home. The respondents had taken training offered by AMLSN and MLSCN, and often did not distinguish AMLSN's and MLSCN's training offering from one another, supporting the need for AMLSN and MLSCN to work collaboratively in this effort, especially given medical laboratory scientists' experience with and trust in both organizations. Importantly, the majority of medical laboratory scientists already felt required to do CPD activities. However, they noted that it was challenging and costly to attend face-to-face training, and not always worth their time or the expense. This revealed a motivated audience for an eLearning approach.

This finding was tremendously important. Project partners were initially hesitant about an eLearning approach to CPD credits, given that most medical laboratory scientists work in laboratories, without access to computers for their personal use. The needs assessment findings galvanized MLSCN and AMLSN stakeholder support for the development of accredited eLearning courses. In addition, the findings indicated training topics of interest to medical laboratory scientists, which helped inform the focus of the courses.

The eLearning CPD project also represented a new opportunity for collaboration between MLSCN and AMLSN. Although the organizations serve the same client, medical laboratory scientists, they operate in very different environments that are often in conflict, as a governmental body and a trade union. This project allowed them to collaborate on a shared vision that was not politically sensitive and that, in fact, served both organizations' missions.

Describe the CLA approach or activity employed.

Throughout the project, our objective remained the same: to increase access to quality continuing professional development programs for medical/laboratory scientists. Our approach was iterative and continually informed by feedback from CPD participants, practicing medical laboratory scientists, and their supervisors.

K4Health trained AMLSN subject-matter experts in the design and development of eLearning courses, co-creating nine peer-reviewed and accredited courses over three years. We conducted annual after-action reviews with course authors to solicit feedback on the course author training and better articulate course expectations, developing a number of guidance documents as a result of these reviews. We also helped AMLSN acquire a Google Apps for Business license to set up an intranet that enabled better file management, sharing, and editing among K4Health, AMLSN Secretariat staff, and course authors located throughout Nigeria.

Additionally, we sought feedback from medical laboratory scientists through surveys, interviews, and social media. We set up an AMLSN eLearning Facebook Group, initially as a vehicle to promote the courses and serve as a helpdesk. The group has since evolved to an informal learning space for sharing resources and discussion among its 11,000 members. We have successfully transferred administration and facilitation over to a group of active members, who were nominated by fellow group members and approved by AMLSN and MLSCN, so the group is self-sustaining.

In 2013, after the launch of the first four courses, we conducted two in-person focus group discussions in which we explored the practical applications of new information and knowledge gained from the eLearning courses, suggestions for improvement, and willingness to pay for future courses. Themes from the focus group discussions were used to inform the design of an online survey that was then sent to all registered users to the eLearning platform. Medical laboratory scientists provided concrete examples of what they had learned and how they were applying new knowledge in their workplaces. In addition, they provided a number of suggestions for improvements that K4Health and AMLSN immediately put into action when working with the course authors.

In 2014, we once again surveyed medical laboratory scientists and interviewed a sample of supervisors throughout the country to examine the extent to which the revised CPD policy was meeting its stated objectives, how the accredited eLearning courses compared with the other accredited activities, and what contribution (if any) project activities were having on improvements in medical laboratory service delivery. The majority of respondents who participated in both eLearning courses and other CPD-accredited activities reported that eLearning courses were more valuable and that the CPD policy and CPD-accredited activities were positively impacting medical laboratory scientists' job performance, particularly in the areas of laboratory management, provider-client interaction, and technical skills. A number of suggestions were also provided, largely related to the CPD policy's upcoming review by MLSCN's board, but also related to 2015 eLearning course topics.

In 2015, six month after the launch of a new indigenous eLearning platform, a final usability survey confirmed high levels of satisfaction with the new platform and continued satisfaction with the AMLSN-authored, MLSCN-accredited eLearning courses.

In addition to course development, project partners established an eLearning Advisory Board, composed of all partners tasked with the project's governance, oversight, and strategic direction. Leveraging the exponential growth of the Internet and information communications technology, we regularly held Skype conference calls and quarterly face-to-face meetings. These techniques and platforms helped ensure ongoing communication among partners, strengthening collaboration and nurturing two-way knowledge exchange and sharing with project beneficiaries.

Were there any special considerations during implementation (e.g., necessary resources or enabling factors)?

From the project's inception, all partners — MLSCN, AMLSN, USAID/Nigeria, and K4Health — acknowledged the unique understanding that each organization brought to the table. Collective appreciation for each partner's expertise, as well as early consensus on the project goal and objectives, were critical success factors. During the project kick-off in December 2011, all partners signed a document that delineated partner roles and responsibilities and brought organization and clarity to many of the project's activities. Local partners received more than 50 percent of the total project award amount, directly through sub-awards and indirectly through technical assistance. As a result, this project was truly Nigerian-owned and led.

The spirit of collaboration and responsibility among the partners has created a creative and productive space. Medical laboratory scientists feel this project has potential to transform the way professional organizations and fields of study can communicate, learn, and monitor growth. Most importantly, project stakeholders realize that this is a chance to improve the practice of medical laboratory science in Nigeria and around the world. In the words of Dr. Okara, AMLSN's past national president, it is an opportunity to "cultivate the habit of the pursuit of excellence in professional practice in the interest of the patient and the society."

During the first two years, the project focused on two primary interventions — revitalization of a revised CPD policy and development of accredited eLearning courses — with an eye toward sustainability. In the project's last two years, as we have continued to build eLearning and continuing education technical capacity, we have also expanded our focus to build the organizational capacity, systems, and structures to institutionalize all aspects of this project's activities within AMLSN and MLSCN. For example, Management Sciences for Health has helped build AMLSN capacity in human resource management, financial management, and resource mobilization. IntraHealth International has helped MLSCN to customize its iHRIS software, so that it can better monitor the CPD policy and build organizational capacity among MLSCN staff to use iHRIS data to inform decision-making.

What have been the outcomes, results, or impacts of the activity or approach to date?

Medical laboratory scientists continue to be highly engaged in the project, as exemplified by the continued popularity of the accredited eLearning courses four years after the launch of the first four courses. And more and more medical laboratory scientists are becoming involved as course authors or technical reviewers. More than 30 AMLSN members have been trained as course authors.

According to our research findings, participants who participated in eLearning courses and other CPD-accredited activities report that they are learning just as much or more from the eLearning courses than from attendance at face-to-face workshops. They mention a preference for eLearning not only because it is more convenient, efficient, and affordable, but also because the content is richer and more relevant to their job. A supervisor noted that participation in the accredited eLearning courses "has equipped MLS [medical laboratory scientists] to challenge things that are not right for proper diagnosis and patient care. It has made MLS to be more composed."

Broadly speaking, eLearning course evaluation data reveals the following:

- 87 percent agree or strongly agree that their knowledge on the topic increased as a result of taking the course
- 99 percent would recommend the course that to fellow medical laboratory scientist

Supervisors reported a number of improvements in how their staff carry out procedures as a result of the accredited courses. One noted that since taking the malaria course, staff "have adopted the Giemsa staining method for malaria diagnosis, instead of the Leishman method." Another noted, "After going through the TB course … [staff] approached management, asked for the new equipment and reagents and have since adopted these methods."

What were the most important lessons learned?

Our experience with the eLearning CPD project provides a number of lessons for implementation of similar models. Specifically, we found that the following elements significantly contributed to success:

- A close, multisectoral partnership of key stakeholders from the government, professional associations, the private sector, the donor community, and academics, built on the recognition of mutual learning and the expertise of all involved

- Continual feedback from the target audience as to their needs and their perception of project activities

- Continual virtual and in-person mentorship and handover of key activities

- Training in adult learning, instructional design, and eLearning course development, as well as strategic planning, human resource management, financial management, resource mobilization, and monitoring and evaluation

- An exit strategy that included development of a sustainability plan toward the end of Year 1 and a cost recovery plan in Year 3

- Champions within USAID who actively participated in project strategic planning and facilitated communication among partners and potential partners

These elements created an enabling environment for broader learning, allowed project partners to be nimble and responsive in their collaboration, and helped build consensus toward the achievement of a collective goal.