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## CASE COMPETITION

Collaborating, learning, and adapting (CLA) have long been a part of USAID's work. USAID staff and implementing partners have always sought ways to better understand the development process and USAID's contribution to it, to collaborate in order to speed and deepen results, to share the successes and lessons of USAID's initiatives, and to institute improvements to programs and operations. Through this case competition, USAID and its LEARN mechanism seek to capture and share the stories of those efforts. To learn more about the CLA Case Competition,

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# Improving Validity and Reliability of Licensure Examination for Health Workers

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

Home to the second largest population in Africa, Ethiopia is one of the success stories in global partnership for improving health of populations. Since 1990, life expectancy has increased by 19 years, under-5 mortality has fallen by more than two-thirds, and new HIV infections have dropped by about 90 percent.<sup>1</sup> These changes were driven by many factors, including improvement in availability and accessibility of healthcare. However, Ethiopia's developing health system still suffers from critical bottlenecks, including health workforce challenges.<sup>2,3</sup>

Jhpiego is implementing the USAID-funded Strengthening Human Resources for Health (HRH) Project (2012-2017), which has been supporting the efforts of the Government of Ethiopia to improve human resources for health management; increase the availability of midwives, anesthetists, health extension workers, and other priority cadres; improve the quality of education and training of health workers; and generate program learning and research evidence on human resources for health. To achieve these objectives, the project supports and collaborates with the Ministry of Health; regional state health bureaus; the Food, Medicine, and Healthcare Administration and Control Authority; the Ministry of Education; the Higher Education Relevance and Quality Assurance Agency; technical and vocational education and training (TVET); regional state occupational assessment and certification agencies; and health worker education institutions and professional associations.

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

In Ethiopia, health workers graduating from TVET programs are required to pass a standard competence assessment as a prerequisite for licensure. The licensure process includes a 36-item written exam and performance assessment, also known as project work. The project work is meant to assess a candidate's ability

<sup>1</sup> World Health Organization. World Health Statistics 2014.

<sup>2</sup> Federal Democratic Republic of Ethiopia Ministry of Health. Health Sector Transformation Plan (2015/16-2019/20) Draft Version 2.

<sup>3</sup> Federal Democratic Republic of Ethiopia Ministry of Health. Human Resources for Health Strategic Plan (2009-2025). September 2014.



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to organize and provide a particular healthcare service in a simulated setting. Each regional state has established its own occupational assessment and certification agency to develop and administer licensure examination.

Although introduction of the licensure exam has had a positive influence on encouraging training institutions and students to improve learners' competence, important gaps affected its effectiveness and credibility. The number of items in the written exam was not large enough to produce reliable results. The exam pool was also so small that there was too much repetition of items over multiple administrations. Commenting on this issue, the director of the Occupational Assessment and Certification Agency (OCACA) said, "Students and training institutions were focusing only on the assessment tools [because of their frequent use] instead of acquiring the required competence for the level of practice. As a result, students who did not acquire the required level of competence have passed the licensure exam just by simply studying the tools."

There were also flaws with exam items, as developers had not received training on the principles of writing items. The developers were selected from the world of work and training institutions, and their subject matter expertise was assumed to be sufficient to develop high-quality items. Moreover, exam questions did not test higher-order knowledge—the kind required in the world of work. Performance assessment was also fraught with problems, including testing small number of competencies, subjectivity, and rater bias. The number of assessors was also insufficient, and those available had knowledge and skill gaps in conducting high-stakes assessment. There were also allegations of ethical misconduct among some of the assessors. The rater bias is exacerbated by use of just a single assessor for the entire performance assessment of a candidate. Last, the standard for making pass/fail decision was set at 50 percent for the written exam and 100 percent for the performance assessment, which is not defensible. These problems have undermined the credibility of competence assessment in the eyes of key stakeholders including the public, the government and the examinees.

The existence of a need for improving quality of the licensure exam to assure a competent health workforce and safe, high-quality health care and its congruence with scope and expertise of the HRH Project created the opportunity for collaboration with state occupational assessment and certification agencies, federal and state TVET systems, and the Ministry of Health. Among other things, the project is mandated with improving the quality of education and training of health workers and improving human resources for health policies, regulations, and practices.

This case study highlights the successful collaboration with OCACA in Amhara Regional State, which is the second most populous state in Ethiopia.

### **Describe the CLA approach or activity employed.**

The collaboration started with a consensus-building meeting with the Amhara OCACA, culminating in acknowledgement of the need to review and strengthen the licensure exam. The OCACA, in collaboration with the Regional Health Bureau, agreed to identify item developers and assessors, organize workshops, and adopt newly developed and revised assessment tools and processes. The HRH Project committed to provide technical and financial assistance for analyzing gaps in the design and administration of the licensing exam and implementing enhancement plans. A rapid assessment of the assessment practices corroborated the existence of gaps, including item construction flaws, items that did not test higher-order knowledge, a small number of items, repeat use of items, an insufficient number of assessors, gaps in knowledge and skills of assessors, and assessor misconduct. Item writers did not receive writing training, so they did not know evidence-based principles. The OCACA experts just coordinated item writing workshops; they did not give technical assistance in item writing.

To improve the quality and number of items, the project adapted its existing training package on student performance assessment to make it fit for licensure exam and organized a series of item development workshops. As a result, we prepared 80 competent item writers and standardized the skills of OCACA assessment team leaders and facilitators. The trained writers developed more than 60 assessment tools for a range of middle- and lower-level health workers; a trained exam reviewer group then evaluated the tools to ensure alignment with exam blueprints and item writing principles. To minimize implementation errors, we created a large pool of qualified assessors, including for health occupations that did not have assessors. First, we reviewed and standardized an existing training package used by state certification agencies. We then provided a series of knowledge and skills



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standardization training courses, preparing 330 qualified assessors. In the words of a project staff member, “We developed new assessors. We increased number of assessors. We strengthened and standardized the assessors training.”

To ensure sustainability of the improvements, the project strengthened systems and processes for implementing the licensure exam. We standardized the assessors training package. We helped create a technical expert panel and a technical advisory panel, and capacitated them on item writing and validation. The expert panel is responsible for developing items and the advisory panel is charged with validating them. More important, we built the capacity of OCACA to improve the quality of the exam and demonstrated the benefits of collaboration.

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

The critical success factors were the spirit of partnership between the HRH Project and the regional state; the systems strengthening approach; the alignment of project objectives with local priorities; the technical expertise, experience, and credibility of the implementing organization in competence assessment; and the presence of strong follow-up. The project has established a strong presence in the region and demonstrated that it is a credible and responsive partner to improve human resources for health.

The collaboration started with a formal meeting with regional health leaders, obtaining their buy-in and responding to their needs. Work plans were aligned with those of the government entities. We analyzed gaps and helped to strengthen the existing assessment system instead of trying to develop new processes. Project staff had expertise and rich experience in assessing health professionals and were able to demonstrate that to OCACA. OCACA knew some gaps existed, but did not have the expertise to solve them. They even did not know Jhpiego had expertise in performance assessment until we demonstrated what we were capable of doing so. This created further demand and opportunity to work more collaboratively. We provided training, but we did more than just training. Training interventions were linked to deliverables such as item development and a competence assessment. Close and regular follow-up was also important to support transfer of learning and monitor progress.

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

Because of the collaboration with the HRH Project, the Amhara OCACA now has an expanded pool of high-quality items and qualified assessors. To date, it has tested about 3,500 health workers by deploying the improved items and qualified assessors; the perception is that OCACA is more able to differentiate competent candidates from incompetent candidates. A beneficiary of the training commented, “I had the opportunity to conduct competence assessment using the tools we developed and found them very effective to distinguish the competent from the incompetent candidate[s]. I am proud of that.” The Amhara OCACA director said, “This problem [incompetent students passing by memorizing over-repeated exam tools] is now solved after we have developed enough pool of validated tools ... the tools are encouraging students and training institutions to focus on the required level of competence and are a means to ensure a qualified health workforce is joining the health system.”

The collaboration has strengthened OCACA’s institutional capacity to improve the quality of the licensure exam on its own. Staff capacity has been built. An evidence-based standardized training package has been made available. Expert and advisory panels have also been created to assist in developing and validating new items.

The outcomes of collaboration are also likely to have had impact beyond and above OCACA. The developed items were judged to be of good quality, and were added to the national exam pool for wider use. The standardized training package was also endorsed for national use. The intervention is also having a spillover effect in improving assessment practices in education institutions. A faculty member who benefited from an assessment training commented, “As a teacher, the technical assistance has helped me to improve the practice in my college.”



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### **What were the most important lessons learned?**

The HRH Project was designed to address the needs and priorities of the Ethiopian Government. However, implementing intervention required further negotiation and consensus building on the priority needs of each beneficiary organization. We have learned that collaboration is more likely to be effective and sustainable if it focuses on systems strengthening, that interventions are based on mutually agreed plans, and that there are demonstrable results. When training is needs-based, practical, and linked to quality improvement, it can facilitate the change process by revealing gaps in the status quo and empowering beneficiaries with new knowledge and skills to improve their practices.

We have also learned that technical assistance should be complemented with financial assistance in low-resource settings to maximize success. Attrition of trained staff needs to be monitored, and replacement training courses should be organized. Successful collaboration opened more opportunities to collaborate not only with the beneficiary organization but also state and federal certification agencies. This has important implications for scaling up interventions at the national level.

There are still two important threats to the reliability and validity of the exam that we have not been able to tackle. The number of exam items is too few to achieve high reliability. Using a fixed pass/fail cut score for a high-stakes exam is not also defensible. We have discussed these issues, but no concrete measures have been taken to make changes. It is probably too big a change at the state level. On the other hand, the HRH Project has successfully collaborated with the Federal Ministry of Health to launch a licensure exam for university graduates, where these two threats are fully addressed in the implementation guideline. We hope to advocate for adoption of this implementation guideline for TVET graduates or shifting the assessment mandate to the Ministry of Health.