

THE COMPUTERWORLD HONORS PROGRAM

CASE STUDY

LOCATION:
London, United Kingdom

YEAR:
2006

STATUS:
Laureate

CATEGORY:
*Government and
Non-Profit Organizations*

NOMINATING COMPANY:
Accenture

ORGANIZATION:

African Medical and Research Foundation (AMREF)

PROJECT NAME:

Kenya Nurses Training Program

Summary

With a groundbreaking use of web-based eLearning, the African Medical and Research Foundation (AMREF) is rapidly training and certifying 26,000 nurses in Kenya. The program will help ease that nation's desperate shortage of healthcare workers, demonstrating the power of technology to help African nations tackle the disease and poverty that threatens to undermine social and economic stability.

Introductory Overview

Every day in Africa, more than 3,000 children under the age of five die from malaria—a devastating statistic that illustrates why the continent urgently needs to increase the number of front-line healthcare workers who are qualified to treat such diseases as malaria, the leading cause of child morbidity and mortality in Africa. Over 85 percent of Kenya's nurses are "enrolled nurses," unable to obtain the advanced training for a "Registered Community Nurse" diploma. With that diploma, Registered nurses have the skills to combat the spread of treatable and non-treatable diseases, including Aids/HIV, malaria and TB that have such a huge impact on the poverty situation.

Although there are 26,000 "enrolled" nurses waiting to upgrade to "registered" status, Kenya has the resources and classrooms to train only 100 Registered nurses a year using traditional methods. At that rate, it would take literally hundreds of years to certify the 26,000 enrolled nurses who would like to increase their skills. But by unleashing the power of eLearning, Kenya will certify those 26,000 nurses in just five years.

In 2005, the African Medical and Research Foundation (AMREF), the largest health development organization in Africa, launched its revolutionary eLearning initiative. AMREF's mission is to improve the health of disadvantaged Africans, allowing them to escape poverty and improve the quality of their lives. The pioneering eLearning program has dual goals: In the short term, it accelerates the certification of 26,000 registered nurses. In the long term, AMREF plans to use the innovative Kenyan program as a model for other African nations also crippled by a critical nursing shortage.



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The original concept was simple: Transfer the estimated 80 hours of paper-based coursework needed for the Registered Community Nurse diploma onto CD-ROMs. Equip 32 Regional Training Centers located throughout Kenya, especially in hard-to-reach rural areas, with computers and companion technology, enabling student nurses using CD-ROM-based instruction to complete required coursework in just half the time it takes with paper-based instruction. Once completed, students are ready for hands-on training at teaching hospitals.

But transforming that simple vision into reality meant overcoming hurdles that have hampered past efforts to implement technological solutions in Africa. Specifically, AMREF lacked the technical knowledge and skills to create the eLearning initiative, which involved transferring coursework onto CD-ROMs, as well as funding for the regional training center to supply electricity, phones, computers and software required for the testing, training, and program administration.

AMREF is internationally known for its pioneering initiatives, including a leading-edge telemedicine program that enables doctors in sub-Saharan Africa to consult live on difficult cases with AMREF's central laboratory in Nairobi, and the creation of paper-based distance learning courses in 2004. Drawing on past experiences, the organization recognized that the success of eLearning initiatives hinged on obtaining advanced technical skills and forming partnerships. AMREF teamed with Accenture, a global management consulting, technology and outsourcing company, and the Kenya Nursing Council to quickly develop a customized eLearning program that could be rolled out in a matter of months. A cash gift of \$1.7 million over five years from the Accenture Foundation, along with \$1.2 million in in-kind learning services from Accenture Learning, the company's learning business process outsourcing unit, was donated to help convert print-based curriculum into the electronic version, and support eLearning's deployment in the 32 training centers.

In September of 2005, AMREF launched the first phase—a three-month pilot with nearly 150 students based at 12 training centers that were linked to a Help Desk, capable of answering both technical and course-related questions. After implementing changes based on the pilot experience, AMREF plans to roll out the eLearning program to all 32 regional training centers in 2006.

A critical component of the eLearning initiative is development and implementation of a Learning Management System that allows administrators to remotely track enrollees, review test scores for certification, as well as compiling information about graduates' areas of expertise. Both the Help Desk and eLearning managers are located at AMREF's Nairobi headquarters.

Benefits

For Kenya, a country with one registered nurse for every 27,000 citizens, eLearning is revolutionizing healthcare by creating an electronic infrastructure for the rapid training of nurses. The 26,000 newly trained registered nurses the initiative will create over the next five years will be dispersed throughout Kenya -- a complete departure from what could be done employing traditional methods. Those nurses represent a staggering increase in the number of frontline healthcare workers. They will be skilled at treating Kenya's most debilitating diseases, as well as at administering preventative treatment—vaccinations, pre and post natal care—in the nation's remote and most impoverished areas. The eLearning coursework also trains nurses in disaster management and how to respond to man-made and natural catastrophes familiar to Kenya, such as famine.



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The program will also help alleviate the “brain-drain” of Kenya’s nurses to more industrialized countries. Kenya’s health care system has lost thousands of nurses to foreign countries in the past six years. Research data from the Nursing Council of Kenya, has shown that nearly 3,000 locally trained and certified nurses registered to work in foreign countries since 1999, with an eye-opening 967 departing in 2003 alone. To make matters worse, experts say many of those who have left are among the most experienced and best-trained.

A primary goal of the eLearning initiative is self-sufficiency. By educating AMREF to administer and expand the project on its own, the organization will not be dependent on outside help after the initial five-year ramp up period. The project is designed to gradually transfer skills and knowledge from Accenture Learning, giving AMREF an increasing ability to manage the technological elements of the program, as well as to lead efforts to provide local Kenyan support and coordination.

Instead of relying on Kenya’s overwhelmed classroom instructors, AMREF has reinvented the education process by harnessing the potential of computer-based learning. Enrolled nurses in remote areas can work at their own speed, using CD-ROM-based instruction. During the pilot stage, computer-based learning has delivered both a faster and improved educational experience. Students enrolled in the pilot gave eLearning high marks, reporting the following benefits:

- eLearning is faster than paper-based instruction.
- It has increased available study time, averaging about 12 hours a week.
- The learning method is more engaging and inspires additional study.
- Transitioning to computer-based training was easy with minimal technical issues.
- The teaching method has prompted students to learn more about computers and be more willing to use computers.

The Importance of Technology

Because this is one of the first uses of electronic training for medical instruction in Africa, AMREF and Accenture Learning had to develop a customized eLearning solution that incorporated the specific needs for certifying registered nurses. Utilizing the expertise of Accenture Learning, an organization dedicated to providing clients greater bottom line impact from their learning activities through end-to-end transformational learning and outsourcing services, this is being successfully accomplished.

The process employs Accenture Learning’s proprietary learning content authoring tool, which is enabling the conversion of 143 hours of paper-based material to the eLearning format, including instructional topics, imbedded photographs and graphics, as well as the online assessment capabilities needed to evaluate a student’s proficiency.

In addition, AMREF is using Accenture Learning’s web-based Learning Management System platform that tracks student registration, enrollment and completion of each eLearning module. The scalable technology will grow with AMREF’s changing needs, and allows Kenyan health officials to compile up-to-date information about graduates’ specialized skills. The state-of-the-art management solution also gives AMREF the ability to easily access data, profile trends, and

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determine ways to improve and expand the eLearning initiative.

Originality

AMREF's visionary eLearning program is groundbreaking on several fronts: It represents one of the first uses of:

- Computer-based learning applied to medical professionals in Africa
- eLearning used in Africa to improve the quality of training, while drastically reducing the time it takes to certify registered nurses
- An eLearning database to better match up skilled resources with specific needs; an invaluable tool for Kenya health officials during a health crisis

In each case, AMREF and its partners have employed advanced solutions that are leapfrogging Kenya's medical training tools from an antiquated and overwhelmed classroom-based system to a web-enabled, nationwide infrastructure. Already, AMREF is preparing to replicate Kenya's eLearning model in other African nations. South Africa is just one of the countries which have expressed interest in leveraging the innovative electronic learning solution to ease its healthcare worker crisis.

Success

AMREF is on schedule for achieving its goal of certifying 26,000 registered nurses by 2011. Through the first phase of implementation, 12 new regional training centers have been created and brought online with the remaining additional 20 centers to be rolled out over the next few months. In the end, success means enabling Kenya—and ultimately other African nations—to realize the potential of 21st-century innovations. To date, the high tech revolution has had a limited impact on Africa, despite the willingness of Africans to utilize technological advancements. With AMREF's eLearning initiative, Kenya finally can harness the promise of technology to advance healthcare and reduce poverty.

The success of eLearning is dramatized by the story of 40-year-old Jenipher Kidaha, an enrolled nurse in Western Kenya. Jenipher has spent the past ten years trying to win admission to a nursing college so she could earn her registered nurse certification. Each year, she's been turned away because of overcrowded classrooms. When she learned about the eLearning pilot program, Jenipher didn't hesitate. "I had been trying for so long that it seemed too good to be true," she says. "To make matters even better, this course will take a much shorter time than the regular one I had been trying to get into." With eLearning, Jenipher, who entered the program in September 2005, can complete the coursework in one-and-a-half years, instead of three years for regular classes.

Jenipher isn't the only winner. So is the nation of Kenya. By offering healthcare workers access to high-quality training to advance their education, Kenya reduces the impact of brain drain—the exodus of its nurses to more industrialized countries, something Kenya and the rest of Africa can ill afford. Says Jenipher, "If I get this diploma, then I take another course to get a better salary in Kenya so I don't have to go outside of my country." For healthcare leaders, eLearning provides a desperately needed solution. "The issue is the nurse ratio," explains Dr. Peter Ngatia, AMREF's Director of Learning System. "Can one nurse support, manage, treat 27,000 pa-

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tients?” Dr. Ngatia says that the eLearning program will dramatically reduce that ratio.

Students are embracing eLearning as quickly as AMREF can roll it out. When asked which they prefer—traditional or eLearning, nurses in the pilot overwhelmingly opted for electronic instruction over classroom teachers.

Difficulty

There were multiple challenges to launching one of Africa’s first eLearning programs for health-care workers within six months:

- Amassing the funding.
- Gaining access to the technology expertise and resources needed to develop a web-based infrastructure.
- Outfitting regional training centers.
- Training eLearning administrators,
- Launching the eLearning pilot.

One of the most difficult obstacles proved to be the conversion of the paper-based coursework into four eLearning modules of CD-ROM-based instruction by the Accenture Learning content development team. Given the volumes of paper-based content and the preponderance of technical-scientific material, it took several months to develop the electronic content thoroughly and accurately--more than is typically required to convert eLearning courses involving business skills. Furthermore, it was learned that 143 content hours were necessary to effectively transfer the needed skills – nearly double the original estimate of 80 content hours. But as they gained experience, the conversion team modified the process, allowing it to accelerate the conversion task--lessons that can be applied in future applications.

Kenya’s initiative is just the beginning of an eLearning revolution that enables some of the world’s poorest nations to use emerging technology to curb disease and improve the quality of lives.

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