I-TECH PROJECT PROFILE

I-TECH Ethiopia Clinical Mentoring Program: Field-Based Team Model

Background

In 2003, the Centers for Disease Control's Ethiopia Global AIDS Program (CDC GAP) invited I-TECH to build Ethiopia's human resource capacity for HIV care and treatment through training initiatives for professional providers. I-TECH established accreditation criteria for health care facilities to begin initiation of antiretroviral therapy (ART) for HIV, in partnership with the Ministry of Health (MOH) and CDC. As part of that training, support, and technical assistance, I-TECH developed a national HIV training program in basic ART for physicians, nurses, and pharmacists. The curricula focused on building a multidisciplinary health care team (MDT) to provide HIV and AIDS care and treatment.

In Ethiopia, the physician-to-population ratio is 1 to 34,000, and the nurse-to-population ratio is 1 to 4,900. The shortage of physicians meant that the physician-centered model of HIV care used in the country severely hindered the scale-up of HIV testing, care, and treatment. With few physicians available at the hospitals where ART was being initiated, nurses were depended on to provide care to the majority of HIV patients, although they had received little to no training beyond HIV basics. I-TECH and the MOH recognized that there was a need for more in-depth training on HIV and AIDS care and treatment for nurses, to facilitate task shifting and to ensure the provision of high-quality care in ART clinics.

In 2005, I-TECH Ethiopia developed an HIV/ART Nurse Specialist (HANS) training program in partnership with the MOH and CDC. HANS prepares nurses to expand their practice role to include the provision of ART and to further develop critical thinking skills in a comprehensive, family-centered care model. The program is a 4-week intensive training program that includes interactive classroom training,

a clinical practicum, onsite clinical mentoring, and ongoing technical assistance. Around 6 to 8 weeks following the initial training, trainees receive 5 to 10 days of mentoring at their practice site annually or biannually, as needed, to ensure full assimilation of skills and clinical decision making. The MOH officially recognizes HANS-trained clinicians as a more advanced cadre of nurses in Ethiopia. Most recently, a standardized national HIV/ART curriculum has been developed using the HANS and the World Health Organization's (WHO) Integrated Management of Adult Illness (IMAI) curricula; it is presently being trained in Ethiopia.

To date, a total of 11 rounds of HANS trainings have been completed, and more than 400 nurses have been trained using this methodology. Trainees have been provided with onsite follow-up mentoring, and have been evaluated against a checklist of 31 competencies. Evaluation data demonstrates clear evidence of task shifting, with HANS nurses in many hospital sites assuming the primary role for initiating ART and HIV care, as well as other types of services and advocacy. HANS nurses are able to complete most of the tasks required to initiate a patient on ART and provide leadership on the overall organization of the MDT. I-TECH periodically offers HANS refresher courses to keep nurses current with HIV clinical guidelines and practices.

Following the success of I-TECH's basic ART and HANS training programs in Ethiopia, I-TECH's role shifted dramatically. In September 2005, I-TECH was asked to transition from a national training mandate to a regional focus on providing technical assistance to increase ART service delivery in northern Ethiopia. At that time, the CDC, in collaboration with the Government of Ethiopia, invited John Hopkins University (JHU), Columbia University (CU), and the University of California, San Diego (UCSD), to lead HIV-related initiatives along with I-TECH. The responsibilities were regionalized to assist all of the universities in providing more direct technical support and assistance to each of the 11 regions of the country, as well as to the police and military. To ensure that all of the universities provide standardized training for HIV care and treatment to Ethiopian clinicians, I-TECH holds trainings of trainers (TOT) and provides standardized national training materials to partner organizations.

I-TECH Ethiopia Clinical Mentoring Program

Following the transition to working more closely with the Afar, Amhara, and Tigray regions, I-TECH began working in close partnership with the Regional Health Bureau (RHB) offices, the local HIV/AIDS Prevention and Control Offices (HAPCO), and the MOH to provide a broad array of technical, clinical, and operational support to health care facilities. I-TECH hired three physicians to act as regional ART coordinators and to serve as the liaisons between I-TECH and the RHB, as well as to oversee regional activities related to ART. Six physicians were also hired to provide site-specific ART mentoring and to support related activities. By October 2006, I-TECH hired nurses to work in partnership with the physician mentors, effectively forming field-based teams (FBT).

Most of the physician mentors had participated in I-TECH trainings focused on ART and adult teaching methodologies prior to being hired, so their clinical skills, ability to think critically, and dedication to providing quality care had already been demonstrated. The nurse mentors were HANS graduates who had leadership skills, clinical expertise, and a strong understanding of clinicians' scope of practice and clinical context. All of the mentors completed 1 week of training at hospitals in Addis Ababa before being assigned to work in the field as teams.

As these FBT began to work at the sites, gaps between the capacity of the health care systems and infrastructure and the speed of ART scale-up under PEPFAR became apparent. Initially, each FBT was responsible for six to eight sites, and spent 3 to 4 days every other month at each of these sites, addressing systems issues, and providing mentoring to physicians, nurses, and pharmacists, as well as site support staff. As time went on, the support and technical assistance being provided by the mentors became more routine and nonthreatening to the providers and staff at sites. It soon became clear that the FBT were spending too much time traveling from site to site. It was recognized that additional teams would be needed to cover such large geographic areas, ensure more effective use of the mentors' time, and increase support to the providers. I-TECH began hiring mentors and additional staff to support the FBT.

As the program was developing, I-TECH noted that there was a significant difference between site level systems support and clinical mentoring. The FBT and the administration of I-TECH Ethiopia discussed this difference to define and address the application of their vision of clinical mentoring with-

in the Ethiopian context. Initially, the mentors were largely reviewing and addressing various systems issues involved in the delivery of ART. Due to the rapid scale-up of ART services, coupled with a lack of systems infrastructure, there often were and continue to be challenges around the availability of drugs, supplies, records, referral forms, equipment, and training. There were also significant challenges in establishing intra-facility linkages between different HIV-related services and the ART clinic, so that HIV-positive individuals could be referred to the appropriate clinic to be initiated on ART. While systems mentoring impacts the quality of patient care, it does not address or improve the clinical skills needed to provide high-quality consultations, examinations, and treatment to patients. Early in I-TECH's experiences in the scale-up of ART services, the majority of the mentors' time was devoted to addressing systems issues.

By August 2007, 13 FBTs, composed of a physician, nurse, and monitoring and evaluation (M&E) nurse, were working closely with 31 hospitals and four health centers in three regions. Each FBT is responsible for three to four sites located in one region, which they visit each month for roughly 1 week. Mentors assess quality of ART services, support knowledge transfer from classroom to practice, strengthen intra-facility referrals, and provide consultation on difficult cases and ART practice set-up. The FBTs work with clinicians to ensure that clinical care and treatment protocols and guidelines are understood, and are being followed at sites. In addition, they help mentees develop strategies for providing effective care and treatment in the face of limited resources. As is necessary within the resource-constrained contexts of these sites, the mentors continue to address systems issues and their impacts on the provision of high-quality patient care and treatment. In addition to providing ART clinic support, the mentors work in other units of the sites as necessary, including the pediatric, antenatal care (ANC), and labor and delivery (L&D) wards, where they have introduced provider-initiated HIV counseling and testing (PIHCT) that is linked to the ART clinics to ensure uptake. The mentors also work on the TB/HIV collaborative activity program.

Each FBT has its own routine when visiting a site, but most begin by meeting as a team with the site's medical director. Following that meeting, each member of the team follows up on outstanding issues identified during their previous site visit and provides consultation, as needed. For example, the physician may work with the pharmacist or another physician, the nurse may work with HANS-trained nurses, and the M&E nurse may work with the data clerk. I-TECH has found that physicians generally respond more positively to physician mentors and that nurses tend to be more comfortable receiving mentoring from other nurses.

Ideally, during a typical mentoring visit, mentees and members of the FBT compile a list of clinical and systems issues that should be addressed. At the end of the week, the FBT and the medical director meet to review and prioritize outstanding issues. More recently, to systematically address both clinical and systems issues at each site, mentees and mentors have started creating action plans. These action plans help organize thinking and efforts around significant systems and clinical issues, help mentors identify successful and unsuccessful methods of bringing about behavior change, and help mentors to see themselves as advocates for systems change.

Besides conducting site visits, the clinical mentors are available via telephone to provide guidance on both systems and clinical issues while they are mentoring at other sites. This ensures that issues

are addressed immediately, rather than being put on hold until the mentors' next site visit. In addition, the I-TECH Clinical Director is also available by phone for case consultation when necessary.

In 2007, the Government of Ethiopia (GOE) released guidelines for clinical mentoring that defined and standardized clinical mentoring for the Ethiopian context. These guidelines established a common definition of clinical mentoring for use in Ethiopia, and represented a level of support and acknowledgement of mentoring programs by the GOE.

Training and Ongoing Support

The FBT are supported by a wide-variety of I-TECH Ethiopia staff, including the Clinical Director, the Laboratory Director, regional lab coordinators, regional ART coordinators, case managers, data clerks, and data managers, as well as office managers assigned to each of the regional I-TECH offices. To ensure that each mentor's mentoring and clinical skills are strong and current, the FBT receive technical assistance, clinical training, mentoring, and consultations as needed from leadership at the I-TECH Ethiopia office in Addis Ababa.

In addition, experienced international nurse advisors regularly come to Ethiopia and provide consultation and mentoring to the field-based mentors. Nurse advisors also provide resources, guidance, and assistance around HIV service delivery and performance on an organizational level at each site. The nurse advisors have been working with the FBT from the outset of the clinical mentoring program, so they have a good understanding of the challenges faced by the mentors within the Ethiopian context.

Most recently, clinical mentors have had the opportunity to participate in I-TECH's monthly interactive distance learning Clinical Seminar Series with clinicians participating from around the world. Participation depends on the mentors' availability during scheduled seminars and on dependable Internet access, which is often a major challenge.

Monitoring and Evaluation

Each FBT submits monthly field team reports, which are a compilation of the mentors' reports completed during each site visit. These monthly reports include both qualitative and quantitative data on the initiation and follow-up status of ART patients, possible reasons for ART data errors, the status of systems-initiatives, the availability of labs and pharmaceuticals, clinical and quality care indicators for all HIV services, training needs, and overall programmatic strengths and challenges.

I-TECH uses an M&E database to collect and track the mentors' data. While a vast amount of data is collected, I-TECH is still working to ensure that the data is both accurate and used to the greatest extent possible. The data has the potential to aid the

clinical mentors to identify trends and challenges at the site and to track changes over time. Also, it could assist program management to measure and assess progress and ongoing training needs. I-TECH leadership is continuing to identify how to make the information more accessible and useful to mentors and site level practitioners.

I-TECH Ethiopia has also organized quarterly week-long conferences for all members of the FBT to share tools, techniques, experiences, and clinical cases. These conferences provide an opportunity for the mentors to compare the current practices of mentees at a site with what should ideally be done. The FBT in each region compile lists of best practices, lessons learned, challenges, and recommendations, which are shared with each other. In November 2007, a working group was created to define and standardize the parameters of the clinical mentoring program based on the lessons learned over the previous year and a half. In the future, ongoing, regular conferences will be held for clinical staff to share information.

In late 2007, the nurse advisors initiated an assessment of 11 HANS-trained nurse mentors. The HANS nurses were evaluated on their performance of 20 competencies related to the five steps of the I-TECH mentoring process. These steps are: 1) building relationships; 2) identifying areas for improvement; 3) responsive coaching and modeling of best practices; 4) advocating for environments conducive to quality patient care and provider development; and 5) collecting and reporting on data.

The competencies for evaluation included mentoring skills such as "the mentor was effective in providing feedback and instruction was appropriate to the mentee's needs" and "the mentor referred mentees to appropriate resources, such as national guidelines and clinical reference tools." Ratings on individual competencies for the nurse mentors indicated a high level of competence, although the nurse advisors suggested that mentors receive additional instruction on supporting self-assessment, and on identifying and taking advantage of "teaching moments."

The nurse advisors also identified additional support needs of the mentors as important to ensuring the continued success of I-TECH Ethiopia's clinical mentoring program. These included refresher trainings, ongoing clinical and technical support, recognition and routine support via conferences and email, regular visits by nurse advisors and/or I-TECH Ethiopia clinical team staff to review skills, discussion and updates of new MOH and I-TECH-generated guidelines, and sharing of program data and findings across the program.

Best Practices and Lessons Learned

1. Long-term, regular interaction and communi-

cation builds trust and strong relationships between mentors and mentees, and facilitates two-way learning, informal training and cultural understanding. Mentors must also have a deep understanding of the "clinical culture" of the mentee's practice to be effective. I-TECH mentors are all Ethiopian clinicians who are based in one region, which promotes contextual awareness and relationship-building.

2. Mentors are more effective when they are working as members of a multidisciplinary team.
3. An understanding of the model of HIV care and treatment (e.g., physician vs. nurse as primary provider) within a country is necessary before designing and implementing a clinical mentoring program.
4. Monthly regional meetings and quarterly national conferences provide a forum for mentors to share experiences and problem-solve around complex cases and systems issues with their colleagues.
5. Opportunities for mentors to participate in continuing education boost confidence and morale, and provide original models and ideas for clinical care and systems-improvements.
6. I-TECH has built the capacity of local clinicians to provide mentoring through individual mentoring of mentors by international nurse advisors.
7. A central role of a clinical mentor is to provide mentees with clinical references, training, and resources that would otherwise be inaccessible.
8. Hiring clinicians that have been identified through trainings and continuous interaction and observation in their workplaces ensures a dedicated, highly-skilled workforce with low turnover.
9. As the number of I-TECH clinical mentoring sites increased, the FBT became responsible for covering large geographic areas and numerous sites, which reduced the length, frequency, and effectiveness of mentoring visits. I-TECH Ethiopia has staffed up so that FBT are only responsible for three to four sites and work within relatively small geographic areas.
10. I-TECH uses standardized reporting forms, indicators, and technical language to facilitate communication and sharing of best practices, lessons learned, and challenges across the FBT network. This standardization is essential, given the independent nature of the FBT, the variation among sites, and the rapid growth of the program.

Challenges

1. Changing the behavior of mentees, especially within an overstretched health care system and resource-constrained environment, is a slow process. The frequency of staff turnover at facilities and extremely heavy patient loads make consistent training and regular support by mentors a major challenge.

2. Establishing relationships with mentees can be challenging. Due to the shortage of physicians in Ethiopia, clinics are often staffed with clinicians who work for half a day per week, making it difficult for the mentor and mentee to get to know each other well. In addition, mentors often meet resistance from mentees because their roles and benefits are not always understood by the mentees. However, I-TECH has found that the mentors are able to build strong, mutually-respectful relationships with mentees over time.
3. Due to the rapid scale-up of ART service delivery in Ethiopia, systems challenges can present larger threats to quality patient care than a lack of clinical competencies, such as history-taking,

physical examination, and decision-making skills. Under these circumstances, mentors often spend a large percentage of their time addressing basic systems issues rather than providing mentoring to individuals on their clinical skills.

4. I-TECH has found it difficult to implement a system of recording both quantitative and qualitative data that is accessible to the mentors on subsequent site visits and to track change over time. Since the mentors are not constantly present at each site, at times, the mentors' data does not match the official reporting of the ART site. Currently, mentors complete both site and monthly reports, which are entered into the M&E database. While the mentors spend a significant portion of time collecting data, they often do not use the database as a tool when mentoring.

Future Priorities of the I-TECH Ethiopia Clinical Mentoring Program

I-TECH is in the process of devising a better data reporting system to track changes in patient outcomes and clinical practice. While there have been incremental improvements to clinical practice and systems challenges at sites, I-TECH cannot yet definitively show that these changes are the result of clinical mentoring. There are plans to further analyze how data is compiled and used by the mentors. Additionally, it is recognized that there needs to be some standardization in the manner in which data is collected, to ensure quality and accuracy. I-TECH will continue to encourage its clinical mentors to make greater use of data when making decisions, setting priorities, and following-up on outstanding issues.

I-TECH mentors plan to increase didactic training at each site. Short, onsite trainings can be tailored to match the specific strengths and weaknesses of a targeted group of health care workers and the particular challenges faced at a given site. As patients begin to experience ART failure and Ethiopia moves toward provision of second line ART regimens, clinicians need specific and updated information on HIV and ART. It is envisioned that future trainings will be based on real-life, site-specific clinical case studies.

I-TECH Ethiopia has been working to standardize the objectives of the clinical mentoring program and processes involved in site visits. I-TECH would like the mentors to transition their focus from systems issues to improving clinical practice and patient outcomes. A technical working group convened in November 2007 at the quarterly conference addressed this issue and outlined ways in which I-TECH could continue to tailor the mentoring program to improve quality of care. I-TECH Ethiopia is developing a specific mentoring training manual and will be providing further training to mentors on how to effectively mentor.