EXPANDING ESSENTIAL TRAINING IN OPERATIVE OBSTETRICS IN UGANDA

SUMMARY

The American College of Obstetricians and Gynecologists (ACOG), the Association of Obstetricians and Gynecologists of Uganda (AOGU), and our university partners seek to expand the Essential Training in Operative Obstetrics (ETOO) program to pre-service intern training sites in Uganda and to offer in-service training program in focused District hospitals and Health Center IVs. Conducted for interns/clinical officers, OB-GYN residents and practicing physicians, this training ensures that providers have the skills necessary to perform high quality surgery to women undergoing obstetric care. This skill training is a foundational part of the journey to build high quality surgical and maternal health services at various facility levels. Pre-service training in ETOO is currently underway at Makerere, Mbarara and Busitema Universities, generously supported by a private foundation. This proposed collaboration leverages the current training program and utilizes the complimentary expertise of the Ministry of Health, academic partners in Uganda and the U.S., AOGU and ACOG expertise in medical education and residency training, and private sector funding and supplies.

Skills training requires active and engaging content for the young learner of today. ETOO uses an innovative blended-learning curriculum, which was developed with Ugandan faculty and includes hands-on simulation training and e-learning methods. It will be tailored to the skill level of the provider. ETOO is successful because it is complementary to the current pre-service general medical education curriculum, standardizes surgical skill training, and improves the technical skills of clinicians. As a supplement to the current ETOO program, ACOG and AOGU would like to expand the training coalition to include the entire care team, specifically pediatrics, anesthesia, midwifery and other cadres of healthcare providers. This multidisciplinary training approach will help improve team-based care in the operating theater, thus improving health outcomes of women and newborns.

THE ETOO PROGRAM STRUCTURE

1. **Training of Master Trainers**, experienced faculty of obstetrics and gynecology, in addition to the 5 Ugandan and 6 U.S.-based Master Trainers, who provide technical guidance to their Ugandan counterparts. Master Trainers lead implementation of training programs within their universities or hospitals, provide support to other programs and serve as clinical mentors to the students/providers.

2. **Instructor training**, conducted by Master Trainers, for faculty and third-year residents of ob-gyn. After running the course under supervision, Instructors will be able to manage courses with minimal supervision of Master Trainers, thus continuing a cycle of training that ensures sustainability. Instructors may be certified as Master Trainers after supervising a certain number of courses.

3. **Pre-course e-learning modules** delivered on an e-learning platform or dynamic USB, students will be asked to review the materials, answer case-based questions, and practice knot tying and other specific skills before attending the hands-on simulation lab.

4. **Provider training/ Simulation Lab**, conducted by Instructors, for clinical officers/ general medical interns, first year ob-gyn residents and other providers, provides hands-on simulation training on low and mid-fidelity models.

5. **Observation and Competency sign-off** of Students/Providers, after attending training, the students will perform at least 6 cesarean deliveries with senior physician feedback and assessment of Provider skills before certification is completed.

Surgical skills practiced include: cesarean deliveries, basic surgical techniques, repair of cervical lacerations, operative vaginal skills, and prevention of fistula caused by prolonged obstructed labor and iatrogenic fistula.
PROPOSED ACOG AND AOGU EXPANSION OF TRAINING

To continue the gains in provider skills we have seen as an outcome of the current university trainings, AOG and AOGU are proposing a national expansion in both pre-service and in-service surgical skills training to increase the number of providers trained throughout Uganda. Over the course of an academic year, all interns will be trained during their ob-gyn rotation with the skills to perform cesarean sections and manage complications.

Pre-Service Training

1. Training of 36 Master Trainers, who will provide training at 14 intern sites
2. Instructor training, conducted by Master Trainers, for faculty and third-year residents of ob-gyn.
3. Pre-course e-learning modules delivered on an e-learning platform or dynamic USB and practice of knot tying and skills prep.
4. Provider training for up to 20 students per course
5. Competency sign-off of Providers of observed cesarean deliveries
6. Assessment of confidence and skills at 3, 6 and 12-months post-training

In-Service Training

1. Introduction of a pilot training and mentoring program for District health officers and other providers in District and Regional hospitals in 6 health centers selected by the MOH
2. Site Assessments by AOGU members to assess barriers, clinical skills, team and facility readiness
3. Training plans developed with AOGU and ACOG mentors and faculty from Hospital IVs and District hospitals
4. Training of up to 6 Master Trainers with the skills and capacity to train Instructors.
5. Training of Providers, followed by team training with anesthetists and OR teams, utilizing ACOG Alliance on Innovation in Maternal Health training model
6. Ongoing mentorship, including weekly case conferencing and debriefs
7. Stakeholder meeting convened by AOGU to assess progress and review data
8. Establishment of a Regional Mortality Review Board to review cases and advise on remediation
9. Expansion to additional sites or regional cluster to reach all sites requested by the MoH
10. Ongoing mentoring and supervision of providers by Master Trainers to ensure consistent delivery of quality care, and appropriate and timely referrals

The in-service program will have a pilot phase to test assumptions, and then expand to regional training implementation. The multiple components of training employ the change management best practices framework. Conducting In-service and Pre-service trainings on a coordinated schedule will leverage Master Training costs. After the first round of training at 6 sites, ACOG will work with the MOH to conduct trainings in more sites or conduct regional trainings in a central location.

DATA ANALYSIS, MONITORING AND EVALUATION

When observing cesarean deliveries, faculty mentors assess technical skills of Providers. At intervals, Providers will be monitored using the criteria including the Objective Structured Assessment of Technical Skills to assess competency over time. An online learning platform will collect and collate pre- and post-test scores and lecture questions in e-modules. Training/data collection assistants at each university will continue to collect data in three-month cycles after each training. Analysis of data for decision making and quality improvement will be supported by ACOG experts.

PROFESSIONAL ASSOCIATION STRENGTHENING AND STAKEHOLDER MANAGEMENT

ACOG will facilitate stakeholder meetings throughout the program period to review trainings and the ETOO curriculum, refine indicators, decide on implementation plans and identify leaders in each training institution who will serve as program liaisons. ACOG will support AOGU’s leadership capacity building; strengthening of the association’s governance, program management, and fiscal management; development of mechanisms to develop, deliver and manage continuing medical education programs; and invitations to attend the ACOG Annual Clinical and Scientific Meeting and attendance of ACOG Fellows at the AOGU clinical conference.
BUDGET AND STAFFING REQUIREMENTS

The projected budget for the 24-month integration of ETOO into pre-service and in-service training programs is estimated at $2.17 million USD. The total budget may change as travel may be consolidated and training expenses depend on participation.

For more detailed information on the ETOO program, please contact Carla Eckhardt at ceckhardt@acog.org or at (202) 863-2579.
This graph outlines and compares the pre- and post-test for Mbarara University and Makerere University trainings. The data from Mbarara 1 (a 2017 training of interns only) demonstrated that focusing training efforts on interns rather than a mix of interns and ob-gyn residents delivers a higher impact because of the knowledge deficit is higher for interns on surgical obstetrics.

1 Indicators that we seek to collect include:

- Number of Master trainers
- Number of Instructors certified through Instructor training program
- Number of trainings conducted
- Number of certified Instructors who carry out training of providers
- Number of providers trained
- Pre- and post-test demonstration of knowledge improvement
- 10-point objective review for observed cesarean deliveries for all Providers, which will demonstrate surgical competency post-training using OSATS criteria
- Number/% of trainees completing six observed cesarean sections within three months post-training
- Number/% of trainees who perform six caesarean sections to standard post-training under observation; number/% who demonstrate improvement from first to final observed procedure
- Number/% of certified trainees who report confidence in their surgical clinical skills six months post-training

Facility-based indicators will include:

- Maternal Mortality ratio
- Maternal Morbidity, where possible
- Transfusion data if available
- Maternal ICU admissions
- Return to OR re-operations
- Hysterectomy post-delivery or related to labor
- Identification and diagnosis of Fistulas and or iatrogenic Fistulas
- Cases of fatalities from post-partum hemorrhage, pre-eclampsia/eclampsia, obstructed labor, infections/sepsis and complications of abortion in the review period before and after training
- High Dependency Unit admissions
Pre-Course Work
Interns are required to complete required reading, modules, and an assessment before entering the simulation lab.

Instructor Course
1 day
Ob-Gyn Faculty and 3rd year residents who are already competent in performing Cesarean deliveries learn how to teach the course material and review mentorship expectations.

Providers Course
3 days
Interns in their Ob-Gyn rotation are taught the ETOO course material and participate in a surgical skills lab to practice operative skills.

Mentorship
Completed within 3 months
Ob-Gyn faculty and 3rd year residents observe 6 Cesarean deliveries and use a checklist to record the competency of interns who have completed the ETOO course.

ETOO Certificate
Ob-gyn faculty and third year residents receive an ETOO Instructor certificate.
Interns receive an ETOO Provider certificate and now have the skills to safely perform Cesarean deliveries.

Comprehensive Master Trainer Course
3 day
Representatives from the Ob-Gyn Faculty at universities and intern training centers will travel to designated location to receive an in depth training on how to conduct the ETOO course.

The ETOO trained faculty will conduct 2 ETOO courses with the supervision of a senior Master Trainer from another institution.

ETOO Master Trainer Certificate
The ETOO trained faculty will be certified upon completion of 2 supervised ETOO courses. The faculty will run the ETOO course with little to no supervision.