

# **Filling the gap - creating a resuscitation skills training program in Kenya**

WFSA Committee: Education

## **Project manager:**

Wagaki Gicheru MD (KMTC).

## **Project Representatives:**

KSA: Louis Litswa MD, Susane Nabulindo MD

KMTC: Wagaki Gicheru, MD; David Ngunjiri, COA

NACOA: Fenwick Muthangya, COA

Trainers: Robert Culver CAA, Bich Kim Vuong CAA, Quentin Fisher MD (all USA)

This project, leveraging a WFSA Committee grant with supporting participants, helped establish the basis for a sustainable training program in BLS and ACLS in Kenya.

## **Participating organizations:**

WFSA, National Association of Clinical Officers of Anaesthesia, Kenya Medical Teaching College, Kenya Society of Anesthesia, Case University DC Master's Program in Anesthesiology, CPRBob, Inc.

## **Background**

During one of my travels to Nairobi to assist with the East Africa Pediatric Anesthesia Fellowship, I became acquainted with the training program for the Anesthesia Clinical Officers. As faculty member for the Case University Master's program in Anesthesia, it occurred to me that our Anesthesiologists Assistants (AA) faculty might be available and interested in helping with ACO training at the Kenya Medical Training College (KMTC). Following several discussions with the Program Director, Dr. Wagaki Gicheru, we initiated a teaching visit with Quentin Fisher, MD, and Sabena Kachwalla, CAA. Over three years, our relationship has grown, with three visits to KMTC and development of a monthly video case conference between KMTC and Case University students. In November 2016, Megan Varellas CAA, Bob Culver CAA and Quentin Fisher MD offered a 2-week block on resuscitation, trauma, and related issues to the 50 COA students at KMTC. All were certified in BLS, and the seniors in ACLS.

Subsequently, on invitation of the National Association of Clinical Officers (NACOA), Bob Culver CAA, Regional AHA Representative for the US Southeast, and Sabena Kachwalla, CAA, both long-experienced AHA trainers attended the 2017 annual meeting in Malindi, Kenya to offer training in AHA BLS and ACLS to sixty COA's over 2 days.

In parallel, the Kenyan Society of Anesthesiologists (KSA), KMTC faculty, and NACOA expressed interest in developing a Kenyan training center for AHA courses. A major obstacle in the past was the unavailability of a Kenyan-based AHA training center for required AHA documentation and quality monitoring. A US-based training center (ERTSS, Fayette, GA) agreed to provide service until a Kenyan center could be established.

Thus, we applied for a WFSA Committee grant with collaboration from KMTC and KSA. Dr. Gicheru, director of KMTC Anesthesia Clinical Office training and also a member of the KSA agreed to sponsor the project.

## **Training AHA Instructors course, May 2018**

Through a cooperative effort among the WFSA, KMTC, KSA, Case University, NACOA, and Bob Culver's training company, CPRBob, Inc, a train-the-trainers course was held May 10-18th. Candidate trainer instructors were selected by KSA, NACOA, and KMTC. Unfortunately, four KSA physicians withdrew because they enlisted in another WFSA-sponsored course of which we were unaware, but other participants were identified. Ultimately, we ended up with 14 trainees: 7 Clinical Officers in Anesthesia, 4 Physicians, and 3 KMTC Perioperative Nursing faculty.

Extensive advance planning was accomplished through videoconferences and email. In addition, the American Academy of Anesthesiologists Assistants (AAAA) invited two Anesthesia Clinical Officers (who were instructor candidates) to visit their annual convention in St. Petersburg, Florida in April 2018 to see how the AHA courses are given and assist in planning the project.

Supplies were provided through the WFSA committee grant (\$10,000), and in-kind donations from Case University, CPRBob, and individual donations totaling approximately \$4,000.

All courses, books, study materials and software for instructor candidates and their trainees were provided free of any charges (it is estimated that we provided about \$13,400 worth of free coursework). KSA charged \$60 each to the 25 physician trainees for the days 6-7 classes, though this was not discussed prospectively. It was indicated that some costs would be reimbursed to CPRBob.

### **The program (May 10-18, 2018)**

Day 1: refresher BLS/ACLS class was held for the 14 instructor candidates. All were given AHA Instructor's Manuals for BLS and ACLS, and licenses for use of the DARTSim code simulator for their personal computers. Anesthesia Clinical Officer students were given BLS and ACLS books to study for their courses on days 5-6.

Day 2-3: AHA Instructor course for BLS/ACLS for the 14 candidates. Review of AHA protocols & training expectations.

Day 4 off

Day 5-6. New instructors teach BLS (Day 5) and ACLS (Day 6) to the class of 21 anesthesia clinical officer students of KMTC. For BLS, instructors worked in teams of two with 3-4 students per station while being mentored by the US-based trainers.

For ACLS, the new instructors each first moderated discussions on ACLS principals. The class was then broken into groups of 4-5, with instructors again working in five teams for megacode practice. Care was taken to assure that instructors rotated responsibilities. Each station was assigned a different scenario and arrhythmia sequence. After 2-3 trials at each station, the students rotated so they practiced all 5 scenarios, with every student having multiple opportunities as team leader.

The written exam was graded and reviewed with the class as a whole.

Day 6-7. New instructors again taught BLS and ACLS to a group of 25 physicians - anesthesiology residents and a few qualified physicians. The sequence was the same as described for the previous two days. Hence, all instructors had two opportunities to teach both courses.

Day 8. New instructors were debriefed, given instruction on navigating the AHA Instructor's network website, and discussed how to schedule and manage courses. Discussions were held with leaders of KMTC, NACOA, and KSA on tracking training and caring for equipment.

Donated equipment was taken to NACOA offices for stewardship, according to the agreement letter attached.

Coincidentally while the courses were ongoing, two newly certified providers reported using their new resuscitation skills in the hospital, one for a patient who arrested post-craniotomy, and another for an intrapartum arrest due to high spinal during cesarean section.

## **Summary**

Over the course of 8 days we were able to certify 14 new instructors, consisting of a mix of physicians, nurses, and clinical officers in BLS and ACLS. All were excited, enthusiastic, and conscientious in their preparation. They in turn certified a total of 46 new trainees in BLS and ACLS. The cooperation, camaraderie, and mutual support among the groups were especially noteworthy. At the end, we helped forge an agreement between KSA and NACOA to promote a sustainable program utilizing the manikins, books, DVD's and supplies we brought. The presidents of KSA and NACOA agreed to meet later in the week to work out details for further training projects.

The future for sustained training and dissemination of good resuscitation skills and principles is optimistic. Several of the new instructors have already scheduled training courses.

Respectively submitted,

A handwritten signature in black ink, appearing to read "Q. Fisher". The signature is fluid and cursive, with a large initial "Q" and a long, sweeping underline.

Quentin A. Fisher, MD  
Member, WFSA Council  
USA

[quentin.fisher@verizon.net](mailto:quentin.fisher@verizon.net)















During the week of May 10-18, 2018 fourteen physicians, anesthesia clinical officers, and nursing faculty of KMTC received training to become certifying instructors in American Heart Association courses in BLS and ACLS, as listed below. These individuals represent KSA, NACOA, and KMTC. The goal of the training is to promote the development of a sustainable training center for AHA courses.

The training program, including material supplies, was underwritten by a grant from the World Federation of Societies of Anaesthesiologists, supplemented by donations from Case University D.C. Master's in Anesthesiology, and the CPRBob Cares Foundation.

As of this date, the material supplies brought for the program are being donated to the new Kenyan ERTSS training site for use by the listed new instructors that were trained during the May 10-18 program. The materials are to be used in training to other medical professionals, under affiliation with the ERTSS training center (Fayette Georgia, USA), or later affiliation changes as required.

In consideration of the above, the National Association of Clinical Officer Anaesthetists(NACOA) has agreed to take responsibility for maintaining the materials and equipment, which include:

- 2        Prestan adult manikin, set of 4
- 2        Simulaids trauma manikins
- 6        Ambu bags and masks
- 4        WNL AED trainers
- 1        BLS DVD sets
- 1        ACLS DVD sets
- 20      BLS Providers manuals
- 20      ACLS Providers manuals

[note: one set of DVD's for ACLS and BLS and 2 each of the texts will be donated to KMTC]

Agreement:

As representative of the NACOA, I will assure that:

1. Materials are made available to the certified AHA instructors listed below for conducting courses, regardless of affiliation.
2. Operating procedures will be developed cooperatively among KSA and NACOA for tracking use of the DVD's, books, and equipment. The written operating procedures will include:
  - Guidelines for borrowing equipment
  - Written agreements with trainers outlining responsibilities for rented materials
  - The AHA Instructor Affiliation Agreement
3. Costs for the courses fall in three categories: (1) rental fees paid to the training site by instructors to use materials provided; (2) fees paid by the students to AHA for any on-line training or texts; (3) fees paid by students to the instructor which cover all fees due the training center, cost of cards, plus additional instructor charges.
  - a. Rental fees will be set to assure expenses for cards, books, supplies, and equipment maintenance are met. KSA and NACOA will develop a schedule of rental costs that must be paid by instructors for conduct of classes. All instructors will respect these rules equally.



b. Course fees charged by the instructors should be reasonable to make courses affordable to target audiences. It is agreed that in no instance will course charges exceed those of the training center (ERTSS).

4. Equipment will be kept clean, and in good working order.


5. Appropriate study materials (AHA texts) will be available to all course enrollees. It is strongly recommended that AHA algorithm cards are given to all ACLS enrollees for their own use.

6. Broken or non-functional equipment will be expediently repaired or replaced as needed.

7. Supplies of necessary disposables, such as plastic lung inserts, AED training pads, pocket masks, etc. are maintained in adequate amounts to sustain course scheduling.

8. All courses given under the auspices of ERTSS will be tracked and recorded according to the requirements of the AHA and the ERTSS Instructor affiliation agreement. Such records will be made available for audit by the training center (ERTSS) when requested.

On behalf of NACOA,

  
Signature

NATIONAL ASSOCIATION OF CLINICAL  
OFFICER ANAESTHETISTS  
P. O. Box 19995 - 00202, KNH, NAIROBI-KENYA  
Tel: 020 533 7738 / 0790 942 664

Date: 21/05/18

FENWICK M. MUTHANGYA - NACOA CHAIR  
Printed name

Addendum: BLS/ACLS instructors certified 18May 2018:

KSA:

Kimberly Kamau, MD (KSA)

Mary Mwangi, MD (KSA)

Wagaki Gicheru, MD (KSA, KMTC)

Sarah Ushindi, MD (KSA)

KMTC:

Zipporah Maina, BSN (KMTC)

Miriam Wanyoike, BSN (KMTC)

NACOA:

Ruth Wanjiru Muiruri, RCOA (NACOA)

Gloria Nyanchoka Omari, RCOA (NACOA)

Stella Chemutai Koske, RCOA (NACOA)

Abdullahi Ismael Ibrahim, RCOA (NACOA)

James Kinyua Nderitu, RCOA (NACOA)

Fenwick Mutunga Muthangya, RCOA (NACOA)

David Kingori Ngunjiri, RCOA (NACOA)

SmileTrain:

Rona Breese, BSN