ASA Global Humanitarian Outreach Overseas Teaching Program:

The ASA Committee on Global Humanitarian Outreach (GHO), in partnership with the Canadian Anesthesiologists' Society International Education Foundation (CAS IEF), has remained active in Rwanda since 2006. Working in education to expand capacity for safe anesthesia across Rwanda, the Overseas Teaching Program has graduated 18 Rwandan anesthesiology residents who are now faculty and promote anesthesia safety, education and patient advocacy. ASA volunteers continue to play a key role as the program is transitioning focus to cultivate teachers and leaders while still supporting resident training. Largely considered a successful model, "brain drain," low recruitment and adverse patient outcomes remain as challenges. We have attempted here to present two perspectives of this partnership in order to understand the way forward during this pivotal time of change. Below are summarized interviews of Drs. Paulin Banguti and Jeanne d'arc Uwambazimana (Rwanda) and ASA volunteer Dr. Ana Crawford (U.S.).

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Rwanda

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Jeanne d'arc Uwambazimana, M.D.
Rwanda

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Ana M. Crawford, M.D.
U.S.

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When did you first start working with this program?

Rwanda:

In November 2005, I (Dr. Paulin) met Dr. Angela Enright, of CAS IEF, who was evaluating our site for the program. At that time, my English was very poor and I could not understand a lot of what she was saying. I was a first-year anesthesia resident rotating at the teaching hospital in Butare. The first volunteer arrived in January 2006.

U.S.:

My first time (Dr. Crawford) as volunteer faculty was in 2012. Accompanied by a senior anesthesia resident, we spent one month working to provide didactics, workshops and intraoperative teaching to the Rwandan residents.

What impact has this program had on the safety of anesthesia in Rwanda?

Rwanda (Dr. Paulin):

The biggest contributions are increased vigilance and improved capacity for safe anaesthesia. This program helped us recognize anesthesia as not only delivering fluids and gases, but as all of perioperative medicine. It has improved our teaching program for physician anesthesiologists and non-physician anesthesia providers. The ASA GHO/CAS IEF curriculum development and mentorship improves clinical and theoretic learning. Going beyond the anesthesia providers, departments like surgery and nursing have benefited directly from the teaching and administration skills instilled

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by this program. Together with volunteers, the local providers now develop and lead many continuous professional development (CPD) courses for teaching at district hospitals.

U.S.:

Safety culture has vastly improved over the last six years. With increases in available functioning monitors and their consistent use, pre-induction checklists and surgical timeouts occurring almost 100 percent of the time, the culture has shifted to have greater focus on patient safety and effective communication among the care teams. We also have a fairly sophisticated simulation center and continue to reinforce the use of cognitive aids for crisis management.

Photo courtesy of Marcel Durieux, M.D.

Volunteer Dr. Kristi Rose (left), from the University of Virginia, helps train Rwandan anesthesia resident Dr. Jean Damascene Nyandwi, in preparing for an anesthesia induction.

How does this program affect recruiting of anesthesia trainees in Rwanda?

Rwanda:

Advocacy for safe surgery, a solid teaching program and the simulation center all increase recruiting of physicians into anesthesiology. Volunteers engage medical students, improving teaching modules as well as providing role models for the students. A strong curriculum, overseas opportunities in both Canada and the U.S., and improved O.R. collaboration are attractive to medical students. The simulation center, established in 2014, is key for transferring skills. Simulation time during medical student rotations definitely piques their interest in anesthesia and critical care.

U.S.:

Historically, medical graduates were instructed on which specialty to choose based on the needs of the country. More recently, physicians choose, and more are choosing, anesthesiology. Some residents have stated that they chose anesthesia because of the formal didactics and constant presence of teachers, something not always present for other specialties. This year's class of 10 is testament that the program remains attractive to medical students.

What has been the impact on the morale of in-country anesthesiology physicians from the presence of foreign volunteers?

Rwanda:

When CAS IEF/ASA GHO started, the country of Rwanda had only one Rwandan anesthesiologist, Dr. Jeanne d'arc Uwambazimana. Dr. Jeanne completed her training in Belgium from 1987-1993 because there were no options for training in Rwanda. After the genocide in 1994, there were few physicians trained in anesthesia and they had to train in France, Tunisia or Belgium. The CAS IEF/ASA GHO program and its volunteers helped Dr. Jeanne accomplish her vision of training more Rwandan anesthesiologists in Rwanda.

Interaction with volunteers increases Rwandan faculty and resident confidence in their own practice. We are getting exposure to state-of-the-art teaching and collaboration. Now, Rwandans are sharing ideas with each other, but also with recognized leaders and authors in the field. However, it also raises frustration when Rwandans realize higher salaries and higher resources are not available to them. Unfortunately, this does contribute to brain drain as some have left the country seeking high salaries and resources to provide for themselves and their families.

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U.S.:

As a foreign volunteer, it is difficult to comment on the day-to-day morale of Rwandans. I feel that most enjoy the exchange of ideas with colleagues both near and far. There are always challenges, but the overall impact is positive. We want this to be a truly bi-directional collaboration where both parties discover the resources available in both settings and adapt them where needed.

For Rwandan residents, there is an externship at Dalhousie University in Nova Scotia and similar opportunities at Stanford, Cornell and Penn State in the U.S. External rotations are well received by participants and desired by eligible trainees. For Rwandan faculty, we are also working to provide opportunities for conference attendance, continued professional development and teacher training.

Do you think this program has a positive or negative impact on brain drain?

Rwanda:

Both. It is a double-edged sword. Since this program started, it has improved our working conditions. Education has improved relative to other low-income countries. We have access to updated resources. Rwandans now have access to improved equipment and systems. The program has facilitated Rwandans with research and access to international conferences. Anesthesiologists now have a network and realize their position among other practitioners. Brain drain is the negative impact and is due to our low-resourced setting, an expected consequence of raising the standard in a country without an effective retention strategy.

U.S.:

Rwanda has retained more anesthesiologists than it has lost, but brain drain is a complicated balance of push factors (e.g., poor working conditions, poor reimbursement) and pull factors (higher salaries, advanced technology). Many physicians leave for training, and although most return, there is a constant threat of brain drain until a critical mass of skilled health workers receiving wages facilitating an acceptable quality of life is established. This program trains skilled anesthesia providers, an improvement when the only option for anesthesia training was historically provided outside of Rwanda.

What is the greatest strength of this program? What is the greatest weakness?

Rwanda:

The greatest strength of this program is transfer of knowledge through didactics, clinical skills teaching, professional development and research skills. This program is now mentoring the teachers in curriculum development, administration, research and global networking. The greatest weakness is the difficulty convincing Rwandan leadership of the positive economic and health impacts from investing in anesthesia and safe surgery. We need more trainees, we need to maintain the training program and we need an effective retention strategy. Rwandans need to get more involved in the training, and they need to be motivated to be concerned about perioperative safety. These things are not inherent when working for low salaries and in poor conditions.

U.S.:

Persistence. Over the years, Rwanda has had an influx of foreign investment and development, so naturally health care has grown and changed. This program remains flexible, evolving to meet the needs of Rwandans. We have committed leaders from Canada and the U.S. invested in the collaboration's success. Anesthesia technicians – high school graduates completing three years of anesthesia training – administer the majority of anesthetics across the country. Although intermittently included in our education programs, many of these technicians would benefit from additional training and continuing medical education. If we had limitless resources, it would be ideal to consistently include technicians in our program.

Where do you see the future of the program?

Rwanda:

We are working to recruit more residents. We hope the program's goal to "train the trainers" continues, specifically for mentoring teachers and senior residents. We also need to further develop research and writing skills. There is still much to improve upon. We are hopeful this will come through our specialty's expanding network working toward safe surgery globally.

U.S.:

Anesthesiologists realize that training and education do not stop after residency. Continued training of residents, development of fellowship programs, continuous medical education programs, and research mentorship will all be needed to raise Rwandan perioperative health care to international standards and beyond.

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