Global Surgery Office Newsletter

Sept 2016

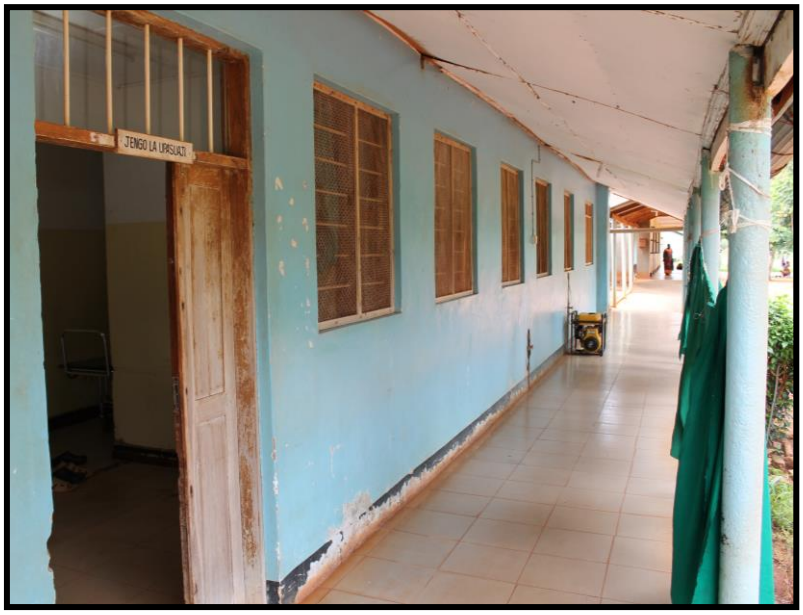
# Dalhousie-Dodoma Research Update

Gregory Knapp

How much surgery is being performed in rural Tanzania? Who are the providers and what is the case mix? What is the burden of surgical disease that goes without appropriate care? These questions form the building blocks of health system development and yet remain unknown variables in many low- and middle-income countries. How can you design a post-graduate surgical curriculum when the known burden of surgical disease is based on little more than anecdotal evidence? With our partners at the University of Dodoma and the Nova Scotia Health Authority we quantified the total output of surgical care in two provinces in central Tanzania and used the data to estimate the burden of unmet need for surgical care across rural Tanzania.

Robyn Traynor (Nova Scotia Health Authority) and I travelled to Tanzania from February 7th – March 4th. After meeting with University of Dodoma and Ministry of Health officials, we delivered a series of lectures to the medical students, residents and junior faculty, including an overview on grant writing, critical appraisal and north-south funding opportunities. In the months leading up to our arrival, our partners had laid the groundwork for data collection, which then proceeded without incident. The research required visiting every operating room in two provinces and recording all procedures performed within the preceding 12 months, including procedure type, sex, gender and age.

The total annual output of surgical procedures for Dodoma and Iringa provinces is just over 17,000. Utilizing the best estimates of required regional need the unmet need approaches 60000 procedures per 100,000. To meet projected need, over 160,000 additional procedures are needed annually. Extrapolated to rural Tanzania an additional 2 million procedures a year are required to meet projected need. There are 149 surgical providers between the two provinces and non-physicians (i.e. assistant medical officers) comprise over 40% of the surgical workforce. There are just 23 specialists, largely centered in the regional administrative capitals, with only three practicing at the district hospital level. The five most common procedures were: cesarean section, ORIF, laparotomy, bilateral tubal ligation and basic wound/laceration closure. The case mix represents a nascent surgical delivery system and suggests a large unmet need for elective and specialized surgical service delivery.




Despite the long hours on the road, the data collection went off without a hitch and, uncharacteristically for travel in low- and middle-income countries, was issue free. Our partners in Dodoma were gracious hosts and with each visit there is an increasing familiarity and collegiality. In addition to a formal manuscript for peer-review publication, we are currently writing plain language summaries of the findings for presentation to regional and national Ministry of Health officials. The work has already been accepted to the Bethune Round Table, which we are hosting in Halifax for the first time this June 3-4th. Sub-analyzes of the dataset have been submitted to the Canadian Association of Pediatric Surgery conference and Canadian Surgery Forum. As we move forward with our joint research agenda, we are preparing to pilot a survey to administer at the time of discharge to quantify out-of-pocket expenditures accrued during admission for emergency, non-elective surgery. Stay tuned for more updates.

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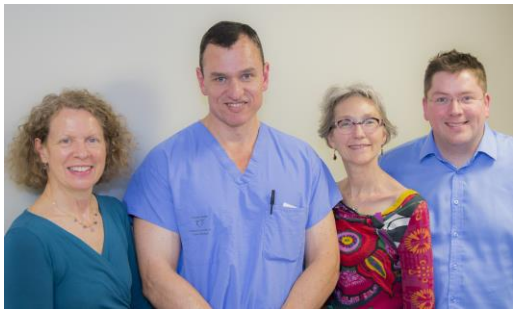
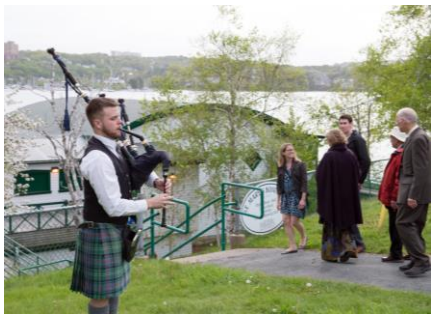
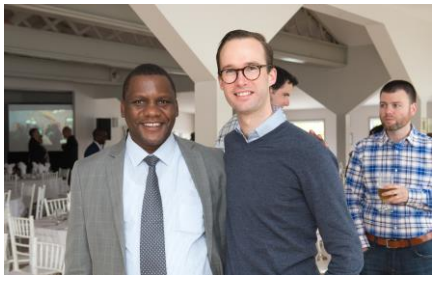
The Bethune Round Table (BRT) is an annual interdisciplinary scientific meeting hosted at a Canadian academic centre to discuss challenges and solutions to improving surgical care to under-serviced and marginalized populations in low- and middle-income countries. The objective of the BRT is to bring together health professionals from a variety of disciplines including surgeons, anesthesiologists, obstetricians, and nurses to share their research and experiences in the delivery of surgery in low-resource settings.

In June 2016, the Department of Surgery hosted the Bethune Round Table in collaboration with the Departments of Obstetrics & Gynaecology and Anesthesia, Pain Management and Perioperative Medicine. The theme of the 2016 course was "building collaborative teams to strengthen global surgery" including collaboration for clinical service, education, research, and advocacy. There were 132 people in attendance, representing surgery, anesthesia, obstetrics, nursing, and students. The international delegation included participants from Rwanda, Papua New Guinea, Ghana, Nigeria, Gambia, Democratic Republic of Congo, Uganda, Haiti, South Africa, UK, USA, Australia, and Canada.

We gratefully acknowledge the presenters, delegates, sponsors, and organizers who helped make this exceptional event a huge success. See you in Ottawa!







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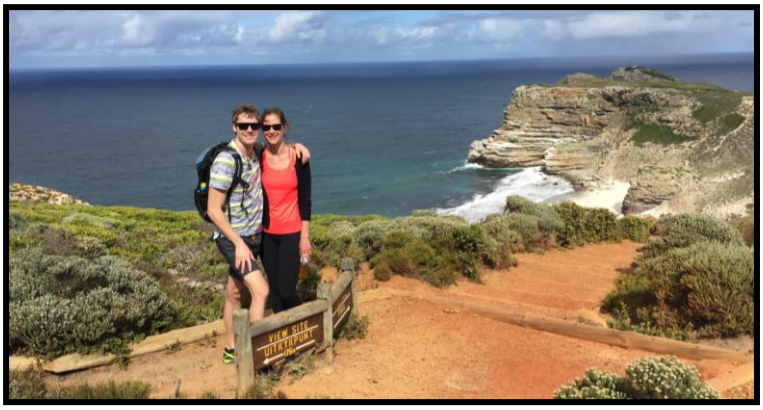

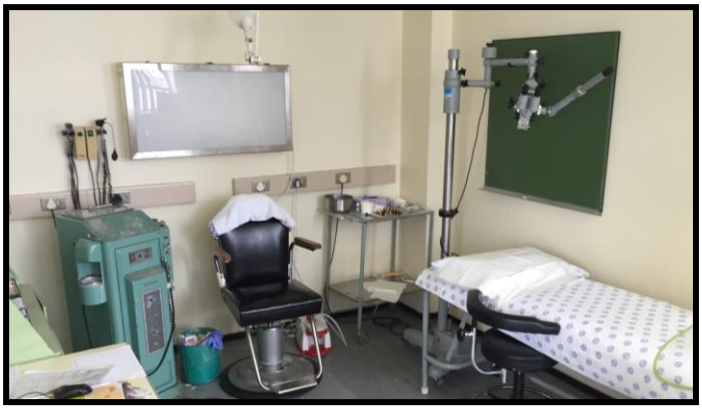

## Global Health Elective Nico Moolman

Late in my PGY3 year, I was fortunate to go on an international elective in South Africa, where I spent four weeks with the Otolaryngology – Head and Neck surgery department.

Being born in Pretoria, South Africa, and moving to Canada when I was 16, made this a great opportunity to both revisit my home country and experience Otolaryngology practice in a different environment. My rotation was based out of the Tygerberg public hospital in Cape Town. This hospital services a catchment area of 2.6 million people, including the vast surrounding rural areas. There are 1384 hospital beds and over 28,000 surgeries performed each year.

South Africa is culturally diverse, and Cape Town is no exception. The patient population consists of a variety of ethnic groups and commonly spoken languages include English, Afrikaans, Xhosa and Sotho; translators are often required during medical visits. There is a great respect for all patients and their cultural needs; nurses in the clinic often speak multiple languages and make patients feel more comfortable in the hospital setting which is an unfamiliar place for many.

In South Africa many people lack access to needed health care. For the Otolaryngology clinics, large groups of patients would frequently arrive by bus from local villages early in the morning; many cannot afford travel to the hospital by themselves. There is no set appointment time and some patients will wait all day in the hope of receiving care.

The Otolaryngology service in Halifax treats patients with a variety of diseases that affect the ear, nose and the upper aerodigestive tract. We frequently need the help of our professional colleagues in nutrition, speech language pathology and audiology. In Cape Town this was no different, however access to these resources were limited even within the hospital. This is due to the limited financial resources in public hospitals in South Africa compared to the private healthcare that is available to those that can afford it. Fortunately, Tygerberg Hospital is an academic hospital with an Otolaryngology training program, and this benefits the patients. There are weekly staff led ward rounds to teach and discuss patient care. There is also a strong collegial relationship with the nurses and staff on the ward.

During my elective, I was fortunate to meet great residents and staff doctors who provide excellent care to their very diverse patient population. I also felt fortunate that I could be part of the team, helping patients who often came from underserved rural areas. I see global health as part of my future as an Otolaryngologist – Head and Neck surgeon, and I hope to explore different places in the world where there is a need for education and surgical training.

I would strongly recommend a global health elective in Tygerberg Hospital, Cape Town. It provides a good academic infrastructure through Stenllenboch University, which provides excellent learning while also exposing learners to global health issues such as poverty, resource limitations, access to care and advanced disease presentation. Cape Town is also a vibrant city with many natural attractions in the surrounding area. I was an excellent experience.