**UW** Medicine

## SURGERY

## Global Health: The Department of Surgery's Efforts in Meeting Global Health Needs



Charles N. Mock, MD Professor Division of Trauma & Critical Care (Joint appts Dept of Global Health & Epidemiology) University Medical Center UW School of Medicine The Department of Surgery's involvement in global health is natural given its location within a University with one of the country's largest and most prestigious Departments of Global Health. With the Bill and Melinda Gates Foundation, the largest single private contributor to global health efforts, also in Seattle, the University of Washington is at the epicenter of philanthropic efforts, focused on improving health throughout the world. Add to these factors the passion and commitment of a number of our faculty who are involved in bringing surgery into global health efforts, and a Chair who fosters and supports these endeavors, and you have a Department that is making a difference in addressing the burden of global disease by researching, enlightening, teaching, advocating and building surgical global health capability.

Relieving the burden of disease with surgical interventions requires a multi-pronged and multi-tiered approach. We have several Department faculty who are involved in singular or event-oriented surgical interventions. For example, **Dr. Eileen Bulger**, **Professor and Chief of Trauma**, is a member of the International Medical-Surgical Response Team (IMSURT) which responds to disaster situations worldwide (e.g. the Haitian earthquake). Without minimizing importance of any of our faculty who devote their time and energy to global health outreach, this article focuses on three who are involved in the areas of research, advocacy and training: **Dr. Charles Mock**, **Professor**, **Division of Trauma & Critical Care (with joint appointments in the Departments of Global Health & Epidemiology); <b>Dr. Benjamin Anderson**, **Professor**, **Surgical Oncology and Director of the Breast Health Global Initiative** (BHGI); and **Dr. Brant Oelschlager**, **Professor and Director of the Center for Videoendoscopic Surgery (CVES)**.

**Dr. Charles Mock:** Following his surgical residency, Dr. Mock worked for two years in Ghana. It was during that time that his life-long passion for improving health globally emerged.

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Dr. Mock recalls working with a somewhat unexpected patient population. "While working as a surgeon in Berekum, Ghana (1989-1991), I was surprised at the high volume of trauma patients there were to treat. I had expected to see numbers of patients with tropical diseases (such as typhoid) and obstetrical complications, and I did see and treat those diseases and conditions. However, the high volume of trauma in a peaceful, agricultural area was surprising. I was also surprised to see the lack of attention to trauma as a health problem globally. The more I read and looked into it, the more I saw that trauma was a huge problem globally; that it was growing quickly in most Low and Middle Income Countries (LMICs), primarily due to increased use of motor vehicles; and that there was very little going to systematically improve care for injured persons or to improve the scenario for road safety and other aspects of injury prevention."

In 1992, he came to Harborview Medical Center (HMC) to enter the UW Trauma Fellowship that trains surgeons in clinical trauma care and in public health. He credits this training in injury prevention and systematic improvements in trauma care for making it possible for him to undertake high-impact research, identifying affordable and sustainable ways to strengthen care of the injured globally. The UW Department of Surgery has been his home base since that time as he continues to build on 30 years of experience.

Alongside colleagues within the Trauma and Critical Care Division of the UW Department of Surgery and colleagues in Ghana, Dr. Mock conducted the largest survey of injury ever undertaken in LMICs (at that time). With over 20,000 persons surveyed, this research brought attention to this global health issue. He continued research in Ghana, and in a growing number of other countries, including India, Mexico and Vietnam. The World Health Organization (WHO) became increasingly interested and Dr. Mock was given leave from the UW from 2007-2010 to work at the WHO to establish a trauma care unit. The goal of the unit was to develop global standards for trauma care to assist ministries of health in LMICs to strengthen care for injured persons in the hospitals they manage as well as help provide them with on-the-ground assistance to improve trauma care for their citizens.

Since his return to HMC in 2010, Dr. Mock has been instrumental in creating a Global Health in Academic Surgery Track in our surgical residency program. With its emphasis on research and policy development skills, it is unique among surgery residencies in the US and globally.



**Dr. Benjamin Anderson:** Dr. Anderson's interest in global health arose from his clinical work as a surgeon primarily involved with the multi-disciplinary treatment of breast cancer disease. Although breast cancer related deaths for women worldwide, he

realized that the methods and standards of care practiced in resource-rich countries (like the US) would not translate well in LMICs. He was inspired to seek out ways to lessen the impact of cancer in these areas of the world. The difficulty in treating cancer in LMICs is multiplied by the fact that cancer treatment is not a single intervention. "The global challenge of breast cancer extends beyond the capacity of any one partner or sector to address. Surgical intervention is one part of treatment, but there must be other treatment modalities as well," says Dr. Anderson.

In 2002, this awareness led Dr. Anderson and his cofounding sponsors, The Fred Hutchinson Cancer Research Center and the Susan G. Komen for the Cure, to create the the Breast Health Global Initiative (BHGI). BHGI is an innovative alliance and network of individuals, regional, national, and world health organizations, government agencies, non-governmental organizations (NGOs) and corporations, who share a dedication to improving breast health care and cancer treatment for women in economically disadvantaged countries.

The stated mission of BHGI is to "develop, implement and study evidence-based, economically feasible, and culturally appropriate Guidelines for International Breast Health and Cancer Control for low- and middle-income countries to improve breast health outcomes and access to breast cancer screening, detection and treatment for women." BHGI serves as a catalyst for public health research and international demonstration projects aimed at validation and implementation of these Guidelines. International educational, research and guideline-based projects have been coordinated by BHGI world-wide. Currently BHGI has active collaborations in Bogota, Colombia with the Colombian National Cancer Institute, Mexico City with the Mexican National Cancer Institute, Shanghai, China with the Shanghai CDC and Jeddah, Saudi Arabia with the Shiekh Mohammed Hussein Al-Amoudi Center of Excellence in Breast Cancer.

While BHGI is supported by many and has made great advancements in achieving its goals, the international health community has not always shared the vision. In a recently published Op-Ed piece (Anderson BO. Breast Cancer and Noncommunicable Diseases: Where in the World Do We Start? ASCO Post, 3(10): 2012), Dr. Anderson discusses the work being done to advocate for change of the mindset that says "breast cancer interventions are impractical for poorer countries, both because of implementation costs and limited feasibility of treatment in the primary care settings." Among other activities, BGHI is focused on developing core indicators and metrics for breast cancer such as the median invasive tumor size at initial diagnosis. As he points out, "as simple as it might sound, knowledge of median invasive tumor size provides a powerful indicator regarding the state of breast cancer detection."



**Dr. Brant Oelschlager:** Dr. Oelschlager's interest and venture into global health began more recently. He was asked to travel to Ethiopia to help teach laparoscopy skills to the faculty at the Addis Ababa University (AAU) School of Medicine. This and other factors, such as the data on high esophageal

cancer rates in Ethiopia, led him to the University's Black Lion Hospital.

Dr. Oelschlager's main purpose in Ethiopia was to train surgeons, in their own environment, in laparoscopic techniques by using teaching methods that could be replicated when a master teacher was not there. He concluded that this should include training by simulation. The teaching model at AAU hospital at the time was more of an apprenticeship, with residents observing faculty perform surgery during the day that they then did without faculty supervision at night. AAU did have a simulation skills lab built in 2007, funded by a Canadian NGO and supplied by Storz. However, this lab got very little use – they had the tools and the willingness, they just did not have a process for using it or training surgeons in laparoscopic surgery.

Dr. Oelschlager, in his several trips to Ethiopia, has helped to define and build a model of teaching based upon progressive, supervised learning in clinical situations as well as learning in a simulated environment. He has set up a laparoscopic training program that uses best practices while taking into account the realities of surgery in a developing country. But in many ways, his main focus has been to extend his ability to train by "training the trainers," by teaching them to teach, to run a basic simulation lab and to train other faculty (and now residents) to do laparoscopic surgery. He reports that after about 2 years, the faculty at AAU have performed more than 100 laparoscopic cholecystectomies and are doing 2-5 per week. In addition, AAU faculty are attempting new procedures and are beginning to integrate residents into the training program.

Dr. Oelschlager admits he went to Ethiopia with some preconceived notions of what could be accomplished. By spending time in their environment, spending time listening – often more than doing – he was able to begin to help build a learning environment that is sustainable and works in their specific environment. He notes this work is different than of BHGI or the work around trauma that Dr. Mock has done but it was something he could do. By concentrating on a smaller project in a defined area, a different avenue and opportunity was created that lessened the burden of global disease.



Brant Oelschlager, MD, assisting the chief of GI surgery at Black Lion Hospital, Addis Ababa University (AAU), Ethiopia doing a laparoscopic cholecystectomy.

Each of these featured faculty believe that their interest and involvement in global health has been possible because of the leadership and collegial environment within the Department of Surgery. And, while much can still be done, the Department is increasing its attention on global health very directly through training residents. Our Global Health Academic Surgery Track in the surgical residency program (http://depts.washington.edu/uwsurgap/global.htm), with its emphasis on research and policy development skills is unique among surgery residencies nationally and internationally. On the next pages we will read about some of the residents currently involved in the global health surgical residency track.