Director’s Holiday Message

Dear friends,

This holiday season, we share the reflections of Dr. Peter Kussin, Duke Pulmonologist/Intensivist who spends four months a year at our site in Eldoret, Kenya at Moi Teaching and Referral Hospital (MTRH).

“When I asked Teresia’s mother for consent to take her picture, I also asked for permission to tell her story—as one day I knew I would. As I look at this photo today, the first thing I see is nine-year-old Teresia’s incandescent smile. The entire intensive care unit rallied around this beautiful child who survived weeks of intensive care requiring a breathing machine due to Guillain Barre Syndrome before being weaned off the ventilator.

The second thing I see are the pencils and coloring book we bought to help rehabilitate Teresia and somehow distract her from the suffering and human misery going on right next to her. The third thing I see is the tracheostomy. Tragically, Teresia had developed tracheal stenosis due to scarring from prolonged mechanical ventilation. Everyone understood that the trach was keeping her alive. Our wonderful ICU staff and MTRH and AMPATH consortium faculty never stopped looking for answers, praying and hoping. Finally, attention turned to Nairobi and the slim hope that transfer to Kenyatta National Hospital (KNH) might offer additional surgical treatment.

Two weeks after returning home, I learned that Teresia died while being transferred to KNH. Our team was devastated. We emerged from this terrible time stronger and even more dedicated to building critical care at MTRH. Because of that, the ICU became the most important part of what is now my four-month-a-year home in Kenya. Teresia’s story reminds me of three things. First, it underscores that critical care is a young specialty in Sub-Saharan Africa and there is an enormous opportunity for Duke Medicine and the Hubert-Yeargan Center to support the MTRH ICU through its expected growing pains. Second, the ICU staff has worked to improve the care of critically ill patients like Teresia. And third, our wonderful ICU staff and MTRH and AMPATH consortium faculty never stopped looking for answers, praying and hoping. Finally, attention turned to Nairobi and the slim hope that transfer to Kenyatta National Hospital (KNH) might offer additional surgical treatment.

On behalf of our trainees, and everyone whose lives their work has touched, thank you for supporting our programs!

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Our Mission
“to develop the next generation of globally educated, socially responsible healthcare professionals dedicated to improving the health of disadvantaged populations”

Sustaining Our Efforts
Our efforts are sustained by support from our donors and long-lasting friendships with colleagues around the U.S. and in Australia, Brazil, China, Kenya, Nicaragua, Rwanda, South Africa, Sri Lanka, Thailand, Tanzania, and at the Indian Health Service in New Mexico.

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other. I am reminded of the advice I gave to a North American student I chanced upon who was silently sobbing in the corner on the second day rounding on the medicine wards at MTRH. My words of counsel were, “Don’t worry—it will get worse.” There was a moment for a slight smile and the student returned to work. Everyone develops their own approach to coping with the human misery and suffering present all around you. What sustains many of us in Kenya is a feeling, beautifully voiced by the great poet and physician, William Carlos Williams, that “the pursuit of that rare element which may appear at any time, at any place... the relationship between physician and patient, if it were literally followed, would give us a world of extraordinary fertility of the imagination... it reaches to the furthest limits of our lives.” We are so privileged to work in global health where that “rare element” is an almost daily occurrence.

The third reminder from Teresia’s story is where it all begins and ends. It is even more important than everything I learned from caring for Teresia. It transcends the tragedy of her illness and the heroic efforts to save her. It’s that smile.”

Thanks to Dr. Kussin and each and everyone of you who work tirelessly on behalf of patients like Teresia.

Warm Regards,
Ralph Corey, MD

One Health

HYC’s Chris Woods visited Lola Ya Bonobo Sanctuary in Democratic Republic of Congo, where he responded to a small outbreak of respiratory infections that threatened the lives of these endangered apes. To view the 60 Minutes interview, visit http://www.cbsnews.com/videos/bonobo-diseases-and-human-risk.

Dr. Woods is gearing up to teach a course in One Health, which will study diseases that occur at the human-animal interface. This year Dr. Woods also received Duke’s Joseph C. Greenfield, Jr. Research Mentorship Award. The award recognizes and honors internal medicine faculty who have used their time and talents to mentor housestaff in the fundamentals of research.

HYC Faculty Engage in West Africa’s Fight against Ebola

Earlier this year, HYC’s Nathan Thielman, Chris Woods, and Ralph Corey, alongside Coleen Cunningham, Mehri McKellar, and Micah McClain, trained to work in African Ebola Treatment Units at FEMA’s Center for Domestic Preparedness. At the mock treatment unit located in Anniston, Alabama, the doctors practiced donning and doffing protective suits, triaging patients, drawing blood, and safely cleaning up bodily fluids while attending lectures to expand their expertise in the disease. An essential component of the training was psychological preparation to care for some of the sickest patients they would ever encounter.

Nathan Thielman subsequently traveled to Sierra Leone and Liberia to implement two clinical trials to evaluate the efficacy and safety of Ebola treatment protocols. In two articles recently accepted for publication by Clinical Trials: Journal of the Society for Clinical Trials, Thielman, Woods, and colleagues emphasize the vital nature of a speedy emergency response, which should include research and academic communities from the outset. They recommend collaboration and coordination between public health officials and scientists to prioritize research questions that offer the most potential benefit to patients. The focus of the second paper is the platform clinical trial design, which evaluates multiple treatments, is preferred, as it offers greater flexibility and efficiency to identify effective therapies and is well-suited to a high-fatality, dynamic outbreak setting.
Global Health Residency/Fellowship Pathway

This year, the Duke Global Health Residency/Fellowship Pathway (GHRF) welcomed 5 new trainees from an increasingly diverse range of clinical specialties and subspecialties: Brian Meier (Emergency Medicine Fellow), Titus Ngeno (Internal Medicine Resident), David Goodman (Obstetrics & Gynecology Fellow), Devon Paul (inaugural Pulmonary and Critical Care fellow) and Adam Olson (inaugural Radiation Oncology resident). This year’s orientation included a presentation by Dr. Sam Thielman, Psychiatrist for the Department of State and Senior Advisor for Resilience at the Foreign Service Institute, on maintaining resilience in a high stress environment as well as an offering of lessons learned from recent graduate, Lindsay Boole, who studied sepsis in Kenya (see picture). After orientation, all five trainees packed their bags and shipped out for their six-week site visits, where they laid the foundations for research and clinical practice in 2016-17. Upon return to Duke, GHRF trainees engaged in their first semester in the Duke Global Health Institute’s Master of Science in Global Health. This June, trainees will shift their focus back to their respective sites in Accra, Ghana; Eldoret, Kenya; Mwanza, Tanzania; and Moshi, Tanzania. Topics to be studied include the patient’s experience of pain in the Emergency Department, fetal scalp stimulation to prevent stillbirth, the prevalence of airway disease, and the feasibility of cardiac rehab in a low-resource setting. To date, graduates and current trainees have earned 14 master’s degrees, 15 NIH/Fogarty Research Fellowships, five early career development awards and published over 75 global health manuscripts. We expect great things from these incredibly talented individuals!

GHRF by the Numbers

28 trainees enrolled in 8 years
6 departments & 8 subspecialties engaged
14 master’s degrees awarded (5 in progress)
75 global health-related academic publications
19 NIH/Fogarty Global Health Fellowships
5 career development awards (including 2 NIH K awards)
11 faculty appointments (6 at Duke)
11 months spent at overseas site on average

Nathan Thielman, Adam Olson, Titus Ngeno, Brian Meier, David Goodman, Devon Paul and Sarah Brittingham

GHRF graduate Lindsay Boole presents lessons learned to the new class of trainees during orientation

Kristen Schroeder instructs Bugando Medical Centre residents on slide preparation for bone marrow biopsies

GHRF by the Numbers
HYC Career Development Award

Transitioning from post graduate medical training to a faculty appointment at Duke is often dependent upon successful receipt of external grant funding. Developing a competitive application requires time that often extends beyond training, leaving a gap in funding for new young faculty. To bridge this gap, the HYC has made a commitment to initiate Career Development Awards for exceptional candidates committed to academic careers in global health. This competitive award will provide bridge funding for one to three years to allow investigators to aggressively pursue funding opportunities based on the rigorous and impactful global health research conducted during fellowship training.

Our first awardee is Dr. Gayani Tillekeratne. Dr Tillekeratne received her undergraduate degree in Biology from the Massachusetts Institute of Technology and her MD from Duke University. She went on to complete her Internal Medicine residency and Infectious Diseases Fellowship at the University of Pennsylvania returning to Duke to enroll in the Global Health Fellowship Pathway in 2012. She was awarded a Fogarty Global Health Fellowship and Master of Science in Global Health in conjunction with her work investigating the overuse of antibiotics for acute respiratory tract infections and the emergence of antimicrobial-resistant pathogens in Galle, Sri Lanka. She is currently conducting studies on the use of diagnostics to improve antibiotic stewardship and ultimately impact antimicrobial resistance in Sri Lanka.

2015 HYC Statistics

This year the HYC supported 37 trainees including medical students, residents, fellows and foreign trainees in emergency medicine, internal medicine, pediatrics, neurology, combined medicine/pediatrics, infectious diseases, pediatric hematology-oncology, combined medicine/psychiatry, pulmonology, psychiatry, neurology and OBGYN.

"The beauty of spending time at MTRH doesn’t begin when you enter its gates. The “experience” starts the second you decide to be a part of the Duke Hubert-Yeargan Center. I instantly felt like a part of something larger than me – a family within a family at Duke. Everyone along the way was just as excited about me going to Kenya as I was! Each day in Kenya revolved around patient care, but every morning prior we would have breakfast together. Frequently in evenings, we would all gather around and share our stories. Take for example Humanities Night, when I felt so at home I decided to do a dance for the group. I hadn’t choreographed a dance in over a decade, but there’s a magic to the IU house that channels authenticity and warmth.” - Ravi Vakani, MD, Neurology
Building Cardiovascular Care in Kenya—Duke Nurses, Faculty & Staff Reach Out to a Nursing Colleague in Need at Their “Sister” CCU

As early as 2009, we first shared our vision for developing improved and sustainable cardiovascular care at Moi Teaching and Referral Hospital in Western Kenya. Over the course of time we have been able to care for increasing numbers of patients in both the outpatient and inpatient setting.

Our curriculum for training Kenyan Cardiovascular Fellows is currently being reviewed by Moi University and if approved, will be the first training program for CV Fellows in East Africa. And this past month we published a landmark article in the Journal of the American College of Cardiology (Vol. 66, No. 22, 2015) summarizing our accomplishments and model for collaboration in hopes that our experiences may guide the development of similar efforts to improve patient care in other venues.

This month we were reminded on a more personal level of how important these efforts are for one of our very own. One of MTRH’s star CCU nurses, Francis, was diagnosed with severe aortic regurgitation by a cardiologist we trained, urgently requiring cardiac surgery not yet available at MTRH. Although there have been preliminary conversations with MTRH leadership about next steps required to advance interventional capabilities at MTRH, there are still no good options for the majority of patients within Kenya. Consensus was that the best course of action for Francis was to travel to India for the surgery, but that required over $7,000 in advance out-of-pocket to cover the costs, a significant hurdle by Kenyan cost of living standards. Cory Miller, Duke nurse educator who has made a couple trips to Kenya in the past year said it best when she shared Francis’ story with our CCU colleagues at Duke: “Francis is such an amazing, hard-working, kind and compassionate nurse and it saddens me to think that he is now suffering from the same valvular disease that has afflicted the patients he has been providing such excellent care to.” Thanks to her efforts and others, there has been a generous outpouring from the Duke “family” to help raise funds for the Francis’ surgery.

Comings and Goings

This year it was with mixed emotions that we bid goodbye to Cecelia Pezdek, a valued team member since 2007. Cecelia and her fiancé got married, moved to Alabama and have already crossed the country on to Phoenix, Arizona! Best of luck to both of them! In her stead, we are pleased to welcome Sarah Brittingham Muir, MA, MPH (pictured on page 3) as Program Coordinator for the Global Health Residency/ Fellowship Pathway and Fogarty training grant. Sarah is proficient in three languages and brings a wealth of experience in creating and sustaining global partnerships. Welcome aboard, Sarah!
Faculty and Staff

**HYC Executive Director**
Ralph Corey, MD

**HYC Co-Director**
Chris Woods, MD, MPH

**HYC Director of Operations**
Cynthia Binanay, MA, BSN

**HYC Program Coordinator**
Tara Pemble, BA

**HYC Research Methodology & Statistics**
William Wilkinson, PhD

**GHRF Program Director**
Nathan Thielman, MD, MPH

**GHRF Program Coordinator**
Sarah Brittingham Muir, MA, MPH

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