



Photo: UVa and Univen Scholars, South Africa, 2012

THE 2012 CENTER FOR GLOBAL HEALTH RESEARCH STUDENT SCHOLAR SYMPOSIUM

Monday 1 October 2012
The Open Grounds Studio at the University of Virginia

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3—6PM

The Open Grounds Studio at the University of Virginia

3:00PM *Welcoming Reception and Opening Remarks*
Richard L. Guerrant, MD, Founding Director, Center for Global Health at the University of Virginia

Symposium Introduction
Rebecca Dillingham, MD, MPH, Director, University of Virginia Center for Global Health

3:15PM *Center for Global Health University Scholar Presentations representing the University of Virginia College of Arts & Sciences, the School of Nursing and the School of Medicine*

Transitioning the Delivery of HIV Services to Nurses in Primary Care Clinics: A Case Study of Rhabuda Clinic, Limpopo Province, South Africa

Julie Schexnayder
School of Nursing, Doctoral candidate
Pfizer Initiative in International Health Scholar

How has the increased prevalence of “junk” foods in Costa Rica affected the diets and overall public health of citizens, as compared to the influence of sustainable agricultural programs, such as EARTH University?

Rachel Linkous
CLAS Global Development Studies - Global Public Health, 4th Year
Jordan Summers
CLAS Global Development Studies - Global Public Health, 4th Year

Barriers to HPV Vaccine Acceptance by Males
Katherine Willson, School of Medicine, 2nd Year

4:00PM *Faculty – Student Panel:*
International Experience: The Collaborative Work of Students and Faculty
David Burt, MD, Director, University of Virginia - Guatemala Initiative;
Marianne Baernholdt, PhD, RN, International Initiatives, School of Nursing;
Rae Lesser Blumberg, PhD, William R. Kenan, Jr. Professor of Sociology;
Melissa Rickman, graduate student in the Frank Batten School for Leadership and Public Policy (2011 CGH Scholar)

5:00PM *Poster Presentations: Center for Global Health, Pfizer Initiative in International Health and WHIL Scholars / Thanks and Closing Remarks*



Photo: UVa Scholar, South Africa, 2012

WELCOME TO THE CENTER FOR GLOBAL HEALTH 2012 STUDENT SCHOLAR SYMPOSIUM

The University of Virginia's Center for Global Health was established in 2001. We foster the commitment of students, faculty, and partners from many disciplines to address the diseases of poverty.

The Center has three components:

- 1) Scholar awards for UVa students who develop faculty-mentored projects related to health with collaborators in resource-limited settings
- 2) Fellowships for international researchers from collaborating institutions in developing regions to train and conduct research at UVa in order to return home, train others, and lead efforts to address local health priorities
- 3) Curricula at UVa relating to global health to prepare and inspire students for involvement in global health and development.

Thank you for joining us today, as we continue in our mission of building partnerships for global health.

Rebecca Dillingham, MD, MPH
Director, Center for Global Health
Director, Water and Health in Limpopo Project
Assistant Professor of Medicine and
Public Health Sciences

Richard L. Guerrant, MD
Founding Director, UVa Center for Global Health
Thomas H. Hunter Professor of International Medicine
Director, Office of International Health



Photo: Ceramic Water Filter Team, South Africa, 2011

- Our Thanks -

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PFIZER INITIATIVE IN INTERNATIONAL HEALTH AT UVA
FRAMEWORK PROGRAM IN GLOBAL HEALTH
WATER AND HEALTH IN LIMPOPO PROJECT
JEFFERSON PUBLIC CITIZENS AWARD
INTERNATIONAL STUDIES OFFICE
MEDICAL ALUMNI ASSOCIATION
UVA – GUATEMALA INITIATIVE
HEALTHY APPALACHIA INSTITUTE
UVA GLOBAL SURGERY INITIATIVE IN RWANDA

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OUR SINCERE THANKS FOR THE USE OF THESE IMAGES.***

2012 PROJECT SUMMARIES

SOUTH AFRICA PROJECTS IN COLLABORATION WITH THE WATER AND HEALTH IN LIMPOPO PROJECT

Julie Schexnayder

School of Nursing, Doctoral candidate

Pfizer Initiative in International Health Scholar

South Africa - Transitioning the Delivery of HIV Services to Nurses in Primary Care Clinics: A Case Study of Rhambuda Clinic, Limpopo Province

Faculty Mentors: Marianne Baernholdt, School of Nursing, University of Virginia; Rebecca Dillingham, School of Medicine, University of Virginia

Evaluating Quality of a Nurse- Led HIV Treatment Program in Rural Limpopo Province

Project Overview: The demand for HIV treatment exceeds available physician resources in South Africa and task-sharing approaches have been proposed to increase access to life-saving antiretroviral therapy (ART). Two nurse-led HIV treatment program models have been described in sub-Saharan Africa. In the first, following ART initiation by a physician, patients are “down-referred” to nurses in primary health clinics (PHC) or other community-based sites for subsequent medical management of their HIV disease. Nurse-directed ART initiation and management has also been described. The purpose of this research is two-fold: to identify the HIV treatment program adopted in a rural PHC in Mutale, Limpopo, and to evaluate the quality of HIV treatment services provided there. Donabedian’s (1980) Structure, Process, Outcome Model, has been selected to guide program evaluation.

Research Questions:

- What structural resources support HIV services at “MRC”?
- What are the formal and informal processes of HIV care at “MRC”?
- How do nurses perceive the effectiveness of integrating HIV services into primary care encounters?
- How do the clinic’s HIV-related patient outcomes compare to other PHC providing HIV treatment?

Methodology: A case-study design has been selected to provide an in-depth assessment of the clinic’s ART program. Data collection methods include qualitative interviews, observations, questionnaires, and documentary review. Qualitative description techniques will be used to catalog and describe clinic structures, processes, and nurse perceptions of the ART program. Outcomes data obtained from public, secondary data sources will be summarized using SPSS. The project will be completed over two visits to South Africa. During the first visit in Summer 2012, semi-structured interviews with clinic staff, site observations, and documentary review will identify critical program infrastructure and resources. During the second visit in Spring 2013, focus groups, questionnaires, and secondary data collection will be conducted to evaluate clinic processes and actual versus perceived outcomes.

Outcomes: In January 2011, “MRC” began providing Nurse Initiated and Managed ART (NIMART) services as part of its larger primary health care package. Four of the clinic’s professional nurses (PN) received formal, public sector training for NIMART and are authorized to initiate ART following national treatment guidelines. A NIMART mentor, also a PN, is available to assist nurses with difficult cases by phone. The mentor also serves as a liaison between NIMART nurses and hospital-based physician staff. The nearest referral hospital is approximately 30 km from the clinic. In alignment with the country’s “supermarket” approach to primary care, NIMART integrates tuberculosis, sexually transmitted infections, and opportunistic infections prevention and treatment.

Over 100 hours of clinic observation was completed from July 16 to August 2, 2012. Semi-structured interviews were conducted with 5 staff members, representing 3 categories of clinic staff. Review of program documents allowed for description of NIMART protocols, clinic-based policies, job descriptions,

and data reporting systems. Data analysis is ongoing. Results will inform selection of outcomes measures and interview topics for Spring 2013.

Personal Impact and Relevance: Observing the role of PN at the clinic was eye opening as they function in many ways like a nurse practitioner would here in the US. PNs routinely diagnose and treat common ailments, which occurred even prior to NIMART. I left wondering how much different the U.S. healthcare system would be if nurses were allowed to practice to the full extent of their training as is occurring there. At the same time, one must consider the price: In this already resource limited setting, does addition of the NIMART program compromise PN's ability to provide all other primary care?

Reference: Donabedian, A. (1980). *The definition of quality and approaches to its assessment*. Ann Arbor, MI: Health Administration Press.

Stephanie Mitchell

CLAS, 3rd Year, English and Religious Studies

Center for Global Health / Water and Health in Limpopo Scholar

South Africa - Mukondeni Ethnographic Project

Faculty Mentors: Catarina Krizancic, Department of Anthropology, University of Virginia; Lisa Shutt, The Carter Woodson Institute African-American and African Studies, University of Virginia

In order to address global health issues it is important to first understand the local worldviews and cultural understandings of health and wellness within a community. This study sought to begin unpacking these worldviews and understandings by first exploring the local interests, perspectives and daily lives of the people living within the Mukondeni village (located within the Limpopo Province of South Africa).

Within this community exist a group of nearly fifty women who collectively make up the Mukondeni Pottery Cooperative. These women, who reside in a heavily female populated village throughout the week, lead their community in numerous ways, most notably seen through their leadership roles at the cooperative, in village life and within religious institutions.

To understand the members of the Mukondeni Pottery Cooperative is to realize that these women are much more than their signature black graphite and red ochre pottery; they are a group of women who empower themselves daily. Theirs is a perspective unique to them alone and for this reason in matters of global health as they pertain to these women it is first and foremost important to attain an appreciation and value for their own unique way of seeing the world around them. Ultimately it is this idea that is the foundation of this study.

Carly Farrell Krause

SEAS, Civil and Environmental Engineering Graduate Student, 4th Year

Pamela B. and Peter C. Kelly Award for Improving Health in Limpopo Center for Global Health Scholar Award

South Africa -- Assessment of Silver Nitrate, Copper Nitrate and Copper Nanoparticle Treated Ceramic Water Filters for Water Purification in Limpopo Province, South Africa

Faculty Mentors: James Smith, Dept. of Civil & Environmental Engineering, University of Virginia; Rebecca Dillingham, School of Medicine, University of Virginia

The aim of this research was to investigate the use of ionic silver, ionic copper, and copper nanoparticles as alternative chemical disinfectants in ceramic filters used for water purification. The research considers the disinfection potential of these alternatives in relation to the most commonly used chemical disinfectant, silver nanoparticles, as well as their capacity to increase the sustainability of factories manufacturing filters and decrease the cost of filter production.

A primary objective for this study was to conduct experiments using filters manufactured by an established factory with reliable and quality production. For this research, the Mukondeni Cooperative factory in Limpopo Province, South Africa was chosen, which began construction during the summer of 2011. At the commencement of this study, the factory still needed several major installations as well as quality control protocols to reach production capacity. Thus, the first goal for this research was to work collaboratively with partners invested in the factory to bring the factory to production. These partners include the University of Venda, members of the Mukondeni Cooperative, and local community residents. Currently, progress has been made in repairs to existing factory equipment (e.g. hammer mill, sieve, and filter press), redesign of the kiln, installation of new factory equipment (e.g. mixer), installation of quality testing facilities, attainment of filter accessories, and investigation of marketing and distribution channels.

The second goal of this research was to investigate the disinfection potential of Mukondeni Cooperative filters treated with each of the alternative chemical disinfectants. Once the factory was brought to production, preliminary studies on filter durability, flow rate, and bacterial removal were conducted at the factory site and in laboratory space at the University of Venda. Currently, more thorough laboratory studies are being conducted on filters at the University of Virginia. These experiments aim to elucidate bacterial removal through filters fabricated with raw materials from the Mukondeni Cooperative and treated with each of the alternative chemical disinfectants. In these experiments, a known concentration of *E. coli* is passed through a treated filter and effluent samples are collected at designated time intervals. Bacterial concentrations of influent and effluent samples are quantified using the IDEXX MPN method and then normalized to influent concentrations. These are plotted as a function of time and compared to previous studies examining removal rates with ceramic water filters treated with silver nanoparticles. Additionally, effluent samples are being analyzed for silver and copper concentrations using atomic adsorption. These concentrations are then compared to the EPA maximum contaminant levels of 0.1 mg/L for silver and 1.0 mg/L for copper.

Once complete, this project is expected to yield valuable information regarding the use of alternative chemical disinfectants in ceramic water filters, particularly in terms of sustainable filter design and a lower filter manufacturing cost. Based on current results, it is anticipated that one or all of the disinfectants tested in this study will provide a suitable alternative to silver nanoparticles.

Jessica Shartouny

UVa College at Wise, Chemistry, 4th Year

Healthy Appalachia Initiative - Center for Global Health Scholar

South Africa - Center for Global Health/Healthy Appalachia Institute/UVa College at Wise Collaboration

Faculty Mentor: Rebecca Dillingham, School of Medicine, University of Virginia

In 2009, UVa's Center for Global Health and the Healthy Appalachia Institute (HAI) at University of Virginia's College at Wise joined in establishing the Healthy Appalachia Institute Global Health Scholar Award. The award is supported and administered by the Healthy Appalachia Institute Chair's office. All scholars conduct field studies in association with the Water and Health in Limpopo Project in South Africa. Students are mentored collaboratively by UVa and University of Venda (Univen) faculty.

This work built on several preceding projects investigating maternal-infant health and development, with a specific inquiry into intergenerational factors that can contribute to a child's susceptibility to poor health. Aspects of a woman's physical measurements, including height, weight, and skinfold thickness, have been shown to be associated with her offspring's fetal growth and birth weights. The mother's own development and genetics may govern these associations, giving insight into intergenerational factors that can contribute to a child's susceptibility to poor health. A study quantifying the relationship between a mother's stature and the child's health or mortality was conducted in India and then in 54 low- to middle-income countries, finding that an increase of 1 cm in maternal height corresponded to a decreased risk of

mortality and stunting in children in most of those countries. None of these studies looked at South Africa, which has a different history of development and different genetic stock than those countries studied.

Data collected from Venda mothers and children in Limpopo, South Africa through the MAL-ED project are being used to examine the link between maternal anthropometry, particularly height and BMI, and the occurrence of low birth weight and stunting, wasting, and under-nutrition at 6 months of age. Additional factors, like parity, number of years of education, and age of first pregnancy, will also be examined for influence on the child's development.

Lipika Bhat

School of Medicine, 2nd Year

Center for Global Health / Water and Health in Limpopo Scholar

South Africa - MAL-ED/Breastfeeding Project

Faculty Mentor: Rebecca Dillingham, School of Medicine, University of Virginia

Research Question: Is there a correlation between the presence of postpartum common mental disorders in mothers and infant feeding practices?

Methodology: Analysis was done on data collected as part of the MAL-ED project on a cohort of infants born in a rural region in Limpopo Province in South Africa. Data on maternal mental health was collected from the self-reported questionnaire (SRQ) given at 1 and 6 months after delivery. Data on infant feeding practices was obtained from twice-weekly and monthly assessment forms which gathered infant feeding information based on 24-hour recall. The focus was on how long mothers exclusively breastfed their children, as the World Health Organization recommends the exclusive use of breast milk to feed infants up to six months of age.

Mothers who likely had a common mental disorder (CMD), such as depression or anxiety, were compared to those who did not on factors including the duration of exclusive breastfeeding, frequency of breastfeeding at one and six months, and the types of food given to the child at one and six months.

Projected Outcomes: The vast majority of mothers in this region initiate and continue breastfeeding for at least a year, but most introduce non-breastmilk food, usually water or cornmeal porridge, by the time the infant is one month old. Due to the small sample size and the homogeneity of the population in terms of feeding practices, it is unlikely that a statistically significant difference will be observed between infant feeding practices in mothers with and without CMD.

Relevance/Impact of Experience: In order to carry out this research project, I spent seven weeks over the summer living in Thohoyandou, South Africa. I was collaborating with faculty at the University of Venda who were working on the Malnutrition and Enteric Disease Network (MAL-ED) project, which spans eight countries including South Africa. As this was my first time in Africa, this project was a great opportunity to explore a part of the world that I knew very little about previously. It was good to work at the university and also visit the rural field sites where the study participants lived, so I was able to see different parts of the province. I have a strong interest in both global health and child health, so this experience helped me learn a lot about breastfeeding and child nutrition and local practices in terms of child rearing and healthcare. The project also helped me gain exposure to doing research work, and I learned a lot about MAL-ED in particular. I mostly worked with the nutrition department since my topic focused on infant feeding, but I was also able to talk with the faculty in the microbiology and psychology departments who were working on the infection and cognitive development measures of MAL-ED. It seemed to be an interesting project overall and something I would like to stay involved in some manner even after the conclusion of my current work.

Lydia Abebe

Civil and Environmental Engineering, Doctoral candidate

Pfizer Initiative in International Health Scholar**A comparative study of the removal capacity of *Escherichia coli* and *Cryptosporidium* of ceramic water filters**

Faculty Mentors: James Smith, Dept. of Civil & Environmental Engineering, University of Virginia; Rebecca Dillingham, School of Medicine, University of Virginia

Introduction

Poor sanitation and lack of sewage treatment can lead to soil and water contamination by pathogenic microorganisms [1]. These organisms are then transferred to humans by ingestion of untreated or partially treated water. The quality and available quantity of safe drinking water correlate with the rate of diarrhea occurrence and enteric infections, and in turn with growth shortfalls and cognitive impairment in children [2, 3].

Each year, 3-4 million people die of waterborne diseases in developing countries, including about two million young children who die from dehydration caused by diarrhea [4]. Pathogens in untreated water are particularly problematic for patients infected with the HIV virus, as their weakened immune systems make them more susceptible to infections from microbes like *Cryptosporidia* sp. These gastrointestinal co-infections significantly increase the morbidity risk for HIV-positive patients [5].

In many parts of the world, there is an unfortunate confluence of AIDS and untreated drinking water. Recent advances in nanotechnology can play an important role in reaching these goals at the household level. This research project will investigate a promising point-of-use water-treatment technology treated with silver nanoparticles. The point-of-use treatment technology proposed for this study is colloidal-silver-impregnated ceramic water filters (CWFs) distributed by the organization Filter Pure. The filters have already demonstrated sustainability and social acceptance in different parts of the world and are manufactured from locally found material: clay and sawdust. The sawdust is combustible material, which leaves the ceramic filter porous after the firing process. Silver nanoparticles in aqueous phase, commonly known as colloidal silver, are added to the manufacturing process in one of two methods: coating the ceramic after firing, or impregnating in the mixture before firing. The end result yields porous clay pot with silver that physically removes contaminants and chemically deactivates pathogenic microorganisms. A recently completed investigation in Limpopo Province, South Africa, to determine the effects of the use of household CWFs on the health of HIV-positive individuals demonstrated a statistically significant ($P < 0.001$ Kruskal-Wallis) reduction in the overall rate of diarrhea per week of HIV-positive individuals on antiretroviral therapy in the intervention group with the ceramic filters. The study was a clinic-based study initiated in the summer of 2009 (funded by the Pfizer Initiative), with an unprecedented multifaceted design targeting immuno-compromised individuals involving both microbial analysis of water quality and stool samples of participants from groups with and without the ceramic water filters. The filters were shown to be highly effective in removal and deactivation of *E.coli* and turbidity in the households. However analysis of stool samples revealed the data to be statistical under-powered to determine differences between individual samples limiting conclusions on the removal *Cryptosporidia* sp. Thus, demonstrating the need to understand the removal and deactivation capacity of silver-impregnated ceramic water filters on *Cryptosporidia* sp in the laboratory before conducting further field analysis.

Rationale

The hypothesis of the proposed research is that household-level ceramic water filters can efficiently remove and deactivate *Cryptosporidia* sp. To test this hypothesis we propose laboratory analysis of filters without silver, impregnated with silver, and filters coated with silver. Experimental analysis will consist of transport simulation of oocysts and PCR analysis in conjunction with a mouse model to assess infectivity of *Cryptosporidia* oocysts.

Expected Outcomes

This research will investigate the effects of a point-of-use drinking-water-treatment technology treated with silvernanoparticles on the removal and deactivation of Cryptosporidia oocysts. The point-of-use treatment technology, colloidal-silverimpregnated ceramic filters, is a promising approach to improve water quality in even the poorest global communities. The filters can be manufactured with local labor and materials, and the technology combines physical filtration and silver-mediated disinfection to remove turbidity and remove/de-activate pathogenic microorganisms from water prior to consumption. Given the fact that waterborne pathogens cause serious coinfections in HIV-positive individuals, results from this analysis will inform design of intervention, which can significantly improve health outcomes of these individuals.

References

1. United Nations Human Settlements Programme, *Water and Sanitation in the World's Cities: Local Action for Global Goals*. 2003, London: Earthscan Publications. 274.
 2. Guerrant, D.I., et al., *Association of early childhood diarrhea and cryptosporidiosis with impaired physical fitness and cognitive function four-seven years later in a poor urban community in northeast Brazil*. American Journal of Tropical Medicine and Hygiene, 1999. **61**(5): p. 707-713.
 3. Dillingham, R. and R.L. Guerrant, *Childhood stunting: measuring and stemming the staggering costs of inadequate water and sanitation*. The Lancet, 2004. **363**: p. 94- 95.
 4. Cosgrove, W.J. and F.R. Rijsberman, *World Water Vision: Making Water Everybody's Business*. 2000, London: Earthscan Publications. 108.
 5. Dillingham, R.A., et al., *High early mortality in patients with chronic acquired immunodeficiency syndrome diarrhea initiating antiretroviral therapy in Haiti: A case-control study*. American Journal of Tropical Medicine and Hygiene, 2009. **80**: p. 1060-1064.
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DEVELOPING AND ONGOING COLLABORATIVE PROJECTS AFFILIATED WITH WHIL

Water and Health in Limpopo Faculty in the Schools of Medicine, Nursing and Engineering worked with University of Venda faculty partners and local community leaders in Limpopo to assess current activities and community priorities. A community-centric and participatory approach is central to the WHIL model. Much of the work is grounded in the specific requests from the communities and this paradigm, along with sustained investment by the University of Venda, explains the sustainability of the engagement and the active participation of the indigenous people.

Appreciative Inquiry is an approach formulated by David Cooperrider and Diana Whitney based on observations that people create shared environments, systems and beliefs together through communication and these can be influenced in a positive manner by focusing on and bringing forth individual and community strengths. UVA and Univen faculty worked with students from both universities to conduct a comprehensive assessment which will be analyzed to determine best practices for continued community engagement as well as priorities and directions for future efforts.

Led by faculty mentors Anita Thompson-Heisterman, School of Nursing, Jeanita W. Richardson, Public Health Sciences, Rebecca Dillingham, School of Medicine, this comprehensive inquiry was supported by the efforts of critically supportive SEAS students and CGH scholars from the College of Arts and Sciences and the School of Nursing:

Mariam Nageh Awad

CLAS, 4th Year, Biological Chemistry

Pamela B. and Peter C. Kelly Award for Improving Health in Limpopo Center for Global Health Scholar Award

South Africa -- Water and Health in Limpopo – Appreciative Inquiry in Community Health Education

Alice Bradshaw

School of Nursing Masters candidate in Clinical Nurse Leadership, 2nd Year

Joy Boissevain Global Public Health/Center for Global Health Scholar Award

South Africa - Using Appreciative Inquiry to Develop a Health Education Assessment in Limpopo Province

Faculty Mentors (for both scholars): Anita Thompson-Heisterman, School of Nursing, University of Virginia; Rebecca A. Dillingham, School of Medicine, University of Virginia

The WHIL collaboration includes faculty in the School of Architecture and the School of Engineering and Applied Sciences. Two WHIL affiliated projects were active in the region in 2012 and were supported by the Jefferson Public Citizens Program:

“Assessing the Establishment of a Ceramic Water Filter Factory in Limpopo Province, South Africa” is an ongoing project involving students representing CLAS, SEAS and the McIntire School of Commerce including, Caroline Hackett, Theresa Hackett, Sydney Schrider, David Harsh with graduate mentors, Lydia Abebe and Carly Krause. Rebecca Kelly, CLAS, 4th Year, joined this project as a CGH scholar in 2012. James A. Smith, in Civil and Environmental Engineering is the faculty mentor.

The aim of this project is to develop a model for implementing sustainable ceramic water filter factories around the world. The team was successful in initiative production of tested point-of-use filters in a prototype factory in Limpopo. Ceramic water filters are currently being tested to ensure filter quality adherence to acceptable standards. They also plan to ways to market the filters and educate the community about water and health.

“reCOVER: Water and Health in Limpopo Ceramic Water Filter Factory/Science Resource Center” is a new initiative in the region. Faculty in the School of Architecture have been an integral part of the WHIL collaboration since its inception. Anselmo Canfora developed and directed this project involving students, Emily Ashby, Timothy Morris, Irene Preciado, and Luke Gates with graduate mentor Erin Root.

The reCOVER team worked to establish a prototypical building and landscape solution that exceeds the expectations of the beneficiary community, helps address the critical need for access to clean water, and promotes local building through innovative and scalable methods of construction to support domestic economic growth.



Photo: UVa and Univen Scholars, South Africa, 2012

RWANDA
PROJECTS IN COLLABORATION WITH THE UVA GLOBAL SURGERY INITIATIVE IN RWANDA

Kristine Gade

School of Medicine, 2nd Year

Center for Global Health Scholar

Rwanda - Healthcare Workers' Perceptions of the Influence of Intimate Partner Violence/Domestic Violence on Healthcare Outcomes, Attitudes, and Practices

Faculty Mentor: Forrest Calland, Department of Surgery, University of Virginia

Intimate partner violence (IPV) is a widespread issue in Sub-Saharan Africa that has far-reaching effects in society and in women's health. Current studies indicate a large proportion of women in Rwanda experience intimate partner violence and its negative effects on health, straining the Rwandan healthcare system.

While there have been several studies on the prevalence of IPV in female patients in Rwanda, I planned to examine this immense problem not from the patient aspect, but from the health care provider perspective. My research objective was to identify healthcare workers' perceptions of intimate partner violence and its effect on healthcare outcomes, attitudes, and practices.

To assess perceptions of IPV by healthcare workers, I administered a paper survey to approximately 200 medical students, nurses, and physicians at both district and tertiary care hospitals in the capital, Kigali and in the university town of Butare. The survey asked healthcare workers to characterize their beliefs, attitudes, and practices regarding intimate partner violence in medicine.

Analysis of the data will focus on the responses to the survey, looking for trends in the answers and within the different groups surveyed. From background research, I expected healthcare professionals to underestimate the impact of IPV in healthcare. While analysis of the data is still in progress, it appears that there is a varied and wide range of beliefs and practices towards IPV in healthcare. From personal interactions with healthcare workers, it seems that IPV is indeed underestimated in healthcare. While further analysis is necessary, any general trends discovered will hopefully be used to direct education and lead to a uniform protocol for managing patients with IPV.

Conducting research and spending the summer in Rwanda has been a truly eye-opening and rewarding experience. The trials of research were balanced by the adventure of learning how to navigate cultural mores respectfully in an entirely new environment. The most meaningful aspect of my time in Rwanda was the relationships made with my Rwandan collaborators. I came to Rwanda with a foreigner's perspective, believing certain topics to be important. After sharing with my Rwandan colleagues, I saw that different aspects of the research were significant to them, expanding my views on the topic. Rwanda is a beautiful country with a warm, diverse, and nuanced people. Traveling and working within this country of such profound contrasts challenged me to ask new questions and make new discoveries and resulted in a professionally and personally fulfilling experience.

Lauren Caldwell

School of Medicine, 2nd Year

Center for Global Health Scholar

Rwanda - The Utility of the Trauma Registry in Screening for Domestic Violence at Centres Hospitalier de Kigali and Butare, Rwanda: Defining the Sensitivity and Specificity of Registry Fields for Detecting Domestic Violence

Faculty Mentor: Forrest Calland, Department of Surgery, University of Virginia

Throughout the world, both the immediate and sustained effects of domestic violence have been shown to place a significant strain on countries' health care systems, negatively impact social structure and discourage the establishment of gender equality. The development of an appropriate and effective screening method is the first step in addressing the issue of these assaults. During my seven weeks in Rwanda, I worked to determine the sensitivity and specificity of multiple fields of information included in the trauma registry form at the Centre Hospitalier Universitaire de Kigali and Centre Hospitalier Universitaire de Butare in screening for injuries related to domestic violence.

The registry was first queried for adult females presenting with traumatic injury between July 15 and September 15 of 2011. Medical and demographic fields of interest (location, type and number of injuries, injury etiology, age, district of residence, time and day of presentation, time prior to treatment, HIV status and alcohol use at time of injury) were abstracted and tabulated from the registry. Using these data and past research on their domestic violence predictive value, the percentage of all traumatic admissions with an increased suspicion of a domestic violence etiology was determined. The field of "If yes to assault, was assault by a member of patient's household? Yes/No/Unknown" was included on the registry at both hospitals beginning on July 15 2012. At this time data collection is still ongoing. When data collection is complete, the registry will again be queried for adult females presenting with traumatic injury between July 15 and September 15 of 2012. The same medical and demographic fields of interest, as well as responses to the new field, will be abstracted and tabulated from the registry, and the percentage of all traumatic admissions with an increased suspicion of a domestic violence etiology will be determined. The results from both years will be compared to the lifetime prevalence of domestic violence in Rwanda as determined by the 2010 Demographic and Health Survey (DHS), and the sensitivity and specificity of injury information as a predictor of domestic violence injury will be determined.

Data analysis to date indicates that the trauma registry data does not identify a percentage of admissions due to domestic violence as high as previously reported by the DHS, suggesting that current methodologies do not sufficiently detect these injuries. We believe this may be due in large part to victims' reluctance to seek aid or admit to abuse, and also in part to the need for more extensive domestic violence training for health care professionals. It is our hope that this, and future research, may begin to raise awareness regarding the need for domestic violence education and solutions in Rwanda.

Rwanda is a beautiful, thriving and justifiably proud country, home to a people with a resiliency the likes of which I have never before encountered. My weeks in Rwanda were an unparalleled educational and personal experience beyond what I could have anticipated. I ended my time abroad not discouraged by the state of affairs I had witnessed, as many at home anticipated, but truly inspired by the people I had met and the world into which I had been so warmly welcomed, if even for a short time. It is my hope that I can one day be the type of physician that would make my Rwandan friends and colleagues proud - well educated, tirelessly hard working and fiercely kindhearted.

Jennifer Reid

School of Medicine, 2nd Year

Center for Global Health Scholar**Rwanda - Barriers to the Treatment of Thoracic Trauma in Kigali, Rwanda**

Faculty Mentor: Forrest Calland, Department of Surgery, University of Virginia

Traumatic injuries are a leading cause of death worldwide and management of these injuries can be a challenge, especially in developing nations with limited supplies. Initially, our research was intended to be a two-month, prospective study, with aims of identifying specific barriers to the treatment of thoracic and multi-system injuries in a large hospital in Kigali, Rwanda. The management of trauma patients presenting to the Accident and Emergency Department were to be observed and interventions recorded. Specifically, we wanted to look for barriers to adequate injury management that are delaying treatment of airway problems and stabilization of the patient. We predicted that treatment delays would prove to be a major cause of increased mortality and morbidity in this patient population. Unfortunately, many challenges, including a delay in IRB approval at UVA, arose that prevented data collection for this study. However, several observations were made that will lay the groundwork for data collection that will occur during the summer of 2013. We have hopes that the results of this study will provide a basis for the improvement of the management of trauma patients at the hospital of investigation, as well as offer generalizable information that will be of use to the international surgical community as a whole.

Interest in this topic came from the Rwanda Vision 2020 initiative, which aspires to transform Rwanda into a middle-income country by the year 2020. A main component of this initiative is to transform the country from a subsistence agriculture economy to a knowledge-based society to reduce the country's dependence on external aid ("Rwanda Vision 2020" 2011). In order to accomplish this goal, improvements in education and health standards are necessary to provide an efficient and productive workforce. Improving access to healthcare, the quality of that healthcare and reducing its cost are the major goals of these improvements ("Rwanda Vision 2020" 2011). Future development of our study seeks to contribute to understanding the barriers that may serve to prevent attainment of the Vision 2020 goals by identifying problems in the management of thoracic and multi-system injuries, a major cause of morbidity and mortality in this country.

In many African nations, traumatic injuries, frequently resulting from motor vehicle crashes, end in death due to delayed intervention or decreased access to surgical supplies. This study plans to investigate the reasons behind these obstacles involving treatment. In 2007, Misauno et al. concluded in an evaluation of the pattern and management outcome of chest trauma in Jos, Nigeria that chest trauma can be adequately managed through early detection and prompt intervention (Misauno et al. 2007). Thus, identifying the obstacles that delay treatment will hopefully assist Rwandan hospitals in establishing a plan for better, quicker management of thoracic injuries resulting from trauma.

Although we were unable to initiate data collection, the information about third world medicine ascertained and the professional relationships built during the development of this project are invaluable. The medical faculty at the hospital in Kigali, Rwanda appreciates our continued interest and involvement in their institution as they work toward their goal of improving medical care throughout the nation. Next summer, investigators will collect data for this project and continue to foster the relationships with our colleagues in Rwanda, and further aid in the global health mission of addressing the healthcare of the impoverished nations of the world.

Rwanda - Surgical Education and a Transformative Summer in Rwanda

Authors: Kevin Zhan¹, Michael S. Hrdy¹, Fidel K. Rubaguyama², Robin Petroze MD³, Georges Ntakiyiruta MD⁴, J. Forrest Calland MD³

Affiliations: 1. University of Virginia School of Medicine, Charlottesville, VA USA 2. National University of Rwanda Faculty of Medicine, Butare Rwanda 3. Department of Surgery, University of Virginia School of Medicine Charlottesville, VA USA 4. Department of Surgery, Centre Hospitalier Universitaire Kigali, Kigali City Rwanda

Rwanda is an incredible and exciting country, brimming with both trailblazing growth and unique tradition. Its thousands of green hills, which pepper the landscape, are surreal to witness. On the ground, Rwandans are proud, welcoming, and forward-thinking. But despite its rapid growth, Rwanda's health care capacities lack sufficient quantity in both personnel and facility. Surgical capacity is particularly undeveloped, as just thirty Rwandan surgeons serve a population over ten million. Currently, there are exciting partnerships ongoing with aims of health care capacity-building, American and Rwandan health care providers working together to train a larger cohort of providers.

With collaborators from both the UVA Surgery Department and the National University of Rwanda, we sought to better understand how Rwandan medical clerkships influence students to pursue surgery, a profession that's not financially incentivized like it is here. Moreover, how does faculty mentorship influence that decision? How do Rwandan surgery clerkships compare to those at UVA? What can we learn from each other?

Our data collection tool is a multi-part survey addressing aforementioned questions, which we distributed last year to 5th year Rwandan medical students and to our 3rd-year medical students (both have just finished their clerkships). Some pertinent questions probed issues such as how time was spent during clerkships vs. what was perceived to be most useful, as well as measuring pre-clerkship vs. post-clerkship interest in surgery. These pilot data show fascinating trends in resource allocation, student values, educational protocols, which we are using to guide further questioning. At the moment, we are continuing data collection from an additional fifth-year Rwandan class and expect those data to provide added insight. We expect our data to identify weak areas and suggestions for improvement in medical education both here and abroad.

This entire process was a whirlwind story of navigating obstacles, appreciating radically different cultures, and personal growth. As both a photographer and medical student, I was challenged in ways I never thought possible.



Photo: Community celebration, Rwanda, 2011

GUATEMALA
PROJECTS IN COLLABORATION WITH THE UVA – GUATEMALA INITIATIVE

Kate Willson

School of Medicine, 2nd Year

Center for Global Health Scholar

Language, Culture, and Health Care Delivery; the HPV Vaccine as an example of the challenges we face in our local but global community

Faculty Mentor: David R. Burt, Department of Emergency Medicine, University of Virginia; Martha A. Hellems, Department of Pediatrics, University of Virginia

Despite advances in treatment and therapies, cancer is still a dreaded diagnosis around the world. Many forms of cancer remain poorly understood, but the relationship between Human Papilloma Virus (HPV) and cervical cancer has been well documented. We now have an effective vaccine to prevent HPV infection, and evidence to support the benefit of vaccinating both males and females. The purpose of my project was to investigate parental attitudes towards the HPV vaccine and communication between parent, child, and physician about the HPV vaccine and adolescent sexuality. I was particularly interested in potential disparities in vaccination rates and attitudes across different populations in Charlottesville.

Linguistic and cultural diversity often present a tremendous challenge in providing health care. The HPV vaccine is a good example of this challenge; explaining its importance to parents of an 11 year-old is difficult, particularly if those parents come from a different cultural and linguistic background. In order to effectively include the Latino population (a significant minority in Charlottesville) into this project, I felt it necessary to strengthen my Spanish language skills. Spending four weeks in Xela, Guatemala gave me this opportunity and also provided a brief introduction to Latino culture.

When I returned in July I spent three weeks administering a survey to parents at a private pediatrics practice in Charlottesville. This practice was chosen for its socioeconomically and culturally diverse patient population. The survey measured demographic characteristics, attitudes about HPV and other sexually transmitted infections, and communication between parents, children, and pediatricians regarding sexuality, sexually transmitted infections and the HPV vaccine. These variables were expected to influence parents' willingness to vaccinate their children. Parents of children between the ages of 11-17 years old were eligible to participate in the study, and 225 parents completed surveys (response rate was 96.6%). Data analysis is still in progress, but initial findings will be presented at the symposium.

This project has been a tremendous learning experience for me in many ways. Research is a dynamic process, both exciting and often very frustrating at the same time. There are many things I would go back and change, reword, or revise if I had to do my project over again. Despite this, I think that the results of this research may provide some valuable insight that I hope to share with the physicians at the pediatrics practice as well as the community. I feel even more strongly now than I did before this project that it is impossible to collect meaningful data without cultural awareness and the ability to communicate with people in their own language. Most importantly, this project has reaffirmed for me that global health isn't just overseas; we face the challenges (and enjoy the privileges) of working with people from all over the world right here in Charlottesville. In order to provide the best medical care possible, we must constantly be mindful of this diversity and the impact it has on our interactions with patients.

Emily Arena

School of Medicine, 2nd Year

Anastasia Crihfield

School of Medicine, 2nd Year

Center for Global Health Scholars

Perceptions of Autism Among Charlottesville Parents

Faculty Mentor: David R. Burt, Department of Emergency Medicine, University of Virginia; Rebecca J. Scharf, Department of Pediatrics, University of Virginia

Although mainstream American culture is very aware of autism and autistic spectrum disorders, some studies suggest that minority groups may not be so equally aware. Because awareness at the parental level can make a big difference in the critical early diagnosis of autism, we thought it would be interesting to look into the perceptions of parents on autism among the parents of many different ethnic groups. Through our research we were hoping to identify any discrepancies in general awareness of autism and perceptions on the etiologic, societal, and cultural aspects of autism among parents of different ethnicities.

Due in part to the growing population of Spanish speaking minorities in our country and also knowing that this population will likely comprise a substantial portion of our future patient population, we were especially interested in this ethnic group. To prepare for interviewing Spanish-speaking parents, we spent one month in Quetzaltenango, Guatemala taking Spanish language and culture classes. While there we also met with several native Guatemalan psychologists to help us develop an appropriate survey that helped us anticipate and target possible cultural differences on autism while maintaining cultural sensitivity. During July we spent several weeks conducting our survey in 3 pediatric clinics throughout Charlottesville: UVA Pediatric Clinic, Kluge Children's Rehabilitation Center, and Pediatric Associates of Charlottesville. We handed out surveys to all parents who came into the clinics and were willing to participate, hoping to get a wide spread of participants from various ethnic groups. For our Spanish speaking parents we had a copy of the survey in Spanish, but found that conducting the survey orally rather than written seemed to be the best way to get participation. Our Spanish language skills proved a great asset here. The survey included basic demographic information including ethnicity, country of origin if not the US, time spent in the US and languages spoken at home, and perceptual questions on etiology of autism, culture, and society. The perceptual questions were based on a five-point Likert scale.

In order to obtain a greater number of Spanish-speaking participants, we decided to extend our data collection through the month of August. At this point we are still working through preliminary data analysis. When designing our survey in Guatemala, we learned that there and in many Latino cultures, mental and developmental disabilities are much less openly talked about than in American society. Therefore, we are anticipating that we'll see some differences in our cultural and etiologic questions on autism within our Latino participants compared with other groups in our study.

With our results we are hoping to gain insight into cultural differences on parents perceptions of autism. Because culture can often be a large hurdle in the physician-patient relationship, we were hoping any insights gained from this study could better help pediatricians to address their patients and patients' families with regards to autism and other developmental disabilities. More generally, we believe our experience in Guatemala, the improvement in our Spanish language skills, and our work with minority populations has not only benefitted us now, but will provide an avenue for a better relationship with our future patients of this ethnic group.

CENTER FOR GLOBAL HEALTH SCHOLAR INDEPENDENT PROJECTS

Rachel Linkous

CLAS Global Development Studies - Global Public Health, 4th Year

Jordan Summers

CLAS Global Development Studies - Global Public Health, 4th Year

Costa Rica -- How has the increased prevalence of “junk” foods in Costa Rica affected the diets and overall public health of citizens, as compared to the influence of sustainable agricultural programs, such as EARTH University?

Faculty Mentor: Rae Blumberg, PhD, William R Kenan, Jr Professor, Department of Sociology

As Global Public Health students, we are thrilled to have had the opportunity and generous funding from the Center for Global Health to research the complicated relationship between health and various societal factors in Costa Rica. The purpose of this research was to explore the differences in nutritional patterns among students in four Costa Rican universities. We realized that a combination of public, private, rural and urban universities would allow us to reach a large and diverse group of people with potential to affect change. We conducted our research at EARTH University (a rural, private university in Guácimo,) Universidad Nacional (a public university in rural Puerto Viejo de Sarapiquí,) Universidad Latina (a private university in urban San Pedro,) and Universidad de Costa Rica (a public university, also in San Pedro.) This selection of universities allowed us to visit multiple regions of the country, which broadening the scope and variety of data gathered.

Our research project was centered on the question: How do various environmental, social and economic factors affect eating habits and access to healthy and unhealthy foods for university students in Costa Rica? The eating habits we considered included meal sources, food preparation, consumption of unhealthy processed foods, consumption of fresh produce, perceptions of gender differentiation in eating patterns, as well as the students' perceptions of their own health. In addition to public vs. private and rural vs. urban variables, the social and economic factors that were taken into consideration during this study included: university location, students' major, gender, economic and social status, as well as food accessibility and family background. We discovered that all of these factors are consequential for nutritional patterns of college students.

University student health is pertinent because, for many Costa Rican students, college is the beginning of adulthood and consequently an opportunity to build important lifelong habits and values in relation to food preparation, dietary choices, and personal health. The eating habits that these young adults form in the first years of living and providing for themselves may influence their dietary habits and choices far beyond graduation. Such eating patterns may also be passed down to their children, molding the dietary patterns of the next generation. Moreover, it is pertinent to study university students' nutrition and healthy consumption due to their influential role in society.

Our research employed a Rapid Appraisal methodology, which allowed us to compare social and environmental factors through “triangulation”. This technique included small focus group discussions and key informant interviews that employed topic lists, and direct observation. The small focus group discussions were composed of five students and were single-gendered in order to encourage honesty and remove barriers. The key informant interviews included interviews with campus nutritionists, cafeteria workers, professors, and other university personnel that had direct ties to student health. Direct observation came from visits to cafeterias, campus restaurants, and *sodas* (small food stands.) We recorded each location's menu, the price of the products, demographics of the customers, item popularity, and any interesting social dynamics surrounding eating.

An initial review of the data suggests that publicly funded universities have governmental standards for student nutrition, while private universities may or may not have programs to ensure access to healthy foods. Additionally, the location of universities and the accessibility or inaccessibility of fresh, nutritious foods had important consequences on student diets. We observed that fast food restaurants were restricted

in the public universities, but made up a large portion of the restaurant options in private ones. Additionally, students in public schools expressed more concerns about the costs of foods that students in private schools. It appeared that students in rural campuses had fewer food options; but, we did not find clear disparities in diet and nutrition between students in urban and rural universities. Our initial interpretation suggests that financial stability, accessibility, and past familial instruction are the major influences on student diets and eating patterns.

In order to answer our research question, we traveled all over Costa Rica, from the crowded urban streets of San Pedro to a quiet sustainable organic farm overlooking the agricultural countryside, to an international banana plantation/university campus in the tropical rain forest. Our experiences developing our research here in Charlottesville, as well as the incredible challenges and rewards of our work in Costa Rica, are invaluable to our education and personal development as undergraduates and Global Public Health students. This semester, we will continue to work closely with our advisor, Professor Rae Blumberg, to finalize our reports, transcribe our voice recordings and begin our analysis of the rapid appraisal data. Upon reaching our conclusions, we will report our findings back to the universities that were involved in our research and work collaboratively to improve student health.

Veronica Sudekum

School of Medicine, 2nd Year

The Ram Family / Center for Global Health Scholar Award

India -- The Preventable Burden of Early Childhood Malnutrition: An Analysis of Enduring Cognitive, Academic, and Physical Sequelae

Morgan Mullins

CLAS, 3rd Year, Global Development Studies with a Concentration in Global Public Health

The Susan and Glenn Brace / Center for Global Health Scholar Award

India - A persistent correlation between Height for Age Z score and cognition in college aged women in South India

Faculty Mentor: Richard L. Guerrant, School of Medicine, University of Virginia

As a team with Morgan Mullins, the question I addressed this summer was the extent to which early childhood diarrhea and malnutrition exert lasting effects on cognitive performance, assessed via academic marks in college-aged women attending college in Vellore, India. The students, who were previously enrolled in the study, were all students of Auxilium College at the time of their consent to participate in the research study.

Prior studies correlated early childhood nutritional status to height, with stunting established as an important marker for early childhood malnutrition. In the Auxilium College study population, an influence on subjects' height that was not previously controlled for was parental height. Because there are genetic as well as environmental influences on height, we wanted to collect parents' heights for each study subject to begin to parse out influences on the college-aged women's heights.

This summer, my goal was to measure the college-aged subjects' parents' heights and weights. My methodology for accomplishing this goal was to travel by car to each study subject's parents' place of residence. The research team brought a scale and a yard-stick for taking standardized measurements at each home, rather than rely on parents' reported height and weight. An interpreter who was fluent in Tamil communicated with family members in order to obtain their consent for participating in the study. A social worker asked limited questions of parents after obtaining their consent, including whether they were currently taking any medications or whether they had ever been hospitalized.

The projected outcome of this research project was to interview and measure as many parents as possible. Many of the college women resided during their studies and afterwards with their parents, making it relatively easy for the research team to contact their families and travel to their homes. Morgan and I were unaware that some of the college students' parents lived in other states distant from the college campus, or

in large cities such as Chennai. We were unable to follow up with these parents due to limitations on our usage of the laboratory's resources (drivers, gas, interpreters, and social workers) and due to limitations of time.

Some families were lost to follow-up due to a change in residency and phone number; however, we successfully enrolled at least one parent from those students who lived in Vellore. In total, we enrolled 105 parents to participate in this study and travelled to over 73 homes. Communities we travelled to included Katpadi, Latteri, Ranipet, and Ghandi Nagar, in addition to Vellore.

Six households reported the death of a father in the time that elapsed between the college women's enrollment in the study and the summer of 2012. Three households, when contacted by telephone, declined to participate. Several fathers requested that we meet them in their place of work, which we did (examples included meeting at spice and grocery stores, an ultrasound clinic, a revenue collection office) or even on a street corner. Data collected from all 105 parents will be analyzed in conjunction with the college women's height and academic marks, which were collected previously by another UVA medical student.

The experience of going to families homes to collect data and the ability to interact with research participants and their extended families was invaluable for understanding how others live. I am grateful I had the opportunity to build cross-cultural communication skills.

Spencer Liebman

School of Medicine, 2nd Year

Panama - Giardiasis and Malnutrition in Rural Panama Supported in conjunction with the UVA- Panama Initiative

Faculty Mentor: Richard L. Guerrant, School of Medicine, University of Virginia

The CGH Panama Initiative has for the past few years looked at childhood enteric diseases, more specifically Giardia and Cryptosporidium in children under the age of 5. This has been done under the auspices of Dr. Azael Saldana and other members of his lab at the Gorgas Institute in Panama City. This collaboration hooks in with a more general focus on childhood enteric diseases and their effects on growth in early childhood that has led scholars in the past from UVA to go and assist with genotyping, fecal lactoferrin and PCR as well as specimen collection in the field.

In that same vein this year I had the privilege to go on two trips to indigenous areas in Darien province with Dr. Saldana and his group. The purpose of these trips was to establish a foothold in the community to facilitate specimen collection and information gathering as well as a follow up trip where stool specimens were then collected and analyzed in the field for the presence of either Cryptosporidium or Giardia. Further all children were measured, weighed, and basic health and sanitation questions were asked of caregivers. Over time, Dr. Saldana and his group have begun to chart out not just the prevalence of childhood enteric diseases in various parts of the country, but also more lately to begin genotyping the Giardia positive specimens to see if different areas have a higher prevalence of A or B assemblage or a mixture of both (about 70% of the samples analyzed during my time there were a mixed AB assemblage). This is important because oftentimes assemblage B infections present as persistent, subclinical infections in children whereas the diarrhea and abdominal pain seen in assemblage A infections would more often lead parents to have their children treated sooner. Though much of this work was basic science, the results were dramatic and continue to highlight stark differences in access to basic necessities of life in a country where wealth continues to skyrocket but not affect the lives of many poor, rural Panamanians.

Panama is a country at an interesting crossroads socially and economically with stark differences in wealth not dissimilar to many other Central and South American countries. As the wealth of Panama has increased so too has urbanization and westernization, and we're now beginning to see increasing rates of Hypertension, Heart Disease and Cerebrovascular disease coupled with decreasing morbidity from infectious disease. We hope to have the next step in this initiative to be looking at social inequality in

Panama including vast income inequality, race and educational attainment, and how this relates to these preventable, non-communicable diseases.

CGH was also pleased to provide co- support for the following scholars:

Aaron Gebreselassie Naji

School of Medicine, 2nd Year

Ethiopia - The Public Health Impact of Sanitation and Hygiene program in Cheha Woreda

Faculty Mentor: Richard L. Guerrant, School of Medicine, University of Virginia

Jamela Martin

Doctoral candidate, School of Nursing

Center for Global Health Award in conjunction with the Jefferson Public Citizens Award

St. Kitts and Nevis -- Prenatal Care in St. Kitts: Identifying Barriers to Free Health Service Utilization

Faculty Mentor: Marcus Martin, Vice President and Chief Officer for Diversity and Equity, University of Virginia



Photo: Rwanda, 2011

The Center for Global Health Scholar Programs

The Center for Global Health offers an array of scholar programs designed to support students from diverse disciplines who conduct independent research related to global health.

Current programs are available to University of Virginia students from all disciplines and in all schools across Grounds. Award programs encourage student and faculty partnership, peer mentoring, and engagement with multiple institutions, NGOs, and service organizations. The 2011 CGH Scholars include students from the College of Arts and Sciences, and the Schools of Engineering and Medicine as well as the UVa College at Wise.

We are proud of this year's scholars and encourage all students to consider pursuing independent inquiry which incorporates research.

Center for Global Health – University Scholar Awards

Available to undergraduate, graduate, or professional students who engage faculty mentors in multidisciplinary approaches to global health in an international setting.

Pfizer Initiative in International Health – Center for Global Health Scholar Award in Infectious Disease

Available to undergraduate and graduate students, medical and nursing students who develop hypothesis-driven, rigorous research on infectious disease in developing countries.

The Dean's/Center for Global Health Award in Medicine

Available to 4th year medical students pursuing international clinical or research rotations during their final year of medical school.

For further information on any of these programs, please contact:

Center for Global Health | University of Virginia | 434-243-6383 | ctrglobalhealth@virginia.edu



Photo: Guatemala, 2012

JOIN US IN 2013!

The Center for Global Health is committed to stimulating interest, inquiry, and dialogue within the university and making connections with relevant partners and organizations. CGH will support students to attend and present at relevant conferences and symposia. Please contact ctrglobalhealth@virginia.edu with questions.

2013 INTERNATIONAL GLOBAL HEALTH CASE STUDY

23 March 2013 at Emory University in Atlanta

Develop multi-disciplinary solutions to real-world problems in the International Global Health Case Competition. The Center for Global Health at the University of Virginia and the School of Nursing Global Initiatives will support one team of up to six University of Virginia graduate and undergraduate students (representing a minimum of three different disciplinary areas) to compete nationally with other schools. **First Place prize is \$6,000**

The International Global Health Case Competition is a unique opportunity for graduate and undergraduate students from multiple schools and disciplines to come together to promote awareness of and develop innovative solutions for current, critical global health issues. The global health case competition focuses on a global health-related case that will require an interdisciplinary approach to formulate recommendations regarding the case that may involve issues such as health care policy, public health implementation and planning, business partnership/investment, medical research, logistics management, faith/cultural understanding, and international law.

More information: www.globalhealth.emory.edu/fundingOpportunities/casecompetition.php

UNITE FOR SIGHT 2013 GLOBAL HEALTH & INNOVATION CONFERENCE

Yale University – April 23 & 24 2013

www.uniteforsight.org/conference

The Center for Global Health will provide funds to up to 4 UVA students to attend the 2013 Global Health & Innovation Conference presented by Unite For Sight, April 23 and 24, 2013 at Yale University. The Global Health & Innovation Conference is the world's largest global health conference and social entrepreneurship conference. This must-attend, thought-leading conference annually convenes 2,200 leaders, changemakers, students, and professionals from all fields of global health, international development, and social entrepreneurship.

***CONSORTIUM OF UNIVERSITIES FOR GLOBAL HEALTH
ANNUAL MEETING***

14 & 16 March 2013

Marriott Wardman Park ||| Washington, DC

<http://2013globalhealth.org/>

The Center for Global Health at the University of Virginia is a supporting member of the Consortium of Universities for Global Health. CGH will provide partial support for students to attend the CUGH meeting in Washington DC.

The mission of the Consortium of Universities for Global Health is to build collaborations and exchange of knowledge and experience among interdisciplinary university global health programs working across education, research and service. It is dedicated to creating equity and reducing health disparities, everywhere. Leaders at the highest levels of academia, government and the private sector have voiced their support for global health. The complexity of today's global health challenges requires harnessing the skills and energies of many disciplines in developing innovative and effective solutions. The global health community is challenged to determine how best to guide collective efforts as well as those from the unprecedented rise of new professionals now graduating from global health programs.



Photo: Mukondeni Pottery Collective members, South Africa 2012

NOTES
