

An Impactful North-South Collaborative for Injury Prevention and Treatment in Ghana and Globally

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ABSTRACT

Injuries, such as from road traffic crashes and violence, cause a significant burden of death and disability in Ghana and globally. Universities have a key role to play in addressing the injury problem, both in training professionals and in undertaking research that will inform and stimulate action locally and globally. The main objective of this report is to highlight the importance of building institutional mentoring capacity to train next generation of injury prevention and trauma care researchers and leaders. Since 2005, the Kwame Nkrumah University of Science and Technology (KNUST) Fogarty-Quartey scholarship programme, a collaborative between KNUST and the University of Washington, has made significant contributions to injury prevention and trauma care in Ghana. The programme has provided scholarships to 37 long-term degree (e.g., MPH, PhD) scholars who are professionals from a variety of disciplines, most of whom have learned the basics of injury research and gone on to hold influential positions that involve road safety, prehospital care, emergency care, and trauma care in Ghanaian institutions. Research conducted by these scholars has led to real-world improvements in road safety and trauma care in Ghana. This research has led to 70 peer-reviewed publications, many of which have been extensively referenced and which have helped to inform the global evidence base on injury control. The collaborative has also led to beneficial academic exchanges and additional grant opportunities. This article summarizes the key elements for success of this programme, including its administrative structure, its methods for building mentorship capacity at Ghanaian institutions, and its support for the career development of scholars. The article also addresses the challenges that the programme has faced and the innovative solutions that have been implemented to overcome these challenges and to assure its long-term sustainability.

Key words: Injury, trauma, road safety, trauma care, violence prevention, research, collaboration

Introduction

Injuries, such as from road traffic crashes and violence, cause a significant burden of death and disability in Ghana and globally. There are many actions that can be taken to decrease this burden, both through injury prevention and through strengthening care for the injured.

Universities have an important role to play in addressing the injury problem, both in training professionals to fill key positions in government and other agencies, and in undertaking research that will inform and stimulate action locally and globally.

Since 2005, Kwame Nkrumah University of Science and Technology's (KNUST's) Fogarty-Quartey scholarship programme has made significant contributions to injury prevention and treatment in Ghana. The programme has provided scholarships for long-term degree (e.g., MPH, PhD) training to 37 professionals from a variety of disciplines, most of whom have gone on to hold influential positions that involve road safety, prehospital care, emergency care, and trauma care in Ghanaian institutions. Through their work in these positions, they contribute to efforts to decrease the burden of injury in Ghana. In addition, the research that they carried out while in the Fogarty-Quartey programme has been influential in informing and promoting more effective injury prevention and trauma care in Ghana. This research has also contributed significantly to the evidence base for injury control (prevention and treatment) globally. Finally, the programme has evolved over time with increased capacity for mentoring at KNUST.

In this article, we summarize the history and structure of the programme, along with the key outcomes of trained professionals and research undertaken. We also discuss challenges the programme has faced, solutions that we have found, and plans for future sustainability.

History and Current Structure of the Programme

The Fogarty-Quartey programme started in 2005, with funding garnered from the US National Institutes of Health's (NIH) Fogarty International Center, which funds international collaborations in medical research, typically partnerships between universities in the USA and other countries. The name of the programme was chosen to honor the memory of Prof. J.K.M. Quartey, a urologist from Korle Bu Teaching Hospital, who was renowned for his service and dedication to his patients, and who tragically died in a car crash that year. We hope that the same spirit of service and dedication will be taken up by our scholars.

The programme started as a partnership between KNUST and the University of Washington (UW), in Seattle,

USA, an institution known for its trauma care and injury prevention research, especially through its Harborview Injury Prevention and Research Center (HIPRC). For the first 10 years, Charles Mock led the programme and UW was the main grant recipient, with a subcontract to KNUST for activities in Ghana. During this time, significant portions of the training occurred at UW. As the capacity for mentorship in injury research and for grants management increased at KNUST, Peter Donkor assumed the overall leadership of the programme and KNUST became the prime recipient of the grant, dealing directly with the NIH. The role of UW has gradually decreased, now providing supplemental mentorship on injury research, but with most of the training and mentorship occurring at KNUST.

The programme structure is summarized in Figure 1. The day-to-day activities of the programme are run by the Leadership Team, all except one of whom are at KNUST. They represent a spectrum of expertise, including trauma care, public health, and nursing. Many members of the team are in daily communication with each other. A Training Advisory Committee (TAC) provides advice, at annual meetings and as needed in between. The TAC consists of senior leadership from other universities and government agencies, especially agencies involved with road safety. They assist the Leadership Team in identifying high-quality applicants for scholarships and in providing advice on research projects that will help to inform injury control in Ghana.

The programme undertakes several activities, including workshops and distance learning, but the foundation is long-term degree training, especially at KNUST (Figure 1, Table 1). Several key components for success include careful selection of trainees (scholars). Criteria for inclusion in training include: 1) present involvement in injury-related work or research; 2) specific request to the program for training by relevant institution; and 3) need for faculty development. We especially look for people who have been active in some aspect of injury control already and who hold positions at universities or government agencies to which they will return after training. The TAC, with its knowledge of injury control

in Ghana, has been especially helpful in identifying suitable candidates.

During the programme, the main mentors for the scholars are their KNUST School of Public Health (SPH) degree supervisors. There is active co-supervision by project leadership, with input regarding what topics are timely in the injury scientific literature and that will result in publishable papers. The trainee's progress is monitored by the mentors (KNUST SPH faculty, UW mentors, and other programme leadership) through use of individual development plans. In person meetings with KNUST SPH supervisors occur weekly to monthly. Zoom and in person meetings with UW mentors occur three to four times per year, with more frequent communication by email. Meetings with mentors address satisfactory progress in the course work, as well as selecting, developing, and implementing a successful research project. KNUST SPH supervisors and programme leaders interview each scholar at the completion of their degrees to understand their experiences and identify possible areas for continuing improvement of the programme. Programme leaders and other mentors continue to be involved with the scholars after they receive their degrees, especially for converting the thesis into a publication and for long-term career advice.

Outcomes: Trained Professionals

The programme has provided scholarships to 37 long-term degree scholars (Table 2). These include MPH (or other master levels) degrees that are given to two categories: (a) pre-doctoral scholars, whose highest prior level of training was a bachelor's degree and who usually work for government agencies; and (b) post-doctoral level scholars, typically medical doctors. The latter obtain MPH degrees to obtain research expertise, in addition to their clinical expertise. In recent years, our programme has increasingly focused on PhD training, usually oriented towards university lecturers with existing Masters degrees. The PhD training allows them to work at a higher level, advance further in their careers, and undertake future research using their injury expertise.

A main goal of the programme is to increase the injury research capacity of Ghanaian institutions, especially through the roles the scholars undertake after completion of their training. Hence, it is notable that all 37 long-term scholars have returned to or remained in Ghana, with most working in roles that utilize their injury skills and that contribute to lowering the burden of death and disability from injury in Ghana. Two notable examples:

- **Dr. Maxwell Osei-Ampofo**, spent two years as Head of the Directorate of Emergency Medicine at the Komfo Anokye Teaching Hospital (KATH) and now serves the Ministry of Health as the Deputy Director of the National Ambulance Service.
- **Prof. Emmanuel Nakua** is now Head of the Department of Epidemiology and Biostatistics and Vice Dean of the School of Public Health at KNUST.

A full listing of the scholars and their positions are in Table 2. KNUST and KATH have especially benefited. But many other scholars have taken up positions in and are contributing to the work of a wide variety of government agencies and other universities, including (among others): Building and Roads Research Institute (BRRI), National Ambulance Service, Police Hospital, Tamale Teaching Hospital, and University of Cape Coast.

Outcomes: Research Conducted

Research conducted by the scholars, especially for their theses, has helped to inform and strengthen the practice of injury control (both prevention and treatment) in Ghana and has contributed to the global evidence base. This research covers the spectrum of injury control, as shown in Figure 2, with several examples. Two examples of the strong research conducted by the programme scholars are summarized below:

- **Dr. James Damsere-Derry (BRRI)** measured speeds of 20,000 vehicles, documenting minimal compliance with posted speed limits in locations with high rates of pedestrian injury

(Damsere-Derry et al., 2007, 2008). This work was highly publicized in Ghana through press conferences and radio talk shows. This publicity helped to increase popular demand for traffic calming infrastructure (e.g. speed bumps) and governmental interest in implementing such measures (Figure 3). The result was an increase in use of such infrastructure on many of Ghana's roads, with consequent decreased rates of pedestrian death at these locations (Damsere-Derry et al., 2019, Gyaase et al., 2022). This work has also informed the global evidence base on pedestrian safety in LMICs. One of Damsere-Derry's publications (Damsere-Derry et al., 2010) has been cited by 153 other scientific publications (as identified through Google Scholar).

- **Dr. Dominic Yeboah (KATH)** used a trauma quality improvement (QI) technique (preventable death panel review) at KATH. This documented a high rate of preventable deaths and several inadequacies in care. This led to more regular QI activities and, on 10 year follow up, a decrease in definitely preventable deaths (25% of all trauma deaths in 2007 vs. 13% in 2017) and improvements in care, especially resuscitation for patients in shock. His first article has been cited by 52 other scientific publications, showing wide global interest in this topic (Yeboah et al., 2014; Konadu-Yeboah et al., 2020).

Most scholars have published their Masters theses or PhD dissertations, sometimes with multiple publications. Many scholars have continued the research they started as scholars (as with the examples of Dr. Damsere-Derry and Dr. Yeboah, above). As part of the programme, funds are made available to some of the scholars after they finish training, for promising research projects. Scholars are also encouraged and mentored to apply for additional funding from other agencies. For example, **Prof. Adam Gyedu (KNUST)** obtained his own funding as principal

investigator from the US NIH for a study on trauma care at district and regional hospitals (Gyedu et al., 2022). **Dr. Tolgou Yempabe** (an orthopaedic surgeon at Tamale Teaching Hospital) undertook a study of practices of traditional bonesetters (TBS) in the Northern Region (Yempabe et al., 2020; 2021) for his MPH thesis. Through the trust he built with the TBSs, he was able to obtain funding from the AO Foundation for training of the TBSs to better recognize and refer difficult cases, such as open fractures.

Finally, some of the scholars have undertaken research on neglected topics with their research highlighting these problems, the benefits of which might take years to manifest. For example, a very sensitive injury issue is violence, especially violence against women. Scholar **Amy Budu Ainooson** interviewed women with disabilities about violence they had experienced, publishing on ways to increase health care access for them (Budu-Ainooson et al., 2020). Altogether, through their theses and through follow up activities, the Fogarty-Quartey programme has directly sponsored 70 peer-reviewed publications (listed in reference section). As with the above-noted studies, these 70 publications address the spectrum of injury control, including surveillance, injury prevention (e.g. road safety, violence prevention), prehospital care, initial emergency care, and surgical care (Figure 2).

Outcomes: Research Leadership

At the start of the programme Peter Donkor, Charles Mock, and Robert Quansah co-mentored all the scholars together with their academic supervisors. The current programme leadership includes early Fogarty-Quartey scholars who have matured into independent and successful academic and research leaders. They play key roles in mentoring new scholars and are also recipients of a number of competitive injury-related grants from the NIH and other funders. This is a major plank in the drive towards ensuring sustainability of the programme.

Innovative Solutions to Challenges Faced

Local Expertise

The programme has faced several challenges. At the onset, KNUST had limited experience for research mentoring on injury topics. KATH had considerable clinical expertise in traumatology, but limited experience in publishing its work. The partnership with UW brought in considerable injury research experience, from which early scholars benefited. However, training at UW was expensive. Hence, early on the programme developed a training model in which most scholars obtained their degrees at KNUST, with dual mentorship. KNUST faculty members were direct supervisors for the degrees and provided in-depth knowledge of local realities. UW mentors provided expertise on injury research, including specific techniques (e.g. adjusting for injury severity, setting up trauma registries, development of questionnaires for household surveys on injury). With time, the injury research expertise and the institutional capacity for mentoring in injury research has expanded at KNUST with UW mentors called in only as needed.

Injury research expertise and related capacity for mentoring in injury research at KNUST includes several former scholars, who have now risen to be professors and department heads and who now mentor many trainees on their own, without funding from the Fogarty-Quartey programme. As just one example, one such trainee obtained their own funding and undertook a notable, published study on the effectiveness of speed bumps in decreasing road traffic injuries (Gyaase et al., 2022). Each year, the KNUST School of Public Health has around 4 students undertaking injury research for their theses. The school also has integrated injury examples into several of its core courses and has created a new course specifically on injury control (FEAB 656: Injury Epi, Prev, and Control).

Career Development

A major goal of the programme is that scholars assume positions of responsibility in Ghanaian institutions

and use their new skills to address the injury problem in Ghana. Some positions lend themselves naturally to this, such as jobs in road safety at the BRRI or jobs as surgeons or emergency physicians. Some jobs, such as lecturers in public health are less directly connected with injury. In all cases however, the undertaking of impactful research on injury is not automatic, especially for a field with relatively modest funding available. There would be a tendency for completed scholars to not actively use their new skills and to become frustrated and leave for other employment or even leave the country. The programme has attempted to address this issue through the possibility of additional “re-entry” funding after the completion of the degree (as noted above) and through continued mentoring. Members of the leadership team and other mentors continue their relationships with the completed scholars, often for years, assisting them with additional publications and with garnering their own funding. Table 2 shows the wide variety of important positions that our scholars have assumed, most of which are involved with some aspect of injury control.

Gender Equity

Recipients of scholarships who entered during the first phase of the programme (2005-2015) were predominantly male (only 4 out of 17 scholars were women). This inequity was partly due to the fact that some parts of the injury field (such as traumatology and emergency medicine) are still heavily male dominated. During the second phase of the programme (2016 to current), we have more actively recruited qualified women. In part, we have approached this through actively recruiting in fields such as nursing which have high percentages of women. To increase our involvement with nursing, and especially nursing research, we have relied on experienced researchers at the Department of Nursing at KNUST, in identifying potential scholars. We have also been flexible in our approach by allowing female scholars who start families or have other family responsibilities, to have as much time as needed to finish their theses. Thus far, no one has had to drop out of the programme because of

such family responsibilities. These approaches have been successful. Recipients of scholarships during the second phase of the programme have been more evenly matched by gender with 11 out of 20 being women. Future plans include to focus more attention on workshop attendees to assure gender equity in this set of activities also.

Extending the Network

The work in Ghana has been based at KNUST, but programme graduates have taken positions throughout Ghana. Nonetheless, in order to expand the influence of the programme to better address the huge injury problem, additional ways of working were needed. One of these was to actively work with other universities to identify promising candidates working there, who would return to that institution with their new injury expertise, as has been done with University of Cape Coast and University of Development Studies/Tamale Teaching Hospital. Another has been to be flexible and offer scholarships at other institutions. We have sponsored one prior student (Mphil in epidemiology) and a current student (PhD in bioengineering) at the University of Ghana.

The foundation of the programme is the long-term degrees. To reach a broader audience, we have conducted a wide variety of workshops, for 20 – 100 participants each, ranging from one day to one week, usually held two to three times per year. In total, these workshops have had thousands of attendees. Early in the programme, we organized week-long workshops on injury control as a scientific field. These were attended by a wide range of injury stakeholders including representatives of government agencies dealing with injury in some way (e.g. road safety, emergency care, disaster management). These helped to show participants the commonality of their work with others in different agencies and thus helped to build constituency for injury control in Ghana. Workshops have focused on specific issues as needed and have highlighted injury topics that have thus far received only minimal attention, such as violence prevention and drowning. Further examples of the workshops are in Table 3. Workshops have been evaluated by written

surveys given before and after the workshops. Also, **every 5 years, we survey people who have attended the workshops during the past 5 year cycle to see what parts of the workshops were most beneficial for them.**

The workshops involve the network of current and former programme scholars, both as presenters and attendees, which assists with ongoing mentorship and career development. The workshops have also expanded the programme's reach to the sub-region, with workshops conducted most years at the annual West African College of Surgeons conferences.

Conclusions – Sustainability

Partnerships for capacity building in research mentoring in global health have had variable outcomes (Potash, 2019). The Fogarty-Quartey collaborative is a successful partnership which has been systematically developed over several years and sustainably transitioned from HIC to LMIC leadership. The programme has considerably expanded the capacity for injury research in Ghana. It has trained 37 long-term scholars, almost all of whom are working in some aspect of injury control in Ghanaian institutions. Research conducted by the scholars has been impactful to improve injury prevention (especially road safety) and trauma care in Ghana. This research has been published in leading journals and has contributed to the global evidence base for injury control. This has been accomplished by gradually increasing the capacity for injury mentorship at KNUST and decreasing reliance on foreign expertise. Our experience has shown that a successful North-South partnership must aim to 1) first build mentorship capacity of LMIC senior faculty and 2) train graduate students and junior faculty to become independent researchers and effective mentors for sustainability. Another major part of the model for success has been the continued mentorship for career development for completed scholars. This model is eminently applicable to other institutions and other partnerships. Next steps for the programme are to develop more standardized mentoring guidelines and materials, which will help assure sustainability and which

could be of use to other universities. Such materials have been shown to be important to the broader field of global health mentorship (Hansoti et al., 2019).

The funding garnered for this programme has been an important component for its success. However, no funding lasts forever. Hence, we have worked to keep long-term sustainability in mind. Currently, former scholars who have assumed positions at KNUST and other institutions are engaging in impactful injury work, most of which is no longer supported by our programme. The KNUST SPH now has a course specifically on injury control and routinely has multiple students studying injury topics for their theses. Our completed scholars at KNUST and other institutions have been successful at garnering funds for their own research. Thus, regardless of any specific funding, the Fogarty-Quartey Programme is poised to continue its important contributions to decreasing the tragic problem of injury.

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*Funded through a supplement on Alzheimer's Disease and Related Dementias

Table and Figure legends

Table 1. Key components for success of long-term, degree scholars

Table 2. Summary of long-term scholars (trainees) in the KNUST Fogarty-Quarthey Injury Programme

Table 3. Selected workshops conducted by the Fogarty-Quarthey Programme

Figure 1. Administrative Structure of KNUST's Fogarty-Quarthey Programme

Figure 2. Spectrum of Injury Control: Examples of Research Activities

Figure 3. Photograph of a campaign sign along Tamale-Kintampo road in 2016, showing people's demand for safety. Such demand has been increased over time through the speed control advocacy undertaken as a result of James Damsere-Derry's studies on pedestrian safety.

Table 1. Key components for success of long-term, degree scholars

1. Careful selection of trainees to ensure a good fit and retention
2. Co-supervision of trainees by project leadership at all stages of student training
3. Monitoring of trainee progress through the use of Individual Development Plans
4. Financial support – tuition, stipend, computer, research support
5. Guidance through manuscript writing
6. Support with payment of article publishing charges (APCs)
7. Supplemental training through focused workshops
8. Pilot grants for graduates
9. Active oversight by Leadership Team and advice from a TAC (Training Advisory Committee) consisting of senior leadership from other universities and government agencies.

Table 2. Summary of long-term scholars (trainees) in the KNUST Fogarty-Quarterm Injury Programme

Scholar	Degree	Year Received	Topic of Thesis Research Project (and other research supported by the programme)	Initial Position before Joining Programme	Current Position
Koranteng, Adofo*	MPH	2007	Injury Surveillance	Research Assistant, Department of Surgery, KNUST	Principal Research Officer, Department of Surgery, KNUST
Kuutiero, Lillian	Long-term, non-degree training	2008	Laws on road safety	Participatory Development Associates (a local NGO)	Advocacy Officer, OXFAM, Ghana
Yankson, Isaac <i>Note: also listed later for PhD, 2022</i>	MPH	2008	Press reporting of road traffic crashes in Ghana	Teacher, Senior secondary school, Kumasi	Senior Scientific Officer, BRRRI
Damsere-Derry, James*	MPH	2009	Pedestrian injury, speed control	Research Assistant, BRRRI	Senior Research Officer, BRRRI
Asiedua, Jessie	MPH	2010	Childhood injury	Nursing Officer, Koforidua Hospital	Head, Nursing Training College, Nkawkaw
Japiong, Kennedy	MPH	2014	Trauma care at the Ghana Police Hospital	Nursing Officer, Police Hospital, Accra	Officer-in-Charge of the Emergency Clinic of the National Police Headquarters
Donkor, Isaac	MPH	2015	Distracted driving	Manager of Red Cross Services, Brong Ahafo Region	Eye Health Officer, Vision for a Nation Foundation, Accra
Gyamfi, Adwoa*	MPH	2015	Electronic medical record use in Emergency Department of Komfo Anokye Teaching Hospital	Nursing Manager, Child Welfare Clinic, Agogo Presbyterian Hospital	Lecturer, Department of Nursing, KNUST
Paitoo, Benjamin	MPH	2016	Occupational injuries Ghana Fire Service staff	Municipal Fire Officer, Ghana Fire Service, Obuasi	Lecturer, University of Energy and Natural Resources, Sunyani
Agyemang, Eunice	MPH	2017	Workplace Violence	Nursing Officer, Department of Emergency Medicine, KATH	Health tutor, Koforidua Nursing Midwifery Training College

Pre-doctoral

Scholar	Degree	Year Received	Topic of Thesis Research Project (and other research supported by the programme)	Initial Position before Joining Programme	Current Position
Boakye, Godfred	MPH	2017	Supply chain management in trauma care	Research Officer, Department of Surgery, KNUST	Military officer, Ghana Armed Forces
Budu Ainooson, Amy	MPH	2018	Dependency violence in women with disabilities	National Service Officer, Center for Disability Studies, KNUST	Behavior technician, Autism Compassion Africa, Cape Coast
Appiah, Anthony Baffour	Mphil (UG)	2020	Association of head injury and helmet use among injured motorcyclists in northern Ghana	Research Assistant, Department of Surgery, University of Cape Coast	Research Assistant, Department of Surgery, University of Cape Coast
Adjei, Benjamin Noble	MPH	2021	Factors affecting helmet use in northern Ghana	Research Assistant, School of Public Health UG	Head, Medical Records, Techiman Gov't Hospital
Miilon, Sommik Duut	MPH	2021	Role of first responders in prehospital care	Ashanti Administrative Manager, National Ambulance Service	Ashanti Regional Administrative Manager, National Ambulance Service
Achempim, Emmanuel Asiedu	MPH	Pending	Epidemiological features and outcomes of occupants of auto tricycle crashes: a descriptive study of auto-tricycle related injuries in Kumasi	Administrator, Emergency Medicine Research and Innovation Office, Emergency Medicine Directorate, KATH	Mphil student
Akorli, Ruth	Mphil	Pending	Impact of climate change on road traffic crashes	Teaching and Research Assistant, Department of Environmental Science, KNUST	Mphil student
Appiah, Abigail	Mphil	Pending	Physical health consequences of traumatized elderly persons.	Nurse in charge, School Health Unit, North Suntreso Gov't Hospital	Mphil student
Boateng, Patience Achiamaa	Mphil	Pending	Trauma-related amputations among children; experiences of children and caregivers post-amputation.	Senior Tutor, Nursing and midwifery training school, Fomena-Adansi	Mphil student
Osei, Elizabeth	Mphil	Pending	Workplace violence against female health care	Tutor, Nursing and midwifery training college, Atibie	Mphil student
Tetteh, Abigail Aban	Mphil	Pending	Traumatic Injuries in the Abattoir; A Case Study in Kumasi Abattoirs	Nursing Officer, Theatre Unit, Suntreso Government Hospital	Mphil student

Pre-doctoral

Scholar	Degree	Year Received	Topic of Thesis Research Project (and other research supported by the programme)	Initial Position before Joining Programme	Current Position
Ankomah, James	MPH	2010	Burn injury in Ghana	Medical officer, Dept of Surgery, KATH	Medical superintendent Goaso Municipal Hospital
Gyeddu, Adam	MPH	2012	Childhood injury (household surveys: peri-urban; rural) Trauma care capacity in Ghana; enumeration of all surgery performed in Ghana	Lecturer in Surgery, KNUST	Associate Professor in Surgery, KNUST
Forson, Paa Kobina	MPH	2013	Effect of emergency medicine physicians at district hospitals	Resident in emergency medicine, KATH	Specialist-in-charge of Emergency Medicine, Offinso District Hospital
Osei-Ampofo, Maxwell	MPH	2013	Injuries in pregnant women presenting to KATH	Resident in Emergency Medicine, KATH	Deputy Director, National Ambulance Service
Yeboah, Dominic	MPH	2013	Preventable trauma death panel review at KATH	Medical Officer, Department of Surgery, KATH	Senior Lecturer and Consultant Surgeon: Orthopaedics and Traumatology, KATH
Appiagyeyi, Helena Serwaa	MPH	2019	Occupational injuries to health workers in district hospitals	Medical Officer, Hope Exchange Medical Center, Kumasi	Senior Medical Officer, Hope Exchange Medical Center, Kumasi
Boakye, Nathaniel Adu	MPH	2019	Violence against children	Medical Officer, Manhyia District Hospital, Kumasi	Medical Officer, Manhyia District Hospital, Kumasi
Yempabe, Tolgou	MPH	2019	Utilization of traditional bonesetters in the Northern Region	Orthopedic Trauma surgeon, Tamale Teaching Hospital	Orthopedic Trauma surgeon, Tamale Teaching Hospital
Larmie, Robert	Mphil	Pending	Impact of climate change on road traffic crashes; commercial drivers experience and perceptions	Senior Specialist, KATH	Mphil student

Post-doctoral

Scholar	Degree	Year Received	Topic of Thesis Research Project (and other research supported by the programme)	Initial Position before Joining Programme	Current Position
Nakua, Emmanuel	PhD	2018	Occupational injuries to goldminers	Lecturer, School of Public Health, KNUST	Professor and Head of Department, Biostatistics & Epidemiology, SPH, KNUST
Okyere, Paul	PhD	2021	Seatbelt usage and promotion.	Lecturer, KNUST	Senior Lecturer, KNUST
Yankson, Isaac Note: also listed earlier for MPH, 2008	PhD	2022	Occupational Injury Risks among Road Construction Employees	Scientific Officer, BRR	Senior Scientific Officer, BRR
Karikari, Akua Kusiwaa	PhD	2023	Training for emergency nursing at district hospitals in Ghana	Deputy Director of Nursing Services, KATH	Deputy Director of Nursing Services, KATH
Abebrese, Abena Kyerew	PhD	Pending	Violence among women; development and validation of a screening tool	Lecturer, Department of Nursing, KNUST	PhD student
Amissah, John	PhD	Pending	Assess the emergency preparedness of the health system in road traffic trauma care in Ghana	Research officer, School of Public Health, KNUST	PhD student
Bart-Plange, Akofa	PhD (UG)	Pending	Assessing the Responsiveness of EMS and Availability of Radiology Equipment in Healthcare Facilities for Injury Management in Ghana	Biomedical engineer and equipment consultant, The Gigaton Group	PhD student
Boateng-Osei, Estella	PhD	Pending	Improving trauma care and safety among petty traders (hawkers) in the Ashanti region due to the rise in traffic accidents and injuries	Lecturer, Department of Nursing, KNUST	PhD student

PhDs

BRR: Building and Roads Research Institute; KNUST: Kwame Nkrumah University of Science and Technology; UG: University of Ghana;

*Obtained PhDs on own, after completing Fogarty-Quartey Programme.

Table 3. Selected workshops conducted by the Fogarty-Quarterm Programme

Title	Year	Partners	Location	
Injury Control Courses in Ghana	Multi-sectoral Course on Injury Control	2006 (May), 2006 (Nov)	Kumasi	
	Press Reporting on Road Safety	2007	Accra	
	Injury Control for Parliamentarians	2009	Accra	
	Injury Surveillance	2011	Kumasi	
	Injury Research	2012	Kumasi	
	Injury Research for Northern Ghana	2016	Tamale	
	Injury Research for the Coastal Area	2017	Cape Coast	
	Strengthening Injury Prevention and Trauma Care	2017	Fiapre	
	Research for Trauma and Emergency Care in Northern Ghana	2017	Tamale	
	Preventing Violence in Ghana	2018	Kumasi	
	Research Courses for Residents	Addressing National Surgical Disease Burden through Effective Planning	WACS, Ghana Chapter	Accra
		Strengthening the Base of First Responders	WACS, Ghana Chapter	Accra
		Drowning Prevention	UCC	Kumasi
		Research for KNUST Residents	2010, 2014, 2015	Cape Coast
		Responsible Conduct of Research	2018	Kumasi
		Research Training for Residents	2018	Kumasi
		Research Supervision for Surgical Trainers	2018	WACS, Accra
Research Training for Residents		2019	Ghana Chapter, Accra	
Research: Ethics and Methodology		2022	WACS, Ghana Chapter	
Biostatistics and Data Science		2022-2023	WACS, Ghana Chapter, Kumasi	

West Africa-wide Courses					
Trauma System Planning	2012	WACS	Monrovia		
Trauma System Planning & Research Symposium	2013, 2014	WACS	Lome, Kumasi		
Trauma System Planning	2015, 2016	WACS	Abidjan, Yaounde		
Trauma Care Research	2017	WACS	Ougadougou		
National Surgical, Obstetric, and Anesthesia Plans	2019	WACS	Dakar		
Traditional Bone Setters: Train and link vs. Discourage and diminish	2020	WACS	Abuja		
How to Turn Your Dissertation into a Publication	2022	WACS	Monrovia		

CUCC: Catholic University College of Ghana. UCC: University of Cape Coast. UDS: University of Development Studies. WACS: West African College of Surgeons.

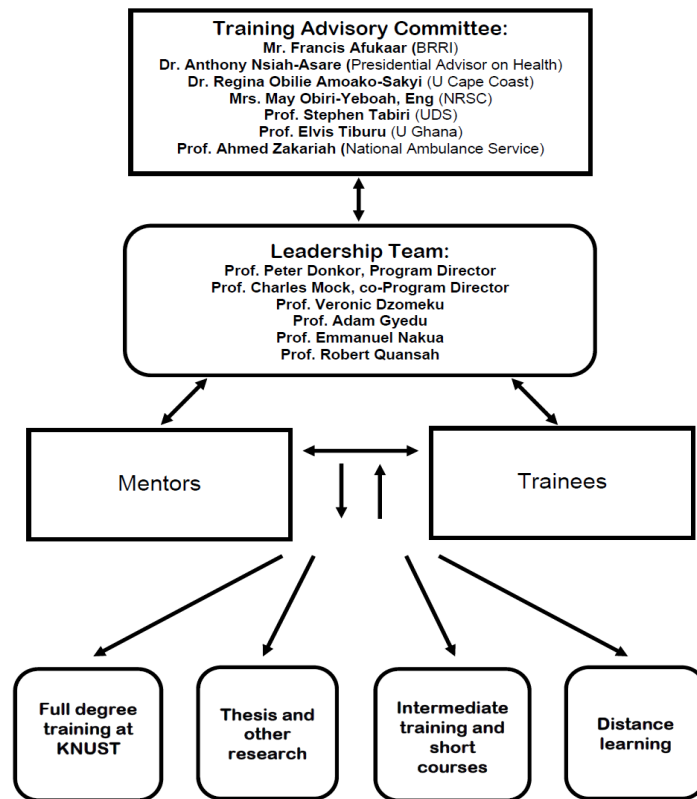


Figure 1: Administrative Structure of KNUST's Fogarty-Quarterm Programme

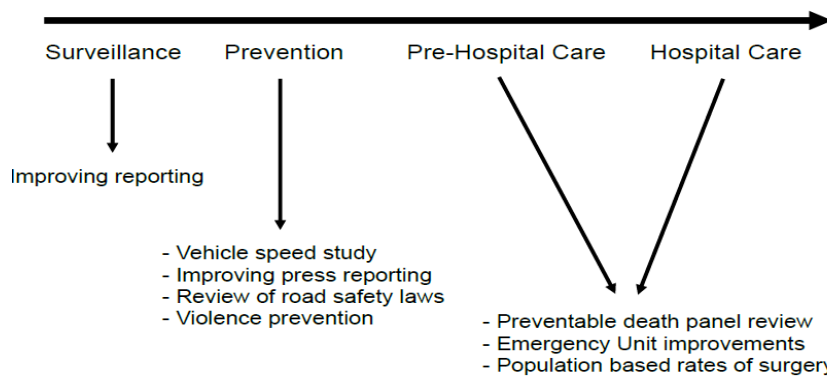


Figure 2: Spectrum of Injury Control: Examples of Research Activities.



Figure 3: Photograph of a campaign sign along Tamale-Kintampo road in 2016, showing people’s demand for safety. Such demand has increased over time through the speed control advocacy undertaken as a result of James Damsere-Derry’s studies on pedestrian safety.