GLOBAL EMERGENCY CARE INITIATIVE

ANNUAL REPORT 2019

Global Emergency Care Initiative
UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS
EXECUTIVE SUMMARY

The Global Emergency Care Initiative (GECI) supports novel partnerships and practical solutions to bring timely, quality emergency care to all people, especially in resource-limited contexts. GECI provides focus, strategy, and programmatic support for emergent health issues in the University of Colorado’s effort to improve health globally.

This report features the substantial achievements and efforts of the GECI in the 12-month period from January – December 2019. Highlights of these achievements include:

- 15 publications and multiple international speaking engagements highlighting GECI’s work.
- Expansion of our educational offerings for the CU community, residents, and medical students.
- Further partnership and progress towards improving emergency care delivery in Zambia with the Zambian Ministry of Health.
- High-quality training of frontline health providers in essential emergency care skills in Liberia, South Africa, Zambia, and Panama.
- Expansion and dissemination of open-source Emergency Care Pathways project, which provides an “at the bedside” reference tool for standardized emergency case management in resource-limited settings. App users now represent 46 different countries.
- Successful grant applications by our research director in prehospital care for low- and middle-income countries that total $2,668,271.
- Successful participation and leadership by GECI of the first consortium of universities around emergency care health system capacity building (Academic Consortium for Emergency Systems)
- Launch of the largest training of trainers in the WHO Basic Emergency Care Course to date; 128 trainees from 22 countries trained in October 2019.
- Creation and launch of the Basic Emergency Care YouTube Channel that provides free, low-bandwidth educational videos to augment basic emergency care skills.
- Continued GECI faculty presence on high-level committees and work with international bodies (World Health Organization, International Federation of Emergency Medicine, and African Federation of Emergency Medicine) that are shaping global emergency care priorities and policy.

We have forged multi-disciplinary partnerships at the University of Colorado and internationally to help bring the mission and goals of GECI to fruition. We invite you to join us in our efforts to bring emergency care worldwide!
Many in global health ask the question, why emergency care when there are so many other competing priorities? Quite simply, emergency care delivery is the keystone within health systems to avoid needless death and disability. Emergency care is the first point of contact with the health system for many people. When access is difficult within the health system, people often wait until acutely ill or injured to seek medical care. Fifty-four to ninety percent of deaths in low- and middle-income countries (LMICs) are amenable to drastic changes in outcomes if treated with timely emergency care. Emergency care can directly and positively reduce mortality in several leading causes of death, including malaria, lower respiratory tract infections, diarrheal illnesses, stroke, and road injuries.

This year marks a major milestone with the passage of WHA 72.16 in the 72nd World Health Assembly, “Emergency care systems for universal health coverage: ensuring timely care for the acutely ill and injured”, that signaled a public commitment by governments around the world to build and strengthen emergency care systems, especially in LMICs. GECI stands in solidarity with the WHA resolution and its goal to ameliorate the large discrepancies in outcomes in multiple emergency conditions such as trauma, acute exacerbations of chronic disease such as diabetic ketoacidosis, and pregnancy-related hemorrhage.

Emergency Care is a Human Right
The burden of emergency diseases in LMICs is 4.4 times higher than in high-income countries (HICs) and there are drastic discrepancies in outcomes for emergency conditions between HICs and LMICs in addition to high variability across geographic regions. The mission and mandate of the Global Emergency Care Initiative is to address this gap, representing hundreds of thousands of lives. We believe that the academic emergency care community has important and essential technical skills to offer to partner organizations and governments as emergency care grows worldwide. Too often, emergency services in LMIC health facilities are not oriented to treat the acutely ill and providers are infrequently trained in how to provide even the most basic emergency care.

These realities are compounded by new global challenges that are upon us. The changing climate is causing health effects that disproportionately affect LMIC communities. In addition, climate-related disease – e.g. increased respiratory illness, vector-borne disease, cardiovascular events – primarily affects the most vulnerable and marginalized patients, the same patients who seek episodic, symptom-driven care in emergency units. This makes emergency units in LMICs ground zero for dealing with the effects of climate change and health. Yet, these same emergency systems are markedly underprepared to do so.

This report describes our efforts to address some of the great challenges that lie before us to confront needless human suffering from emergency conditions and bring sustainable partnerships to locations requiring technical expertise in emergency care. GECI has a proven track record in education of all types of frontline practitioners as well as research into effective solutions in resource-limited settings. Most importantly, GECI’s collective work champions the simple, affordable, and proven interventions that save lives in the settings where emergency care is needed the most.

In solidarity,

Emilie J. Calvello Hynes MD, MPH
Lead, Global Emergency Care Initiative
University of Colorado Department of Emergency Medicine
WHO WE ARE

OUR STORY

The Global Emergency Care Initiative was established in 2017 as a section under the Department of Emergency Medicine (DEM) at the University of Colorado School of Medicine. GECI received generous funding from the DEM that allowed its official launch in 2018. The initiative was established to provide focus, strategy, and programmatic support for emergent health issues in the University of Colorado’s effort to improve health globally. More essentially, the GECI core faculty and affiliate faculty are committed to the ethos that high-quality, timely emergency care is a fundamental human right. The faculty commit their time, efforts, and significant experience and technical skill to transforming how we teach and train learners here in the U.S. as well as in multiple countries worldwide.

OUR MISSION

The underlying drive for our work originates from a deep commitment and belief that access to quality emergency care is a fundamental human right. GECI invests in strong, equitable partnerships and provides technical support for pragmatic implementation of innovative programs that build capacity of emergency care systems in low-resource settings. We strive to sustainably improve emergency care outcomes in low- and middle-income communities worldwide by linking cutting-edge academics with excellent on-the-ground implementation. Longstanding relationships and thoughtful collaboration with our partners based in low-resource settings lie at the core of GECI’s mission.
OUR STRATEGY

GECl's strategy is built upon four integral pillars: education, clinical care, research, and service to the global community. The core objectives for each strategic pillar are outlined below:

**Pillar 1 - Education:** Provide excellent education for domestic and international learners to improve emergency care delivery, emphasizing multi-disciplinary approaches and leadership development.

**Pillar 2 - Research:** To promote research, support research networks, and disseminate evidence that may help protect, promote, and restore health amongst those with acute and emergency conditions worldwide.

**Pillar 3 - Clinical Care:** Provide innovative emergency clinical care solutions that help achieve outstanding patient care and advance emergency care service delivery in varying resource contexts.

**Pillar 4 - Service to the Global Community:** Advance effective, sustainable collaborations and advocate to ensure emergency specific health risks and health system issues are understood and adequately prioritized by key stakeholders.

OUR VALUES

- Excellence in mission
- Equitable, trustful collaborations
- Local engagement
- Context-appropriate solutions
- Sustainability and cost-effectiveness
- Rigorous evaluation and accountability

OUR COMMITMENT

- Delivering outstanding programmatic implementation, including rigorous evaluation necessary to assess impact
- Supporting training for clinical providers, other health professionals, and non-clinical community members to improve emergency care delivery within national health systems
- Providing action-oriented research to define adaptive solutions that reach all people, effectively and efficiently
- Promoting access to essential emergency services in all places at all times


**OUR APPROACH**

GECI specializes in the development and implementation of interdisciplinary educational products that are targeted for low-resource settings. A major barrier to achieving universal emergency care is the disconnect between academics and practice, which is prevalent throughout the field of global health. Academic innovation without pragmatic implementation is both ineffective and unethical. Therefore, GECI focuses on full pragmatic implementation and systems integration of rigorously tested emergency care educational products. Our objective is to translate innovative educational products into responsible practice. The implementation of sustainable solutions that are field-tested is in its infancy in the field of global emergency care. GECI’s goal is to bridge the “know-do” gap of global emergency care by leading in the pragmatic implementation of emergency care educational products that are specialized for low-resource settings, in order to substantially improve emergency care outcomes for the most vulnerable communities in the world.

*Emergency care is the last chance the health system has to save a life.*
1) Provide excellent, engaging education for domestic and international learners to improve emergency care delivery

GECI’s robust portfolio of educational programs reaches a diverse spectrum of learners across the world. We provide high-quality training in multiple aspects of global emergency medicine for clinical providers of all stages and cadres. Our training programs are targeted to the needs of the students and the communities they will be serving. For example, the domestic Global Health Primer and Accelerator courses provide a foundation in ethical global health work for U.S.-based providers who plan to volunteer in resource-limited settings internationally. Nurses, physicians, EMTs, pharmacists, PAs, and undergraduate students participate together in these courses.

Internationally, we work with local partners and governments to identify priority training needs and bring the faculty’s expertise in training to multiple sites around the world. We actively construct our training courses to train trainers and support local leaders in their efforts to bring better emergency care to their communities.

In the past twelve months, GECI’s educational portfolio expanded further with the addition of three new types of trainings in the United States and a resident elective in Uganda. These further educational experiences were made possible by new partnerships with the University of Denver, the American College of Emergency Physicians (ACEP), and Makerere University in Uganda.
DOMESTIC EDUCATION PROGRAMS

PRE-SERVICE TRAINING FOR UNIVERSITY-ASSOCIATED LEARNERS

FELLOWSHIP

- **Global Emergency Medicine and Public Health Fellowship**
  - 2 new fellows started in July 2019. Both are 2-year fellows and will earn a Master’s in Public Health degree.
- **Global Toxicology Fellowship**
  - GECI faculty were critical in the recruitment of the first global toxicology fellow within the Division of Toxicology in the Department of Emergency Medicine. Faculty continue to be fundamental in navigating partnerships and novel research collaboratives for the global toxicology fellows.

RESIDENTS

- Development of a new global health elective site at Mulago Hospital in Kampala, Uganda. Mulago Hospital is the clinical/teaching affiliate of Makerere University, and also serves as the primary referral hospital for the country. Makerere University recently established a residency in emergency medicine, with the first cadre of residents set to graduate May of 2021. The first GECI resident will rotate through Mulago Hospital in January 2020.
- Global Emergency Care Track for interested residents
- Biannual Journal Club
- Development underway of a novel, formalized global emergency care professional track embedded within the residency program
- Provided free training to multiple emergency medicine residents in the University of Denver Humanitarian Crisis Simulation (May 2019), Global Health Primer and Accelerator (August 2019), Fellows Bootcamp (October 2019), and Basic Emergency Care Facilitator course (October 2019).

MEDICAL STUDENTS

- Fourteenth year of an innovative program for first-year medical students to work with South African emergency physicians and conduct research, currently with more than ninety alumni. The most popular global health option for University of Colorado School of Medicine students, with over one-third of this year’s matriculating class applying for six spots.
- Development of a pre-departure simulation-based curriculum to better prepare U.S. medical students for work in resource-limited settings, which is currently being used in an iterative process to improve University of Colorado medical student performance on global health rotations.
DOMESTIC EDUCATION PROGRAMS

IN-SERVICE EDUCATION FOR CURRENT PROVIDERS

- **Global Health Primer** (May & August 2019) – 4th annual offering of introduction to global health for people with little to no international experience interested in learning basic principles of global health and international health work.
- **Global Health Accelerator** (January & August 2019) - 3rd annual offering of advanced course for Global Health Primer alumni or clinicians with prior international medical experience to learn tools for effective engagement and field work.
- **Partnership** with University of Colorado School of Nursing and University of Colorado Skaggs School of Pharmacy to offer CNE and CPE credit for the Global Health Primer and Global Health Accelerator courses.

COLLABORATIVE TRAINING PROGRAMS

- **University of Denver Humanitarian Crisis Simulation** - Partnered with the University of Denver Humanitarian Assistance Program to train over 40 students in their highly-acclaimed Humanitarian Crisis Simulation. GECI faculty developed and staffed the simulation’s first medical tent, where participants learned key strategies for assessing and responding to the medical needs of people who are displaced by conflict.
- **Fellows Bootcamp: Understanding Emergency Care Systems** - Partnered with Academic Consortium for Emergency Systems (ACES) faculty to pilot the first annual Fellows Bootcamp. This course provided 25 fellows and other trainees with an intensive review of core concepts for emergency medicine systems building in resource-limited contexts.
- **WHO/ICRC Basic Emergency Care (BEC) Facilitator Course** – The October 2019 training was the largest BEC Facilitator course conducted to date, with 128 clinicians from 22 countries. GECI secured funding from the American College of Emergency Physicians and partnered with ACES to provide this training for free. The course prepared participants to facilitate the WHO BEC course, which provides syndrome-based content and skills training for frontline healthcare providers managing acute illness and injury with limited resources.
INTERNATIONAL EDUCATION PROGRAMS

IN-SERVICE FRONTLINE PROVIDER-CENTERED EDUCATION

- Trained 150 healthcare providers, including 40 of the first trauma and emergency nursing specialists, in the WHO Basic Emergency Care Course and subsequent Train-the-Trainer course in Zambia.
- Conducted 3 WHO Basic Emergency Care courses in 2019 in Zambia with over 150 healthcare provider participants including 40 of the first trauma and emergency nursing specialists.
- Conducted 2 Basic Emergency Care Train-the-Trainer courses for over 40 participants in Ndola and Lusaka, Zambia.
- Trained game park rangers and health clinic staff in rural Zambia in the WHO Community First Aid Response course.
- Participated in a World Bank-sponsored emergency care system intervention for Palestine that trained over 100 providers in the new WHO Integrated Triage Tool and Emergency Care Checklists.
- Trained over 100 frontline providers of emergency care in Monrovia, Liberia via a unique hospital-based curriculum spanning 6 months, with visiting faculty from 6 US, UK, and South African Departments of Emergency Medicine in coordination with the Ministry of Health Department of Nursing, Liberia.
- Provide continued oversight of a Consortium of Universities from the US, UK, Australia, South Africa, and Tanzania, providing continued residency education and support of the Masters in Medical Education in Emergency Medicine at Makerere University. Now in its second year, currently 10 physicians are enrolled in the 3 year master's program in emergency medicine.
- Dissemination and implementation education and research mentorship by GECI faculty in Zimbabwe via the PETRA grant that supports interprofessional education and collaborative practices and dissemination and implementation science research.
INTERNATIONAL EDUCATION PROGRAMS

CLINICAL GUIDANCE FOR STANDARDIZED CASE MANAGEMENT

- Continued creation and support of the Emergency Care Pathways (ECPs) for resource-limited settings. The ECPs provide real time guidance for evidence-based interventions which is essential in settings where emergency care education is inconsistent and emerging. The ECPs were launched as an open-source resource November 2018 at the African Conference for Emergency Medicine in Kigali, Rwanda and are currently available as an open-access resource through AgileMD. Users from 46 different countries are currently using the ECPs, suggesting relevance in a diversity of settings.
- Developed Emergency Medical System (EMS) training standards and content for African prehospital providers – AFEM out-of-hospital committee educational project with pilot testing in multiple African countries.
- Launched the Basic Emergency Care YouTube channel that provides low bandwidth guidance for performing basic emergency care skills with few resources.
INTERNATIONAL EDUCATION PROGRAMS

HIGHLIGHTED PROGRAM: SOUTHERN AFRICA EMERGENCY MEDICINE PROGRAM FOR MEDICAL STUDENTS

Since 2006, GECI faculty in partnership with South African emergency physicians have developed and run a medical student program in Cape Town, South Africa. Students are chosen through a competitive interview process with heavy input from both US and South African faculty. Once selected the students undertake forty-eight hours of training to prepare them for ethical clinical work in South Africa. Students then start eight weeks of clinical work in township areas outside of Cape Town supervised by South African physicians familiar with their skills. In addition, a substantial proportion of the students' time is spent working on research and education projects that are created in response to South African faculty requests. To date, this has led to six peer-reviewed articles, nine book chapters, and seventeen abstracts and conference presentations. There are now almost one hundred alumni of the program, 85% of whom have said the program was fundamental to their career development.
2) Promote research and disseminate evidence that addresses emergency conditions in resource-limited settings

We accomplish this via the conduct of highly pragmatic and contextually-relevant research in our international sites, alongside our international partners. In many of our studies, answers to our research questions often have bearing and impact to populations in both low- and high-income settings (i.e. globally relevant).
ONGOING RESEARCH

EMS and Emergency Epidemiological Studies

**GECI Faculty:** Nee-Kofi Mould-Millman  
**Description:** A series of 5 EMS and emergency epidemiological studies conducted in Jimma City, Ethiopia in collaboration with Jimma University College of Health Sciences and their faculty generally aims to 1) determine the burden of acute emergencies and demands for prehospital emergency care, 2) evaluate the existing system in the context of the demands, and 3) determine and implement an appropriate prehospital care system model in Jimma City, Ethiopia. This is Africa’s largest epidemiological study of burden of disease and outcomes from pre- and in-hospital emergencies.

Partnership in Education Training and Research Advancement

**GECI Faculty:** Nee-Kofi Mould-Millman  
**Description:** Through the PETRA consortium, composed of 4 universities in Zimbabwe and 2 universities in the U.S. (including University of Colorado), Dr. Mould-Millman serves as D&I educator (trained >100 Zimbabwean faculty in 2019 D&I workshops) and D&I research mentor (mentoring faculty in the design and conduct of a novel D&I focused research study in inter-professional stroke unit care).

Establishing the Epidemiology and Outcomes of Combat-Relevant Prolonged Trauma Care: A Prospective Multi-center Prehospital Pilot Study in South Africa.

**GECI Faculty:** Nee-Kofi Mould-Millman and Julia Dixon, Alexander Bedard (fellow)  
**Description:** This study seeks to build and implement a multi-center trauma outcomes registry in the Western Cape of South Africa. Aim 1 (year 1) is to create a data dictionary to conduct the study. Aim 2 (year 2) is to enroll 2000 test/pilot cases. Years 3-7 will be funded by a follow-on study.

Prehospital trial of a novel education strategy for bundle of hemorrhagic shock care

**GECI Faculty:** Nee-Kofi Mould-Millman and Julia Dixon  
**Description:** This project seeks to implement low-dose, high frequency on shift training to attempt to change prehospital outcomes. Closeout of project completed in December of 2019. The novel education strategy has been formally adopted by the Department of Health EMS as one of three organizational educational priorities. This program is actively being scaled up across the entire province.
ONGOING RESEARCH

Assessing the use of the South African Triage Scale (SATS) Score by EMS services in South Africa: a mixed-methods assessment

GECI Faculty: Nee-Kofi Mould-Millman and Julia Dixon

Description: The South African Triage Scale (SATS) was innovatively adopted by the Western Cape Government’s (WCG) Emergency Medical Services (EMS), but remains unstudied in this environment. The purpose of this research study is to further understand the use of SATS by medics of WCG EMS using a mixed-methods research approach. Our ultimate goal will be accomplished through 2 specific objectives: (1) using prehospital vignettes to assess the validity and reliability of adult TEWS/SATS written by WCG EMS medics, and (2) understanding the implementation and ongoing use of SATS within WCG EMS, using a qualitative approach of interviewing EM SATS experts, EMS leaders, and EMS providers in the Western Cape. Findings from this study will generate useful explanatory information regarding the use of SATS by WCG EMS, and also test the performance characteristics of SATS as an EMS triage tool.

Effective Triage and Stabilization of Adults Presenting to the Triage Unit, Adult Emergency Room and Isolation Unit at Redemption Hospital in Monrovia, Liberia: Results of a step wise intervention aimed at improving ED quality in a low resource setting

GECI Faculty: Corey B Bills (Co-PI)

Description: The primary goal of this project is to improve care and reduce patient mortality in adults presenting acutely to Redemption Hospital in Monrovia, Liberia through the implementation of a standard triage system and basic emergency care curriculum targeted towards nurses, nurse aids, physician assistants, and physicians working in the Adult Triage Area, Emergency Room, and Isolation Unit.

Acute respiratory illness among a prospective cohort of pediatric patients using emergency medical services in India: demographic and prehospital clinical predictors of mortality

GECI Faculty: Corey B Bills (Co-PI)

Description: The aim of this study is to describe the demographic and clinical characteristics associated with 30-day mortality among a cohort of pediatric patients transported via ambulance in India across 7 states with an acute respiratory complaint, with specific focus on the role of hypoxemia and respiratory distress in mortality.
3) Advance effective, sustainable collaborations and advocate to ensure emergency-specific health risks and health system issues are understood and adequately prioritized by key stakeholders.

Building and strengthening emergency care systems in resource-limited settings is an essential component in preventing needless suffering throughout the world. However, such action can never succeed by a single entity. Robust, effective, and sustainable collaboration is an essential part of transforming emergency care delivery worldwide. To that end, the GECI works diligently to enhance our collaborations and partnerships both domestically and internationally. We believe that together with our partners, we are better able to advocate for the delivery of high-quality emergency care for patients in all places.
DOMESTIC COLLABORATIONS AND ACTIVITIES

Global Emergency Care Initiative
UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

Academic Consortium for Emergency Systems (ACES)

More explicit integration of emergency care into health systems and universal health care coverage is essential to meeting the WHO Sustainable Development Goals. In an effort to support trainees who are learning how to engage in these efforts, the Academic Consortium for Emergency Systems (ACES) was established in 2018. This group is made up of six US-based academic medical centers with a substantial focus on global emergency care development. The overall goals of the consortium are to organize the academic medical centers’ collaborative efforts to train the next generation of emergency care advocates and implementers; support our partner countries’ ministries of health, local universities, and other institutions in their efforts to strengthen their emergency care systems; and support the work of the WHO Emergency, Trauma and Acute Care program.

Consortium objectives include:
1. Facilitate academic partnerships in a new and emerging field of emergency care systems development with local academic partners.
2. Contribute to the body of knowledge for all activities related to emergency care systems in collaboration with consortium partners, including developing professional papers, technical reports, databases, and online tools.
3. Support consortium partners’ efforts via provision of volunteers, academic consultation, and grant preparation to promote research and field implementation projects.
4. Ensure a standardized, trained, and accountable workforce that is qualified to conduct implementation science research of emergency care solutions in resource-limited settings.
5. Provide coordination and continuity in the training of global health faculty, fellows, and learners.
CURRENT PARTNERS

- University of Colorado Department of Emergency Medicine
- University of Colorado Section of Wilderness and Environmental Medicine
- Denver Health & Hospital Authority
- African Federation for Emergency Medicine (AFEM)
- University of Colorado School of Nursing
- University of Colorado Skaggs School of Pharmacy
- Colorado School of Public Health
- The PURE Initiative: Point-of-Care Ultrasound in Resource-limited Environments
- AgileMD
INTERNATIONAL COLLABORATIONS AND ACTIVITIES

Global
- Visiting consultation 4 weeks per year for the World Health Organization Programme for Emergency, Trauma and Acute Care in Geneva, Switzerland.

Africa Region
- Support of African Federation for Emergency Medicine (AFEM) efforts by representation on multiple committees (Education Committee, Out-of-Hospital Emergency Care committee)

South Africa
- 48 person-weeks of on-the-ground research effort to support emergency medicine research on an annual basis at Stellenbosch University
- Leading collaboration of South African and American emergency physicians and surgeons investigating a possible role for Resuscitative Endovascular Balloon Occlusion of the Aorta in Resource Limited Settings.
- Collaboration with Western Cape Government EMS in South Africa including development of a novel training platform, quality improvement, and federally funded research.

Zambia
- Ongoing Memorandum of Understanding (MOU) signed with the Zambian Ministry of Health to provide technical support to enhance the delivery of emergency care.

Uganda
- Leading collaboration with Makerere University and the Division of Emergency Medical Services (Uganda Ministry of Health) to support the development of emergency medicine services and training

Liberia
- Support and strengthening of emergency services (post Ebola) in collaboration with the Ministry of Health, Department of Nursing, Redemption Hospital, and Liberia Medical and Dental Council, as well as the Association of Emergency Medical Response

Peru
- Medical Advisory Board member for Comunidades Unidas Peru, a non-profit organization that provides education to lay health promoters serving patients in the Amazon Basin
## Personnel

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<tr>
<th>Role</th>
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<tr>
<td><strong>Core Faculty</strong></td>
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<td>Nee-Kofi Mould-Millman, MD, FACEP</td>
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<td><em>Fellowship Director</em></td>
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<td>Corey Bills, MD, MPH</td>
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<td><strong>Project Coordinator</strong></td>
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GECI faculty: Nee-Kofi Mould-Millman  
2019-2021

- **Establishing the Epidemiology and Outcomes of Combat-Relevant Prolonged Trauma Care: a Prospective Multi-center Prehospital Pilot Study in South Africa.**
  - **Funding agency**: The Office of the Assistant Secretary of Defense for Health Affairs, through the Defense Medical Research and Development Program
  - **Role**: Principal Investigator
  - **Description**: The overall objective of this proposal is to conduct a pilot study that will directly inform a future large-scale (primary) study to prospectively describe the outcomes of patients with combat-relevant injuries in an austere setting that features a high prevalence of penetrating injuries and long durations of field care. Aim 1: We will create a set of military-relevant data elements critical for studying how prolonged care affects outcomes of civilians with combat-like injuries. These data elements will be used in Aim 2. Aim 2: We will conduct a pilot study to assess how keyprehospital interventions and prolonged durations of care affect post-injury mortality and morbidity in an austere civilian population. Findings will be critical to inform and develop a future large-scale, multi-center, cohort study in the same setting.
  - **Amount**: $1,725,977.00
CURRENT OPERATIONAL GRANTS

GECI faculty: Nee-Kofi Mould-Millman
2018-2020

- **EMS-TruShoC’ – A Prospective Trial of Low-Dose, High-Frequency, On-Site Training to Improve Trauma Field Care in Austere Settings**
  - **Funding agency:** Defense Health Agency (J9, Research and Development Directorate; US Department of the Air Force (59th Medical Wing)
  - **Role:** Co-Principal Investigator
  - **Description:** EMS-TruShoC is a promising low-cost, high-impact, pragmatic solution for training of US Air Force, military, and civilian medics in resource-limited and remote settings, mirroring the austere combat environment with an emphasis on prolonged field care. This project seeks to implement EMS-TruShoC in an austere setting, and assess the resultant educational and clinical outcomes. These prehospital trauma resuscitation concepts will inform future efforts to translate into USSOF and conventional military prehospital training and sustaining knowledge.
  - **Amount:** $488,435

- **Implementing an Evidence-Based Bundled Trauma Care Intervention (‘EMS-TruShoC’) to Reduce Heart, Lung, and Blood Organ System Failure in Resource-Limited Settings.**
  - **Funding agency:** NIH NHLBI K12 IMPACT (IMplementation to Achieve Clinical Transformation (IMPACT): The Colorado Training Program).
  - **Role:** Awardee/scholar
  - **Description:** The overall purpose of this proposed research is to scale-up an evidence-based trauma intervention, termed Emergency Medical Services Traumatic Shock Care (EMS-TruShoC), in a resource-limited setting.
  - **Amount:** $303,859

- **A Quasi-Experimental Trial of Pre-Hospital Bundled Care to Improve Outcomes in Hemorrhagic Shock**
  - **Funding agency:** NIH Division of Loan Repayment; Funding Institute is NHLBI
  - **Role:** Awardee
  - **Description:** Aim 1 - Measure pre-hospital quality of traumatic shock care due to bundled versus non-bundled shock care. Aim 2 - Assess in-hospital clinical outcomes due to bundled versus non-bundled pre-hospital shock care.
  - **Amount:** $150,000


2019 CORE FACULTY PUBLICATIONS


THANK YOU

We appreciate your interest in the efforts of the Global Emergency Care Initiative!

- If you would like to support our efforts, please donate at: coloradoglobalem.org/donate
- Registration for the free Emergency Care Pathways is at: coloradoglobalem.org/register
- A list of upcoming GECI courses can be found here: coloradoglobalem.org/courses
- Our YouTube site with free basic emergency care educational videos is found at: bit.ly/GECI_BEC
- Lay press articles on our work this year can be found at:
  - CU News: bit.ly/GECInAfrica
  - ACEP Now: bit.ly/ACEPNow

Here is to a new year filled with possibility and commitment to bring emergency care worldwide!

- Dr. Emilie J Calvello Hynes

Integrated emergency care delivery is a powerful answer to many of the most pressing global health challenges of our generation.