

The impact of formal emergency medicine education in Ghana

A team from Kumasi tells the story from the perspective of the trainees and graduates



The global impact of specialised emergency care has been phenomenal since the establishment of the first emergency medicine residency programme in 1970 at the University of Cincinnati in the United States. In Africa, South Africa was the first country to formally start Emergency Medicine as a recognised discipline. The Emergency Medicine bug has crept steadily across the continent.¹

At the turn of the millennium, Ghana had no formal pre-hospital emergency medical care and people with severe illness or injuries were transported to the hospital in taxis and private vehicles. Many hospitals in Ghana did not have an organised system for sorting out acutely ill and/or severely injured patients. Patients presenting with medical emergencies were cared for by various categories of healthcare worker in smaller rooms designated as 'casualty'. Protocols for emergency preparedness were often absent in such institutions.²⁻⁴

Ghana witnessed a great tragedy in May 2001, when a match between the two biggest football clubs resulted in a stampede at the stadium. This led to the loss of 127 lives. The 'May 9th disaster', as it came to be termed, laid bare the deficiencies in the national emergency preparedness and emergency care.⁵⁻⁷

Pre-hospital care was uncoordinated and emergency care in the hospitals was also suboptimal. It was reported that some unconscious patients were sent to the morgue only to regain consciousness later.^{2,7-10} A

commission of inquiry into the tragedy recommended having personnel and infrastructure dedicated to emergency medical care.^{11,4}

Subsequent events saw the birth of the National Ambulance Service by a presidential decree and the construction of a modern 200-bed capacity National Accident and Emergency Centre at the Komfo Anokye Teaching Hospital in Kumasi. While the idea of formal training was being conceived, experts in various fields of trauma, internal medicine and surgery in Ghana were tasked to improve care, which led to a Ministry of Health collaboration with Ghana Health Service to produce a document on emergency care. A manual for frontline providers, Management of Accident and Emergencies, was published in 2003.¹²

The National Ambulance Service was established in 2004 and became functional in 2006 reducing the proportion of hospital-taxi transport and other privately owned ambulance services.

The formalisation of training was a vision shared by the Department of Emergency Medicine at University of Michigan, the Komfo Anokye Teaching Hospital, the Ministry of Health, the Ghana Ambulance Service, Kwame Nkrumah University of Science and Technology (KNUST) and the Ghana College of Physicians and Surgeons (GCPS).^{8,11-13}

The GCPS, the body responsible for postgraduate medical education in Ghana, recognising the growing trend of emergency mortalities and traumatic injuries, developed a training curriculum for specialist training programme in Emergency Medicine and accredited the Komfo Anokye Teaching Hospital in Kumasi as the training centre.

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The training was facilitated by the award of the Medical Education Partnership Initiative (MEPI) grant to KNUST as part of a PEPFAR/NIH initiative to strengthen medical education in sub-Saharan African universities.

The overarching goals of the MEPI initiative in Africa were to:

1. train and retain 140,000 new health care workers in sub-Saharan Africa
2. strengthen medical education systems
3. build clinical and research capacity to retain medical faculty.^{3,14}

The specific goal of the GMC was to develop an innovative, interdisciplinary, sustainable, team-based medical training programme to improve the management of injury and acute medical conditions while retaining skilled health care providers in Ghana. Its aim was to increase Emergency Medicine capacity by creating high quality, locally based training programmes.²⁻⁴

Ghana started training its first batch of emergency medicine specialists in 2009 through a residency programme at the Ghana College of Physicians and Surgeons. It became the first country in West Africa to start a residency programme for Emergency Medicine. This continues to be the situation a decade later.¹⁰⁻¹²

The faculty of Emergency Medicine of the GCPS has trained seven senior specialists and 43 emergency medicine specialists who are working in various regions in Ghana, with 16 residents currently in training.

The Kwame Nkrumah University of Science and Technology introduced a degree programme in Emergency Nursing in the 2010/11 academic year to train diploma nurses. The programme has quickly grown to be a degree course at the university and has trained over 300 Emergency Nurses working all over Ghana.

Currently, the Ghana College of Nursing and Midwifery also offers post-graduate residency training in Emergency Nursing with graduates coming out as specialist emergency nurses.

The Government of Ghana established the Paramedics and Emergency Care Training School (PECTS) at Nkenkaasu in the Ashanti region of Ghana in 2013 to train the needed Emergency Medical Technicians (EMTs) required for the National Ambulance Service. This was the first of its kind in the country and West Africa. There are currently more than 2,000 EMTs stationed across the length and breadth of the country providing quality pre-hospital care.

Education

The impact is seen in the quest for knowledge and knowledge dissemination. The Emergency Medicine Directorate at the Komfo Anokye Teaching Hospital is directly involved in the training of both undergraduate and postgraduate medical personnel, including house officers, local and international medical students, EMT students and nursing students, who do their clinical rotation in the unit by way of bedside teaching sessions, didactic lectures, interactive discussions, demonstrations and other academic activities.^{9,11,15,16}

Emergency Physicians and residents are involved in training EMTs for the Ghana National Ambulance Service at the Paramedic and Emergency Care Training

School located in the Ashanti region of Ghana.

The full complement of emergency doctors, nurses and EMTs have planned and successfully executed multiple first responder training programmes in schools, churches and elsewhere.

The quest for knowledge has had nurses, EMTs and doctors in the Emergency medicine field obtain various additional qualifications and instructor status in Basic Life Support (BLS), Advanced Trauma Life Support (ATLS), Advanced Hazmat Life Support (AHLS), Advanced Emergency and Trauma Course (AETC), WHO's Basic Emergency Care (WHO-BEC) Course and Advanced Trauma Care for Nurses (ATCN). The instructor status of these courses has established Ghana as a certified training site for all the internationally recognised courses. Others have invested in Masters or external fellowship programmes in Emergency Medical Services (EMS), Public Health, Disaster Medicine, Business Administration, and Simulation Medicine.

The knowledge gained has been packaged in short courses for residents, medical officers and nurses from other disciplines and district hospitals to help improve the emergency care and disaster preparedness across the country. These courses teach frontline healthcare providers basic principles in managing trauma and other emergencies through didactic lectures, practical demonstrations and simulation exercises.

Clinical care

Komfo Anokye Teaching Hospital has been the hub of Emergency Medical/Nursing education in Ghana. The Emergency Medicine Directorate practices a nurse-led triage system. All patients presenting to the Emergency Department are triaged to determine the severity of injury or acuity of their illness.

This has also led to the creation of clinical care areas so that the severely injured/ill are attended to in a more urgent manner and more resources are dedicated to their care. This practice has been replicated in 16 other locations in the country where there is a permanent Emergency Medicine Specialist with Emergency nurses. The Emergency Medicine Directorate at Komfo Anokye has piloted multiple policies, including the 'Red Stamp Policy' which ensures that required investigations are done regardless of patient's ability to pay at the time of admission. The drug pack policy was also introduced in the unit to solve the problem of accessing essential medications when needed. Plans to replicate these pilots at other sites are on the way.^{14,16,17}

Emergency physicians, nurses and EMTs have provided much-needed services in disaster response such as the Melcom disaster in 2012, where a large retail shop collapsed in Accra. They have also been at the frontline for the provision of care at both local and national mass gathering events and simulation exercises. The value of knowledge was immediately seen in the improved care provided to the ordinary Ghanaian.

Research

Being the first healthcare providers to come in contact with patients, coupled with the large patient flow, provides opportunities for clinical research. The Emergency

Medicine Directorate at KATH has a research office dedicated to research and innovation. The office has supported over 40 research projects, big and small. These include support for Fulbright and NIH/Fogarty International Center sponsored projects. The office houses a large trauma registry from which many other projects are being developed currently. Plans are underway to start registries for other clinical conditions. The unique nature of the research process is the introduction of the resident-led research policy with the office providing all the technical training and guidance through the project. The research work goes into changing clinical decisions and policies.

Impact around the world

Emergency Physicians trained in the Ghana College of Physicians and Surgeons have also supported other countries in West Africa. Ghanaian Emergency Physicians have been supporting the World Bank-funded National Emergency Medical Services (NEMS) Project in Sierra Leone through Doctors in Africa CUAMM and CRIMEDIM.

Another impact has been in assisting in the training of personnel for the Lagos State Ambulance Service (LASAMBUS) in Nigeria.

Emergency Physicians and Nurses in Ghana have authored many peer reviewed articles and book chapters (notable among which are the African Federation for Emergency Medicine's Handbook for Emergency Care and the Canadian 7th and 8th Edition of Emergency Care in the streets) and made presentations at various local and international conferences. Members of the Emergency Medicine Community in Ghana have also been panel members in Regional and international platforms for the advancement of African-specific curriculum and care.

EMSOG

The Emergency Medicine Society of Ghana (EMSOG) held its maiden International Scientific Conference in November 2019 in Kumasi which was attended by over 300 delegates from Africa and beyond.

Over 60 presenters made presentations during this conference highlighting the latest in the field of emergency medicine practice locally as well as sharing international best practices.

The success of this conference bodes well for future of emergency medicine. The Society is now part of the African Federation of Emergency Medicine, International Federation of Emergency Medicine, the World Academic Council for Emergency Medicine and the World Association for Disaster and Emergency Medicine.^{8,9,11}

Conclusion

The development of Emergency Medicine in Ghana started a little over 10 years ago through a collaboration among multiple institutions. The training of physicians and nurses in this field was jointly undertaken by local faculty and visiting experts from the University of Michigan, USA and supported financially through the MEPI award by NIH/PEPFAR. Since the MEPI funding ended,

the government of Ghana has continued to support the training which is now done wholly by Ghanaian faculty. The products are all retained in-country and are spread throughout the country providing much needed front-line services. In addition to the clinical care they also support the training of other health personnel in Ghana and the West African sub-region. The strong research base of the graduates is manifest through their scientific writings and presentations at conference. In spite of some challenges, the formalisation of Emergency Care in Ghana has made an enormous impact to the health system of the country. The Emergency Medicine story in Ghana is an example of the strength of collaborations and resilience in transforming the emergency care landscape in a developing country.

Acknowledgements

I cannot adequately express my gratitude to the Department of Emergency Medicine Komfo Anokye Teaching Hospital. I would like to also acknowledge Steven Upton, Touch Photos and the Emergency Medicine Society of Ghana for permission to use their images.

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