Expanding emergency medicine in medical education in Ghana

Nkechi Oluwakemi Dike and colleagues propose a framework for expanding the reach of emergency education across the medical education spectrum

Emergency medicine (EM) is key to the development of a robust emergency care system. In many resource-limited countries, although the specialty is being recognised, it is either underdeveloped or in its formative stages, and the immediate needs for emergency care exceed the current turn-out of EM-trained providers. This paper proposes a conceptual framework that offers approaches to expanding the reach of emergency education across the medical education spectrum, to meet immediate needs. This covers integrating EM into undergraduate curriculum, including mandatory EM rotations to the houseman-ship, and facilitating emergency medicine targeted continuing professional development, including short and medium term certificate courses. Adapting the proposed framework may fulfill the gaps in the population needs while EM specialty training evolves and gain momentum.

Emergency care is a universal and important component of every society's health needs.[1] Despite being a budding field in other parts of the world, the field of EM is still in its nascence in the African region, though it is rapidly gaining ground and much needed recognition.[2] Although most healthcare practitioners are trained to handle some forms of emergencies, EM as a specialty affords more coverage and in-depth training and skills building in decisively managing the acutely ill and injured patient. Specialty training in EM is key to the development of a robust emergency care system.[3] However, in many resource-limited countries such as Ghana, although EM has been recognised as a specialty, it is either underdeveloped or in its formative stages, and the immediate needs for emergency care exceeds the current turn-out of EM trained providers/specialists.

Ghana has one EM residency training hospital where over 40 specialists and fellows have been trained, but this is not enough. While the evolving EM specialty programme ramps up its training of Ghanaian EM providers, the current medical training curriculum can be modified to accommodate the emergent needs of the Ghanaian population.

In this paper, we propose a conceptual framework that offers possible tracks and approaches to expanding the reach of emergency education beyond residency training to meet immediate needs.

Dr Nkechi Oluwakemi Dike, School of Medical Sciences, University of Cape Coast, Ghana n.o.dike@uccsms.edu.gh. Dr Martina Anto-Ocrah, Department of Emergency Medicine, University of Rochester School of Medicine and Dentistry, Rochester, NY, USA. Dr Joseph Bonney, Emergency Medicine Directorate, Komfo Anokye Teaching Hospital, Kumasi, Ghana.

EM in the curriculum in Ghana

Medical schools in Ghana run a six-year curriculum with the three latter years dedicated for clinical training, covering Internal Medicine and its subspecialties; Surgery, Trauma and Orthopedics and its sub-specialties; Obstetrics-Gynaecology (Ob-Gyn) and Paediatrics; Family Medicine; and Public Health. Inherent in these clinical rotations, is the expectation that students spend time in out-patient departments and the emergency units. However, since the institution of EM as a specialty in Ghana ten years ago, there is yet to be a nationally standardised formal inclusion in the medical curriculum. This may be attributed to the very important need of initially building faculty strength before dispersing, to avoid straining the budding field, already tasked with care delivery as well as training needs.

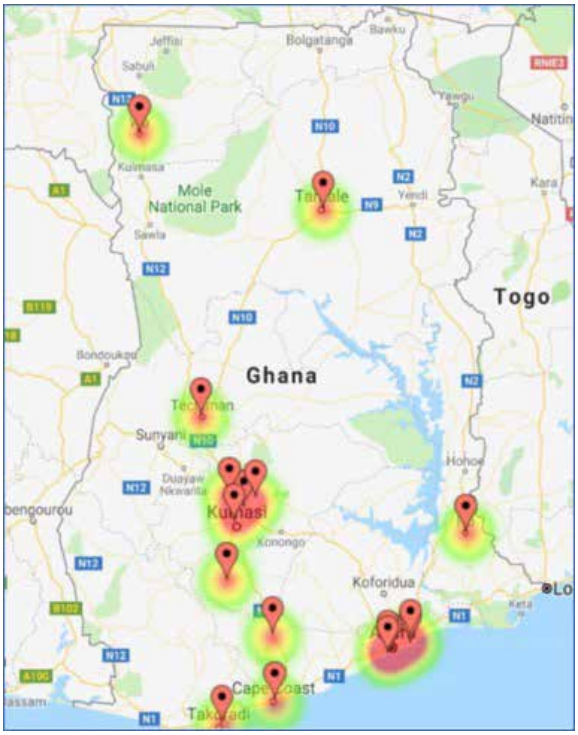
With about seven medical schools in Ghana, only one school has included a formal one-week Emergency Medicine rotation in the 4th and 6th years. As part of their surgery rotations, the students rotate through the Emergency Department at Komfo Anokye Teaching Hospital (KATH), Kumasi which is currently the only Emergency Medicine residency training center in Ghana.[4]

Despite this limited exposure to emergencies in the undergraduate curriculum, one of the major responsibilities of junior doctors (house officers and medical officers), is manning Accident and Emergency Units of several hospitals in Ghana, before involving more experienced specialists. Also, the healthcare system in Ghana requires that medical graduates who have completed the compulsory two-year supervised practice (house-man years), are posted to different district hospitals where they may practice unsupervised, as residency training is deemed optional.

The gap

Despite the efforts in training EM physicians, the numbers are still grossly inadequate to cover the emergency care needs of the population. The healthcare delivery in Ghana still robustly relies on primary healthcare structures, general practice, with medical officers dispersed across the country in district and regional hospitals (primary and secondary-level healthcare facilities). Many of these practitioners are tasked with managing trauma, surgical and obstetric emergencies and acutely ill medical and paediatric patients, as well as institute temporal measures and perform emergent procedures, some of which they may not be as adept in. To put it simply, the supply of EM trained physicians does not match the demand of the population's needs for specialised emer-

Figure 1: Distribution of Emergency Medicine Specialists in Ghana as of November 2019



Source: Emergency Medicine Society of Ghana

gency care. Compounding this is the limited expertise of non-EM trained providers, in managing the many severely injured patients they are taxed with. A recent self-assessment survey of junior doctors in Ghana, on individual preparedness in managing acute emergencies, showed significant gaps in knowledge and skills in emergency procedures. Of the numbers who were confident of their knowledge, gaps were found in the accuracy or up-to-date measures they currently practice.[5]

There is a critical need to expand emergency care education to practitioners who serve communities, where as of yet, the coverage of EM specialists are unreached (Figure 1).

Expanding the reach

The key component in expanding the reach of Emergency Medicine is capacity building activities mainly championed by EM resident trainees, specialists, fellows and faculty. The framework outlines activities aimed at the introducing and incorporating up-to-date emergency care courses and trainings into the continuum of medical education at significant levels vis: undergraduate, houseman years, and continuous medical education, as well as adapting outreaches to the local healthcare needs (Figure 2).

A. Integrating EM into undergraduate medical education curriculum

At the undergraduate level, the clinical clerkships in medical schools should formally include emergency medicine as a stand-alone module and rotation particularly in the final years or sub-intern year, with the curriculum delivered in both didactic forms and clinical exposures. The African Federation of Emergency Medicine and the International Federation of Emergency Medicine have outlined curricula which could be adapted, with emphasis placed on commonly recurring emergencies of local relevance.[6,7] Under close supervision, adequate clinical exposure, observance and performance of some procedures, interesting simulation sessions, and working with multi-disciplinary teams in the emergency department, the students are realistically prepared for the task of responding to emergencies upon graduating and transitioning into interns.

B. Designated rotations in the EM department during the houseman-ship

In Ghana, a mandatory two-year supervised practice, known as houseman-ship, is required of all medical graduates after medical school. The current schedule allows for four rotations each spanning 6-months. These include Internal Medicine, Surgery, Ob-Gyn, Paediatrics, with medicine or surgery optionally substituted for Psychiatry or Anaesthesia respectively. Although House officers are the first-on-call for emergencies in many hospitals across the country, there is no designated mandatory EM rotation for them.

Inherent in the other specialty rotations, is the expectation to see emergencies, however, we propose that a designated Emergency Medicine rotation should be included in the schedule for all house-officers, to allow for adequate exposure to handling emergencies under the supervision of specialists. This will afford new graduates early in their careers, the opportunity to consolidate their knowledge and confidence in managing acutely ill and injured patients, building on the EM foundation from medical school, and better preparing them for their postings to rural and peripheral healthcare settings where supervision may be low, following the completion of the house-job.

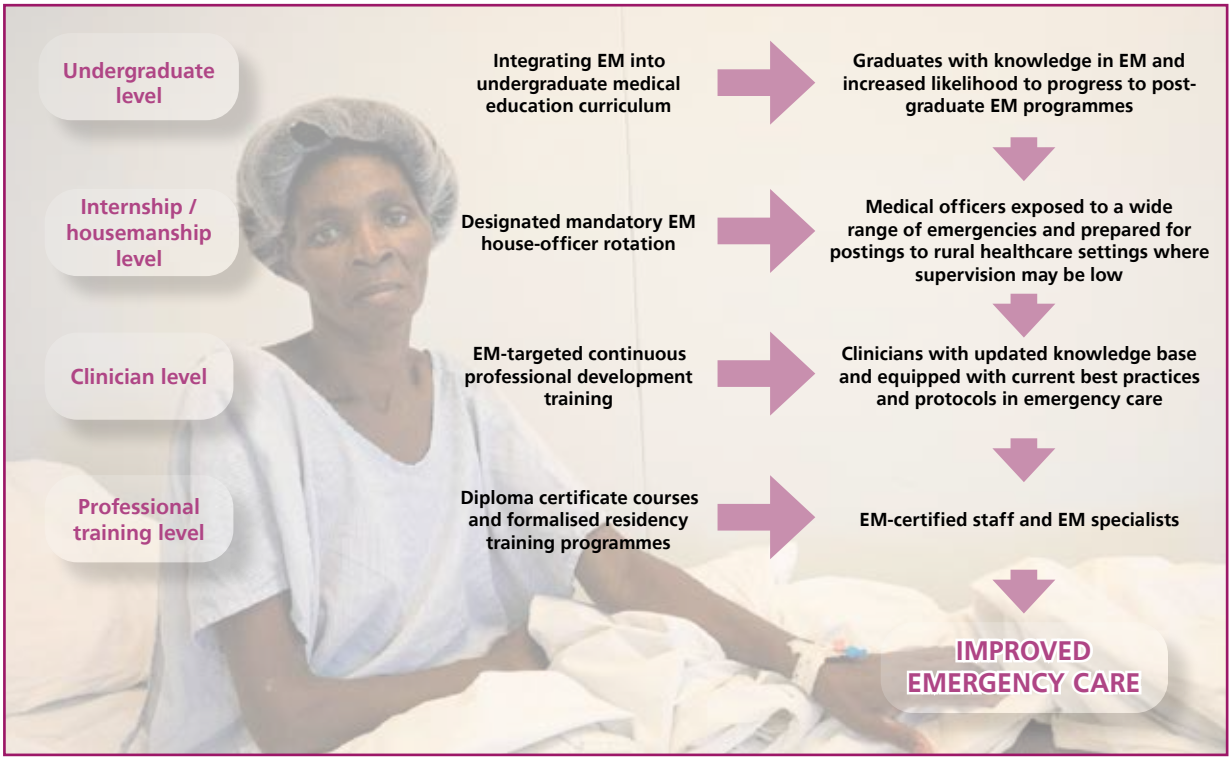
The need for this has been emphasised by the Emergency Medicine Society of Ghana (EMSOG) backed with commendable efforts in advocating for the inclusion of this schedule into the existing Medical and Dental Council programme. Although yet to be implemented, Emergency Medicine is now approved and accredited as an optional fourth specialty rotation.

C. Developing EM-targeted Continuous Medical Education Courses and adapting outreach and training to local healthcare needs

Continuous Professional Development trainings (CPDs) are mandatory for the annual renewal of practicing licenses of all practitioners in Ghana. EM targeted CPDs should be offered for interested practitioners, covering both didactic and hands-on skill training. A baseline gap assessment may be required to sample areas of common challenges among different cadres of practitioners in handling emergencies.

EM trainees and specialists may also champion capacity building through specially organised outreaches or temporary rotations to rural healthcare centers. This provision exists in the EM residents training logbooks, it is however, currently unimplemented. At these

Figure 2: Proposed Framework for Improving Emergency Care in Ghana



outposts, several short-paced courses could be rolled out, specifically targeted and tailored to observed or assessed needs, and the predominant emergency cases of difficulty usually seen at those centers. A useful resource is the World Health Organization (WHO) Basic Emergency Care (BEC) course which could be adapted to local needs.[8] Other adaptable courses include the Advanced Emergency Medicine Trauma Course (AETC), Life Support Courses and Disaster Medicine Courses, to name a few. This will also help with updating knowledge base, and equipping with current best practices and protocols. It may be useful to consider linking EM in those areas to local primary care and public health initiatives to prevent duplicity of efforts.

Finally, since post-graduate training and enrolling in residency programmes are optional in Ghana, it will be useful to consider developing medium term certificate courses, in emergency care for different cadres of healthcare providers; particularly medical officers yet to specialise, older practicing medical officers unable to return into a formal residency training; and dispersed general practitioners/family physicians who also manage emergencies frequently. These courses, including diploma certificate courses, have been implemented in countries such as South Africa, and could be modelled as such.[9]

These will increasingly create interest in emergency medicine and address human resource gaps where EM specialists are yet to cover.

Conclusion

Expanding the reach of EM education locally and across Africa will involve adapting principles from developed systems; building locally relevant content; embarking on sustainable outreach trainings; tailoring training to the needs across the education spectrum. The overarching effect of this will be better emergency care delivery to the larger populace, strengthening of the peripheral health systems, and decentralisation and decongestion of the tertiary emergency centers.

Adapting the proposed framework may fulfill the gaps in the population needs while EM specialty trainings evolve and gain momentum in Ghana.

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