



Developing a framework for emergency nursing practice in Africa

Elaborer un cadre relatif à la pratique des soins infirmiers d'urgence en Afrique

Lisa Wolf ^{a,1}, Petra Brysiewicz ^{b,*,1}, Natalia LoBue ^{c,1}, Tanya Heyns ^{d,1}, Sue Anne Bell ^{e,1}, Isabel Coetzee ^{d,1}, AnnMarie Papa ^{f,1}, Jean Augustyn ^{g,1}, Ilze van Eeden ^{h,1}, Angelina Sepeku ^{i,1}, Anthony Pho ^{j,1}, Millicent Qampi ^{k,1}, Rachel Hangula ^{l,1}

^a Institute for Emergency Nursing Research, Emergency Nurses Association, University of Massachusetts, Amherst, USA

^b School of Nursing and Public Health, University of KwaZulu-Natal, Durban 4041, South Africa

^c Emergency Medicine Clinical Operations, Abbott Fund Tanzania, Dar es Salaam, Tanzania

^d Department of Nursing Science, University of Pretoria, Pretoria, South Africa

^e School of Nursing and Department of Emergency Medicine, University of Michigan, Ann Arbor, USA

^f Emergency Nursing, Hospital of the University of Pennsylvania, Philadelphia, USA

^g Mediclinic Ltd. Learning Centre Cape Region, South Africa

^h Steve Biko Academic Hospital, Pretoria, South Africa

ⁱ Abbott Fund Tanzania, Dar es Salaam, Tanzania

^j Weill Cornell Medical College/New York Presbyterian Hospital, USA

^k Emergency Department at Bokamoso Private Hospital, Botswana

^l Outpatient Services, Intermediate Referral Hospital Katutura, Windhoek, Namibia

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* Corresponding author. Tel.: +27 (0)31 2601281; fax: +27 (0)31 2601543.

E-mail address: brysiewicz@ukzn.ac.za (P. Brysiewicz).

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Abstract Whilst collaborating with members of the emergency team, the emergency nurse plays a crucial role in the identification and care of patients with medical, surgical and injury related emergencies. In Africa, as well as all over the world, the practice of emergency nursing is extremely challenging. In November 2011, an international emergency nursing workgroup (both academic and clinical) was convened in Cape Town, South Africa, to explore the development of a framework for emergency nursing practice in Africa. The resultant framework has implications for nursing education and training, continuing education, and staffing at both the institutional and regional levels throughout the African continent and possibly further afield.

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Abstract Tout en collaborant avec les membres de l'équipe d'urgence, l'infirmier urgentiste joue un rôle crucial dans l'identification et la prise en charge des patients traités pour des urgences médicales, chirurgicales et liées à des blessures. En Afrique, mais aussi partout dans le monde, la pratique des soins infirmiers d'urgence est extrêmement difficile. En novembre 2011, un groupe de travail international sur les soins infirmiers d'urgence (à la fois universitaire et clinique) s'est réuni au Cap, en Afrique du Sud, pour étudier le développement d'un cadre relatif à la pratique des soins infirmiers d'urgence en Afrique. Le cadre qui en est ressorti a des répercussions sur l'enseignement et la formation en soins infirmiers, la formation continue, et la dotation en personnel à des niveaux institutionnel et régional sur l'ensemble du continent africain, voire au-delà.

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Introduction

Emergency nursing is a specialty in which the nurse cares for patients in the emergency or critical phase of their illness or injury, focusing on the level of severity and time-critical interventions.¹ Whilst collaborating with members of the emergency team, the emergency nurse plays a crucial role in the identification and care of patients with medical, surgical and injury related emergencies. The emergency nurse identifies life-threatening problems, prioritizes the care, carries out resuscitative measures with appropriate management and provides information and emotional support to the patient and his/her family within a supportive health care environment.^{1,2} There is, however, no current consensus on issues of minimum level of education and training, delineation of roles and responsibilities, and/or effective staffing patterns for emergency nurses in Africa to enhance optimal patient outcomes.

In November of 2011, an international emergency nursing workgroup was convened in Cape Town, South Africa, in conjunction with the Emergency Medicine Society of South Africa's biannual conference, and with the support of the African Federation for Emergency Medicine and the Emergency Nurses' Society of South Africa. This workshop was attended by emergency nurses (both academic and clinical) from Tanzania, South Africa, Botswana, Ethiopia, Namibia and the United States, who participated in discussions surrounding the development of a framework for emergency nursing practice in Africa. It was decided that this framework should delineate the levels of practice, criteria for these different levels, evaluation of cognitive and psychomotor skill sets, and movement between levels of emergency nursing

practice in Africa. The resultant framework has implications for nursing education and training, continuing education, and staffing at both institutional and regional levels throughout the continent and possibly further afield.

Current issues/challenges in emergency nursing in Africa

The workgroup discussed challenges and issues faced in practice settings across the African continent and these fell into three categories namely; practice, education/training and professionalism (see [Table 1](#) for a summary).

Practice

The practice of emergency nursing is challenging all over the world. It is particularly challenging in Africa, however, as medical facilities cover large catchment areas, resources in terms of both health care providers and equipment are limited, and protocols and practice have not been standardized.

It is difficult to compare emergency nursing practice settings as they vary greatly in size (from clinics to hospitals) and in service delivery. Health care delivery organizations include public, private, and Non-Governmental Organizations (NGOs). For example, in Malawi, 60% of health care services are provided by the Ministry of Health and Population (MOHP) and 25% by various religious organizations. Private practitioners, commercial companies, and not-for-profit NGOs provide the remaining 15% of the health services.³

Africa has been exceptionally hard hit by nursing shortages having an average nursing and midwifery personnel-to-population ratio of 11 per 10,000. Ethiopia and Tanzania, represented

Table 1 Challenges and issues facing emergency nurses.*Practice*

- Emergency nurses work in a variety of settings: public/private, clinic/hospital/transport/pre hospital
- Emergency care settings are understaffed
- Nursing shortages across Africa
- Shortage of doctors often leads to task shifting to nurses with limited guidelines or standards
- Scope of practice for emergency nurses is undefined in most settings
- Expectations of nurses to operate outside their scope cause frustration
- Emergency nursing has greater occupational health hazards
- Triage protocols lacking or not followed
- Ineffective processes
- Lack of handover information from referral hospitals
- Ineffective pre-hospital care

Education/training

- Limited basic emergency knowledge and skill is included in undergraduate nurse training programmes
- Not all nursing programmes include rotations through emergency centres
- Development of critical-thinking is not sufficiently addressed in training, which is vital for emergency nursing
- Limited number of emergency nurse trainers
- Many diverse and limited projects/trainings offered by public and private entities without guidance
- Countries have standards for health professional training but not for specialized nurse training programmes

Professionalism

- Diverse range of experience and educational backgrounds represented by emergency nurses across Africa
- Inconsistency in terminology across African countries for levels of nursing
- Disrespect and non-recognition for nurses by other multi-disciplinary team members
- Emergency nurse specialty training is not reflected in compensation
- Nurse salaries are not always paid or paid on time
- There are no standards for safe staffing in emergency care settings
- The only professional organization representing emergency nurses is in South Africa

in the discussion group, fall as low as 2–10,000.⁴ The equally concerning physician shortage, 2–10,000 population in the African Region, places an additional burden on the already low number of nurses. In the emergency practice setting, this often leads to task shifting and nurses are expected to handle the additional responsibilities without guidelines or standards. The scope of practice for emergency nurses is undefined in most settings and nurses become frustrated when they are expected to assume duties that fall outside the scope of nursing practice. Understaffing and undefined practice roles further amplify the occupational hazards of the emergency care setting and place a burden on those few who have had additional training, making the emergency unit a very stressful area to work in.²

Operationally, emergency nursing practice in Africa lacks evidence based guidelines and standards to optimize patient outcomes. From an infrastructural perspective, underutilization of triage protocols and improvements in hand-offs have emerged as a concern; this aligns with issues of assessment and communication previously discussed. Pre-hospital care remains a pervasive challenge. Although South Africa is the only country in Africa “with an organized, statutory system of pre-hospital care”,⁵ 47% of patients arrive to hospital in private vehicles with no pre-hospital care.⁶

Education and training

Education and training face various challenges. There are concerns around the extent of emergency nursing content presented as part of the undergraduate nursing programme, the knowledge and skills presented at postgraduate level, and

additional aspects, such as forensic nursing, that should be addressed in the postgraduate emergency nursing programme.⁷ Additional challenges relating to clinical training include the development of critical thinking skills, communication skills and teamwork.

Our workgroup, across both academic and practice settings, was concerned about the level of basic emergency nursing skills of newly qualified nurses. There was agreement that an emergency centre rotation would be a useful addition to the undergraduate nursing curricula. This rotation would ensure that all nurses have essential basic experience and knowledge in the care of patients with emergency conditions, which is useful across settings and specialties, as well as making them aware of the specialist field of emergency nursing.

With regard to emergency nurses currently practicing in Africa, areas of concern centred around deficits in communication skills and teamwork, and the need for critical thinking skills to form a part of both training and pre-licensure education. Addressing these deficits, however, is complicated by the number of competent nurse trainers in both academic settings and clinical mentorship and participants also noted the many diverse and limited projects and trainings offered by public and private entities. The projects varied in content, target group and scope and were implemented without guidance or standards. Malawi is similar to other African countries in that the Ministry of Health is responsible for policy formulation, regulation and establishment of standards regarding the training of health professionals, but the actual implementation of the specialized emergency care training programmes offered is organized by individual institutions and is done independently of each other.³ It was further noted that whilst some countries did have standard training programmes for health

professionals, many did not have any specialized training programmes.

Finally, research findings suggest that emergency nurses are aware of limitations in their training, but may not be able to address them. Several studies have suggested that although emergency nurses in South Africa are aware of the importance of roles and functions such as Forensics, they recognize their own limitations in training relating these areas.⁷

Professionalism

The challenges identified in relation to professionalism revolved primarily around the fact that emergency nursing as a profession is very new to Africa and, therefore the availability of guidelines and standards are limited. Although emergency medicine has recently been recognized as a medical specialty in a few African countries, it is still in various stages of development across Africa. During the workgroup discussion, it was noted that nurses in emergency care settings come from a large range of educational and experiential backgrounds. The group also immediately noted inconsistencies in the use of terminology in both educational and practice levels specifically, and in nursing as a whole, which created an additional challenge for discussions between countries.

Another area of concern that was noted was the general lack of respect for both nurses in general and emergency nursing as a specialty. Other areas of concern included the lack of financial resources; the level of specialty training not being reflected by compensation, nurse salaries often not being paid on time and that there are no standards for safe staffing in the emergency care setting. There is also a lack of organization among emergency nurses to address these issues, manifesting as a lack of awareness of professional organizations representing emergency nurses. In Africa, the Emergency Nurses Society of South Africa is the only organization that specifically promotes education and practice for emergency nurses.

Based upon these issues, the workgroup concluded that a framework should be developed to guide the specific knowledge and skills that are expected of emergency nurses. A generic/standardized framework for the education and training of different levels of emergency nurses in Africa, including South Africa, would form a basic agreement for addressing the challenges faced.

Emergency nursing framework

Benner's (1984) framework⁸ provides a well-validated schema to use to determine the emergency nurses level of expertise, including the knowledge and skill required for each of the levels within the framework. The majority of participants in the workgroup were familiar with this framework and agreed with its applicability to a broad range of both practice and educational settings. The usefulness of this framework was immediately clear; both clinicians and academics felt that it could be used along the educational and practice continuums. The participants also felt that a clearer picture of the expertise of each level of emergency nurses would be available, which could be used to develop guidelines for appropriate staffing patterns in a given care setting or across a region, and also provide guidelines for clinical education within emergency nursing practice.

Benner describes five levels of skill acquisition and development based on the Dreyfus model,⁸ positing that expertise is developed through skill acquisition. As a nurse passes through the five levels of development namely; Novice, Advanced Beginner, Competent, Proficient and Expert, there is a change in the perception of the job or skill base.⁸ The novice level is when the nurse "has no background experience of the situation in which he/she is involved".⁸ Benner also points out that any nurse, even an expert, can find themselves at this level when changing specialties. However, as the nurse progresses through the five stages, he/she is able to incorporate more and more textbook knowledge and synthesize this into practical application to clinical situations.

The time nurses spend in the **novice** and **advanced beginner** stages can vary from a few months to several years. The novice nurse is in orientation and gaining knowledge and experience in both clinical and technical arenas. The novice nurse works under the watchful guidance of a preceptor to collect objective information according to the guidelines and rules, and seeks assistance in making clinical decisions. The advanced beginner knows the rules, is guided by policies and follows them exactly and without deviation. He/she is unable to prioritize well, because he/she "treats all attributes and aspects as equally important because aspect recognition is dependent on prior experience."⁸ At this stage the nurse is governed by the tasks that need to be performed rather than patient responses or overall context. This stage requires strong preceptorship to teach the new nurse to determine the order of priority in her practice.

The **competent nurse** has been practicing long enough to acquire sufficient clinical experience to be able to manage a patient's care efficiently and appropriately.⁸ Competent nurses use standardized policies and procedures and routinely use hospital resources to solve problems. They are still, however, somewhat limited in their understanding of the holistic scope of the patient situation. Care is delivered based on a systematic approach guided by previous experience in recurrent situations. They are involved in the present situation, therefore their priorities are that of the moment and much may be missed.

The **proficient nurse** perceives the patient situation in a more holistic way and has in-depth knowledge of nursing practice. He/she can view the situation, drawing information from a variety of sources; lab work, patient presentation, patient concerns, etc., and hone in on the most salient aspects of the problem. There is much more involvement with patients and their families, and an increased confidence in personal skills and abilities. In this stage, says Benner, the "holistic understanding of the proficient nurse improves decision making".⁸ Proficient nurses will learn best with case studies that allow them to view a situation from several angles. Instrumental to the progression from competent to proficient and expert nurses is what Benner calls the "paradigm case"; a patient situation which shifted the nurses expectations in such a way as to change his/her thinking. Benner states that such a case allows "the proficient clinician to compare past whole situations to current whole situations", and, as such, has a store of comparative situations to draw from in evaluating any current situation. The nurse begins to envision and create possibilities.

The **expert nurse** is the most skilled, according to Benner's framework, and no longer relies on analytical principles to guide his/her decision making. An expert nurse has enough clinical knowledge and paradigmatic situational experience to

grasp, as a whole, the problem, its implications, and the priorities for treatment. Their intuitive skills arise from knowledge grounded in experience. Practice at this stage is characterized by a self-directed, confident and innovative approach to achieve the best possible outcome for the patient and family.

This framework was empirically tested using qualitative methodologies and thirty one competencies, and seven domains of nursing practice were identified.⁹ Subsequent research suggests that the framework is useful and applicable in describing practice levels. The strength of the Benner model is that it is a data-based research that contributes to disciplinary knowledge as a philosophical theory of nursing.⁹

Levels of expertise

Using Benner's framework (Table 2), the knowledge and skill set described for each level of emergency nurses by the workgroup has been delineated. The assumptions the participants made in developing the framework is that emergency nursing practice includes different levels of emergency nursing practice where: (1) each level is based on cognitive skills, although elements of psychomotor skills, education and experience should not be excluded; (2) the emergency nurse uses the principles of the nursing process during the primary survey, resuscitation phase and secondary survey to guide the provision of care to patients across the lifespan; (3) the emergency nurse should be able to communicate effectively with other care providers, the patient and the family; and (4) each level presumes competence in the previous level.

Evaluation

The workgroup reached consensus that the evaluation of each level within the framework will be based on Lasater's Clinical Judgment Rubric,¹⁰ which developed from Tanner's Clinical Judgment Model.¹¹ Lasater's Clinical Judgment Rubric uses the four elements of Tanner's model (*noticing*, *interpreting*, *responding*, and *reflecting*) and further delineates behaviours that elucidate the meaning of each element. This allows for the evaluation of cognitive skills and clinical judgment, which reflects back on Benner's levels of expertise.

For example, effective *noticing* at the highest, or "exemplary" level, requires "assertively seeking information to plan intervention: carefully collects useful subjective data from observing and interacting with the patient and family". At the novice level, effective *noticing* is described as "ineffective in seeking information; relies mostly on objective data; has difficulty interacting with the patient and the family and fails to collect important subjective information".¹¹ The rubric thus allows for the categorizing of expertise by cognitive function, rather than psychomotor skills or educational training, and therefore can more clearly identify nurses with both excellent clinical judgment and those who need further training.

Implications of the framework

Education

The development of the framework for emergency nursing practice in Africa has clear implications for education. Guided

by this framework for emergency nursing practice, undergraduate and postgraduate curriculums across the continent will need to be refined to encompass the suggested knowledge and skills for each level. The goal in the development of this framework is to provide a continuum on which nurses can be moved towards an expert level of practice in order to provide quality care and optimal patient outcomes. The pathway to accomplish the outcome is to keep a constant flow of emergency nurses at all of the experience levels specified by Benner,⁸ with an emphasis on regular advancement through consistent and well-defined practical and didactic emergency nursing education.

Initial pre-licensure education should take into account the need for expanded critical thinking and psychomotor skills in the absence of resources. Incorporation of these skills within clinical practice is relatively new in some parts of Africa,¹² (2011), but these are essential components of nursing education, as supported by the World Health Organization standards for global nursing education.⁴ Research in the United States^{13,14} suggests that baccalaureate education is associated with better critical judgment skills and patient outcomes, and should be the entry point for nurses. Whilst this may be unrealistic in the African context, the continuing education for nurses, however should focus on increasing the critical application skills of nurses, and not focus solely on content delivery.

A concerted effort should be made to develop a practice role for advance practice nurses (APRNs) in the area of emergency nursing. Given the relative dearth of physician providers, care gaps could be addressed with the use of APRNs. These emergency nurses should be theoretically trained to the 'proficient' or 'expert' level and should also be identified and recognized as practice leaders at the institutional or regional levels throughout Africa.

The framework will also guide appropriate clinical education to support growth in clinical judgment through the levels. For example, strong preceptorship should be included for novice and advanced beginner level emergency nurses to support recognition and evaluation of paradigm cases for the proficient nurse.

Mobility between levels

The strength of the framework lies in the ability to evaluate emergency nurses' cognitive understanding of patient situations using the Lasater Clinical Judgment Rubric and thus place them within the levels as described by Benner. Use of these tools also gives educators and clinical preceptors a focus for guiding continuing education that will allow emergency nurses to improve their understanding and cognitive skills and move along the continuum of expertise. As emergency nurses gain experience and improve clinical judgment, they can demonstrate increased expertise and advance to a higher level of practice.

Staffing patterns

The use of this framework allows for the identification of expertise distribution among nurses in a given institution or geographic area. A proposed staffing pattern (Fig. 1) includes an 'expert' nurse at the hub, supervising up to four 'proficient' nurses, who in turn can supervise four 'competent' nurses. This

Table 2 Knowledge and skill set for emergency nurses.

Level of emergency nurse expertise*	Description of the level	Minimum level of education	Minimum experience in emergency (guide)	Cognitive skills (guide evaluation)	Technical skills	Practice role
Novice	Task-oriented, task focused, protocol driven	Enrolled nurse	0 months	Able to access next level of care (follow an escalation protocol): no decision making	Technical skills: site specific (according to protocol order): e.g. obtain Vital Signs First Aid ECG (taking of) BLS Obtain Chief Complaint IV access start (adult) Oxygen delivery Urinary catheter	Technician, nurses new to the emergency care setting, may not be primarily emergency nurses, emergency care may only be a portion of care provided
Advanced-beginner	Some clinical experience, beginning to make predictions protocol driven	Enrolled nurse	1 year	Perform physical assessment based on chief complaint Sort patients based on protocol refer patients to next level of care	Start IV access (paeds)	Treatment nurses work with lower acuity patients, provide support in higher acuity areas, medication administration, paediatric care
Competent	Make connections between history, chief complaint follow algorithms	Enrolled nurse	2 years	Determine sick/not sick prioritize initial interventions based on physical assessment intermediate life support	IV therapy IV access start (neonate) oxygen therapy urinary catheter	Triage transport primary trauma care
Proficient	Holistic understanding, seek out critical cues, focused assessments	Diploma/post-basic nurse	2–5 years	Re-evaluate interventions advocate for interventions provide/lead advanced life support	Initiate interventions (above) initiate second-line therapies	Area-level management (site-specific)
Expert	Intuitive application autonomy	BSN/degree	> 5 years	Synthesize evidence-based practice	Inform clinical decision-making as part of a team	Systems-level management (site-specific) co-leadership with medical team teaching/training

Enrolled nurse: 2 years of education beyond secondary school, technical training.

Diploma nurse: 3–4 years of education beyond secondary school, professional.

Post-basic: Diploma + field specific education.

Bachelor nurse: 4 years, higher entry requirements, evidence-based, pathophysiology.

Masters nurse: Bachelor + 2 years of University programme, research.

* Agreed upon definitions for discussion. Country-specific meanings may exist.

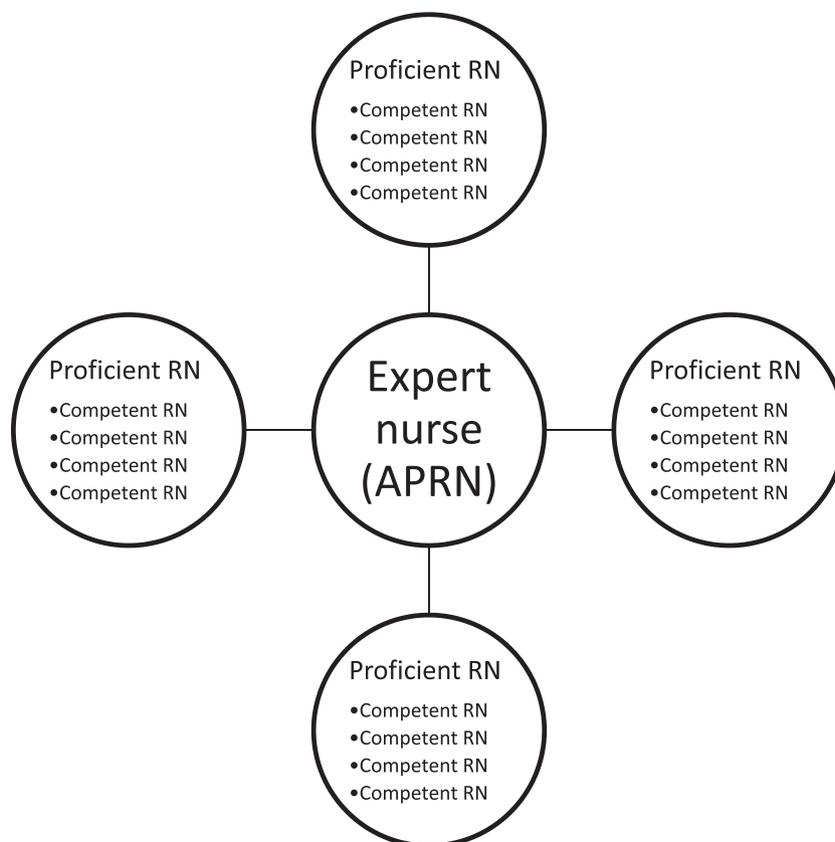


Fig. 1 Potential staffing based on framework (RN registered nurse).

staffing pattern can vary depending on the expected patient volume and acuity.

The framework has the potential to guide nation-specific healthcare human resources, allowing countries to develop efficient regional staffing that effectively supports nurses providing emergency care to make fast decisions and access higher level care.

Roles and responsibilities

The role and responsibility level of each nurse would be dependent on their level of expertise, as noted in the grid (Table 2). For example, the nurses at the higher levels would be expected to impart their expert skills to nurses at the novice and advanced beginner levels, whilst also using their clinical judgment to oversee larger clinical scenarios that may include the highest acuity patients or managing the flow in the department. Novice nurses may need a closer supervision whilst functioning from protocol driven applications of patient care. Utilizing this grid would not only assist the nurse in his/her own professional development, but provide a framework for hospitals and other organizations to plan for safe and effective staffing and succession planning.

Conclusions and recommendations

This is a recommended framework for emergency nursing to facilitate and guide education and training, policy development and research. It may also function well as a guide to

creating effective teams within emergency practice settings so that practice boundaries are clear. These guidelines should theoretically address the identified challenges, assist in the refinement of undergraduate and post-graduate nursing programmes, increase the level of emergency care provided by nurses, address the image of emergency nursing and result in enhanced patient outcomes. Existing training materials and programmes should be classified to the level they are addressing so that a baseline practice can be established and planning for further didactic and clinical training can be provided appropriately. Materials for testing the level of the emergency nurse should be developed and piloted in existing departments/programmes and shared throughout the continent.

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