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Emergency care education in South Africa: past, present and future

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Abstract

Introduction
There have been major changes in pre-hospital emergency care training and education in South African over the past 30 years. This has culminated in the publication of a regulation that brings an end to an era of short courses in emergency care and paves the way for the implementation of the National Emergency Care Education and Training (NECET) policy. The policy envisions a 1-year higher certificate, a 2-year diploma and the 4-year professional degree in emergency medical care. This paper aims to describe the history of emergency care education and training in South Africa that culminated in the NECET policy. The lessons in the professional development of pre-hospital emergency care education and training may have application for emergency medical services in other countries.

The migration of existing emergency medical services personnel to the new higher education qualification structure is a major challenge. The transition to the new framework will take time due to the many challenges that must be overcome before the vision of the policy is realised. Ongoing engagement with all stakeholders is necessary for the benefits envisioned in the NECET policy to be realised.

Keywords:
emergency medical services; paramedic education

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Introduction

On 27 January 2017, the South African Minister of Health, Dr Aaron Motsoaledi, published regulations relating to the qualifications for registration of Basic Ambulance Assistants, Ambulance Emergency Assistants, Operational Emergency Care Orderlies and Paramedics, GN.49 in GG40577, of 27 January 2017 ('the Regulations'), made under the Health Professions Act, 1974 (Act No. 56 of 1974) ('the Act'). These regulations ended the Basic Ambulance Assistant and the Critical Care Assistant pre-hospital emergency care short course training, with effect from February 2018. Furthermore, Ambulance Emergency Assistant training will cease by 31 January 2020. This regulation therefore signals the end of an era of pre-hospital emergency care short courses that have been in existence since the early 1980s.

To appreciate the ramifications of these changes, it is important to recall some of the recent history and the status quo of emergency care education and training, as well as the opportunities that may present, and the challenges that may arise with the implementation of the National Emergency Care Education and Training (NECET) policy which the Department of Health in South Africa published in April 2017. The lessons learnt from the South African experience may be beneficial to the professional development of emergency care in other countries with a similar emergency medical service model.

Discussion

The past historical changes in the provision of ambulance and emergency services is closely associated to the changes in emergency care education and training of the ambulance personnel who were employed and trained at ambulance training colleges established by the emergency medical services.

Before 1980, the provision of ambulance services was primarily the responsibility of municipal government authorities, with significant support from volunteer first aid organisations such as the South African Red Cross Society, St John Ambulance and the South African First Aid League (1,2). The primary function of the ambulance service was to provide first aid and rapidly evacuate the patient by ambulance to the hospital where emergency medical care was provided by the receiving medical staff. Section 16 of the Health Act 63 of 1977, removed the responsibility of the provision of ambulance services from municipal government and made the Provincial Department of Health in each of the then four provinces responsible for the provision of ambulance services (2-4). Each province implemented the 'provincial' ambulance services differently, and the former black homelands, which at the time were not incorporated in the provinces, were subsequently deprived of state-funded ambulance services (3). In post-apartheid South Africa, nine provinces were established and Section 25 (2) of the South African National Health Act No. 61 of 2003 retained the mandate of the provinces to provide ambulance services (5).

As far back as 1974, the Medical Association of South Africa recognised the need for improved training, beyond first aid of persons dealing with emergency situations. Dr Alan McMahon subsequently established the first ambulance training college in Cape Town in 1978 and introduced a 1-week Basic Ambulance and Rescue Medic course for ambulance personnel (6).

An Emergency Medical Assistant I course was later introduced by the then Pre-hospital Care Committee under the auspices of the College of Medicine of South Africa, followed by the Ambulance Medical Assistant II (6). The latter was to evolve into what is currently known as the Critical Care Assistant (CCA) course. The emergency care providers that obtained these qualifications were registered with the South African Medical and Dental Council (now HPCSA) not as independent practitioners but in the category of supervised practice, as they practised under the supervision and 'licence' of a registered medical doctor (7).

The 1980s saw the introduction of a 2-week Basic Ambulance Assistant (BAA), a 12-week, intermediate life support, Ambulance Emergency Assistant (AEA) and by 1985, a 4-month Advanced Life Support CCA course was also offered (8). An additional period of 5 months for experiential learning was added to the CCA course in 1999. A 3-year National Diploma in Ambulance and Emergency Technology (which later changed to the National Diploma in Emergency Medical Care) commenced in 1987 at the then Natal Technikon (now Durban University of Technology) (8). This was the first step towards professionalising emergency care and training. The 3-year qualification included rescue training as part of the curriculum, as there was a need at the time for ambulance personnel in under-serviced rural areas to be equipped with vehicle extrication and rope rescue skills (2,3).

January 1992 saw the establishment of the Professional Board for Emergency Care Personnel (now Professional Board for Emergency Care (PBEC)) under the auspices of the then South African Medical and Dental Council (now HPCSA) (3). Section 16 of the Health Professions Act 56 of 1974 makes provision for the regulation of emergency care education and training (9). Accordingly, the PBEC established national curricula and protocols and set about accrediting all training providers. In April 1994, it became mandatory for all emergency care personnel to register with the PBEC and abide by the scope of practice, ethical rules and protocols published by the Board (3). In 1999, the PBEC published regulations for the independent practice of registered persons that held AEA, CCA and National Diploma qualifications within their respective scopes of practice (7). Therefore, whereas previously emergency care personnel were required to consult with a doctor before administering scheduled medicines (eg. morphine) or performing certain procedures (eg. external jugular vein cannulation), they could now independently undertake procedures or administer medicines within the confines of their scope of practice and protocols.

In 2000, the National Committee on Emergency Medical Services and the PBEC started to identify the need to revise emergency care education and training. The short course curriculum, skills and scopes of practice had become outdated and non-compliant with international best practice. There was little or no clinical supervision in many public and private emergency medical services. Patients' lives were at risk, with BAAs being entrusted with the care and transport of critically ill or injured patients that were referred from distant rural clinics to tertiary level hospitals (10). The BAAs had very low levels of compliance with the HPCSA's compulsory continuous professional development requirements and this and the non-payment of annual registration fees, led to an average of 7815 practitioners being de-registered annually between 2010 and 2015 (11-12).

The Higher Education Act of 1997 introduced the opportunity to introduce Bachelor degree programs. This allowed for the introduction of the Bachelor of Technology in Emergency Care (BTech: EMC) in 2000 for National Diploma graduates who wanted an increased scope of practice and access to further qualifications through Master and doctoral degrees. The 2-year National Certificate in Emergency Care was introduced in 2007, as a mid-level qualification with a scope of practice that fell between that of the AEA and CCA (8). These historical changes have resulted in a mix of seven short courses and formal higher education qualifications with five registration categories and scopes of practice of pre-hospital care in South Africa (Table 1) (8).

In 1996 there were four provincial ambulance training colleges and two higher education institutions that were accredited by the HPCSA to offer emergency care education and training. In 2014 this number had increased to nine provincial colleges, a military health service college and 34 private colleges that were accredited by the HPCSA to offer the BAA short course. The number of higher education providers had increased to five (13). The increase in education and training providers is associated with the increase in the numbers trained by 2018. As illustrated in Table 2, 79% of pre-hospital care providers registered with the HPCSA PBEC are BAA practitioners.

At present, the National Emergency Care Education and Training Policy has a three-tiered EMS education and training framework that is aligned to the South African National Qualifications Sub-Framework. The entry-level emergency care qualification is a National Qualifications Framework (NQF) level 5, 120-credit Higher Certificate followed by an NQF level 6, 240-credit Diploma and an NQF level 8, 480-credit professional Bachelor degree. The Emergency Care Qualification Framework is depicted in Table 3 (14).

Table 1. South African emergency care qualifications preceding Regulation 49

Qualification	Abbreviation	Duration	HPCSA PBEC registration category	Date register closes for new registrations/ last offering
Basic Ambulance Assistant	BAA	4–5 weeks	BAA	January 2018
Ambulance Emergency Assistant	AEA	12–14 weeks	AEA	January 2020
Critical Care Assistant	CCA	9–10 months	ANT	January 2018
Emergency Care Technician	ECT	2 years	ECT	Last offering 2019
National Diploma Emergency Medical Care	NDip EMC	3 years	ANT	January 2018
Bachelor of Technology Emergency Medical Care	BTech EMC	1 or 2 years post NDip EMC	ECP	Last offering 2019
Bachelor of Emergency Medical Care	BEMC	4 years	ECP	Nil

ANT: Ambulance Noord Tegnikus (Paramedic); ECP: Emergency Care Practitioner

Table 2. Registration statistics for the HPCSA Professional Board for Emergency Care as at 1 April 2018 compared to numbers trained in 1996 (3)

Registration category	Numbers trained	Registration numbers
	1996	2018
Basic Ambulance Assistant	1267	50,604
Ambulance Emergency Assistant	400	10,063
Emergency Care Technician	0	1,124
Paramedic	79	1,527
Emergency Care Practitioner	0	623
Total	1,746	63,941

Table 3. Emergency Care Qualification Framework

	Qualification	Credits	Duration	NQF level		Higher education institution
Postgraduate	PhD EMC	360 credits	Minimum 2 years	NQF 10		DUT
	Masters EMC	180 credits	Minimum 1 year	NQF 9	Research based qualifications	DUT, CPUT, UJ
Undergraduate	Bachelor EMC	480 credits	4 years	NQF 8	Emergency care practitioner	DUT, CPUT, UJ, NMU
	Diploma EC	240 credits	2 years	NQF 6	Emergency care technician	CPUT, UJ, NEFECC, ME
	Higher Certificate EC	120 credits	1 year	NQF 5	Emergency care assistant	CPUT, SMHU

DUT: Durban University of Technology; CPUT: Cape Peninsula University of Technology; UJ: University of Johannesburg; NMU: Nelson Mandela University; NQF: National Qualifications Framework; EMC: Emergency Medical Care; EC: Emergency Care NEFECC: Netcare Education Faculty of Emergency and Critical Care; ME: MediCinic Education' SMHU: Sefako Makgatho Health Sciences University

The rationale for this framework as articulated in the NECET policy is to create a professional cadre of emergency care personnel with the clinical knowledge and clinical decision-making skills that will transform pre-hospital emergency care practice in South Africa (14). The policy aims to create a professional career path in emergency care that will ultimately deliver quality pre-hospital care to the population of South Africa. Ironically, the introduction of these qualifications started with the 4-year Bachelor degree in 2011 followed by the 2-year diploma in 2016, and not with the Higher Certificate that is only envisaged to start in 2019. The revision of the scopes of practice for all qualifications is underway with the revised clinical practice guidelines being incorporated into the curricula of the new qualifications.

In the future, while the new framework offers opportunities for professional growth in emergency care, there are a number of concerns that have been highlighted in the Emergency Care Society of South Africa position statement (10). These concerns relate to the uncertainty regarding the way the changes to the scopes of practice will affect the emergency care personnel with old and new qualifications. The dilemma of employers having to accommodate employees with different qualifications fundamentally doing the same job. The limited enrolment capacity of higher education institutions coupled with the capacity constraints at clinical training sites could impact the time it will take before the impact of the NECET policy is fully rolled out to the emergency medical services and the health sector. Migrating the existing emergency care personnel to the Emergency Care Qualification Framework poses a challenge, as many do not have the requisite secondary school leaving subjects or grades to enter the various higher education programs. There is also currently no option of part-time or distance studies for rural emergency care personnel and employers cannot all afford to fund studies and to release employees for full-time study while still paying them a salary.

Conclusion

South Africa has seen many changes to EMS education and training since 1980. The impact of these changes is difficult to assess based on the available information. The changing demands on the healthcare systems, the evolving roles and responsibilities of pre-hospital emergency care personnel and the exponential growth in medical evidence that underpins pre-hospital care and which informs practice, have been key driving factors. While the changes undoubtedly bring unique challenges, they also bring exciting possibilities to the emergency care environment.

Limitations

There is a potential for selection bias as many historical documents are unobtainable. Where possible multiple sources were consulted to verify information.
Conflict of interest: Both authors are employed at higher education institutions that offer emergency care programs. One author is a current board member of the HPCSA, Professional Board for emergency care and the other was the chairperson of the PBEC from 2004 to 2010.

Conflict of interest

The authors report no competing interests. Each author of this paper has completed the ICMJE conflict of interest statement.

References

1. Kotze J. The role of the ambulance service as part of the health professions. S Afr Med J 1990;78:320-2.
2. Dalbock G. A history of ambulance practitioners and services in SA. S Afr Fam Pract 1996;17:118-21.

References (continued)

3. Fuhri P. Ambulance and emergency medical services in South Africa: where are we today? Trauma Emerg Med 1998;15:36-8.
4. Department of Health. Health Act No. 63 of 1977 [Internet]. Republic of South Africa; 1977. Available at: www.ehrn.co.za/download/act_health.pdf
5. Department of Health. National Health Act No 61 of 2003. Republic of South Africa; 2004. Available at: www.gov.za/sites/default/files/a61-03.pdf
6. Saner R. Prehospital emergency care [letter to the editor]. S Afr Med J 1978;53:526.
7. MacFarlene C, van Loggerenberg C, Kloeck W. International EMS systems: South Africa – past, present and future. Resuscitation 2005;64:145-8.
8. Cermak R. An investigation into recognition of prior learning within the National Certificate: Emergency Care Programme in the Western Cape. Durban University of Technology, 2016. Available at: https://openscholar.dut.ac.za/handle/10321/1741
9. Health Professions Act 56 of 1974 [Internet]. Republic of South Africa; 1974. Available at: www.hpcsa.co.za/Uploads/editor/UserFiles/downloads/legislations/acts/health_professons_ct_56_1974.pdf
10. Emergency Care Society of South Africa. Position Statement on the Health Professions Council of South Africa's Intention to Close the Short Course-Related Professional Registers. Available at: www.ecssa.org.za/images/pdf/pos_statements/pos_statement_01-12.pdf
11. Christopher L. An investigation into the non-compliance of the advanced life support practitioners with the guidelines and protocols of the Professional Board for Emergency Care Practitioners. Durban University of Technology, 2007. Available at: https://openscholar.dut.ac.za/handle/10321/121
12. Pillay B. A needs assessment for continuous professional development for South African advanced life support providers. Durban University of Technology, 2011 Available at: https://ir.dut.ac.za/handle/10321/728
13. Health Professions Council of South Africa. Form179 Accredited Education and Training Providers 2014. Available at: www.hpcsa.co.za/Uploads/editor/UserFiles/downloads/education_training/emergency/form_179_list_accredite_insti_emb_may2014.pdf
14. Vincent-Lambert C. International perspectives: South African ambulance services in 2020. In: Wankhade P, Mackway-Jones K, editors. Ambulance Services. Springer, Cham; 2015.