State of emergency medicine in South Africa

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Abstract
Introduction Emergency medicine is a new speciality in South Africa. It was first registered in 2003, and there are now 30 specialists in the country, with 10 new graduates from local registrar training programmes and over 40 trainees on four programmes across the country.

Conclusion Emergency medicine is currently enjoying a governmental focus as part of the preparations towards the FIFA 2010 soccer World Cup. This article discusses the current structure of emergency care in South Africa.

Keywords South Africa · Emergency medicine · Current status

Introduction
South Africa is a young democracy. After decades of forced segregation, in 1994 the country abandoned the rule of apartheid and entered a new phase. The country consists of nine provinces spread over an area of 1.2 million square kilometres—twice the size of Texas, and around the same size as India (Fig. 1) [1]. The 2007 census revealed a population of 47.9 million, with 11% living on below one US dollar a day [2]. High levels of poverty and unemployment contribute to an ever increasing burden of disease. South Africa faces a quadruple disease burden: violence, HIV/AIDS, infectious diseases and chronic diseases of lifestyle all take their toll, reducing the average life expectancy to 49 years for males and 52 for females [3]. The incidence of HIV infection is estimated to be 11% (5.3 million people); the infant mortality rate is estimated at 45.2 per 1,000 [3]. Approximately one third of admissions to emergency centres (EC) in South Africa are due to injuries; in comparison, trauma makes up 12% of admissions in the US and about 8% in the UK [4].

Health care provision
Health care is provided in two distinctly different arenas: private and public. The private system caters to less than 20% of the population yet takes 70% of finances and resources. South Africa’s private health care system provides first-world medicine in comfortable surroundings, although it is not immune to the global shortage of nurses and allied health staff [5]. The public sector serves the rest of the population, with minimal resources. The population served by this sector is predominantly indigent, poor, and uneducated.

The public health system is provided in a tiered structure, with 90% of interactions occurring in the primary care level in nurse-led clinics, or day hospitals. Most day hospitals do not provide overnight beds but do have a functional EC. They have limited access to laboratory and radiological investigations. Hospital care is provided in three tiers, varying from province to province. District hospitals are the mainstay of care and are staffed by non-specialist medical officers who cover all disciplines, including emergency care in the EC. Basic investigations are available. Each district hospital refers to a regional hospital where general specialists are based (surgeons, physicians, paediatricians and obstetricians). A higher level
of investigative support is provided. Central hospitals are
the pinnacle of the referral system, with less than 2% of the
population receiving care there. They are staffed with all
levels of specialists and subspecialists. Emergency care is
typically divided into trauma units (staffed by trauma
surgeons) and medical emergency units, although this
position is slowly changing.

Emergency care

Emergency care is viewed as a basic human right, en-
shrined in the constitution of South Africa [6]. However,
there is no clarity as to the exact meaning of this right:
whether all persons only have the right to basic EC care, or
if this includes definitive and intensive care treatment is still
hotly debated. All emergency care in the public sector falls
under the directorate of Emergency Medical Services (EMS)
at the National Department of Health in Pretoria, with
policy and guidance being provided to provincial structures.

EMS-based

Emergency care in the pre-hospital sector also has public
and private arenas, with nationally based private services,
and provincial public services. These services provide
emergency care through basic, intermediate and advanced
life support practitioners. Basic life support practitioners
have limited life support skills; these skills are enhanced in
the intermediate practitioner, while South African para-
medics have a wealth of clinical experience and can
undertake a higher level of clinical procedures than their
peers in many other countries. A review is currently
underway to facilitate the collapse of this structure to a
two-provider service, with emergency care technicians
(trained over 2 years) and emergency care practitioners
(paramedics) trained with a 4-year degree programme.
Like hospital services, public EMS services are generally
underresourced, understaffed and poorly equipped to
service the large areas which they cover. They also suffer
from the ongoing global “brain drain” to first world
countries. Transport to ECs is mainly road-based, over
large distances, with only a few provinces able to utilise
rotor wing or fixed wing resources, although the provision
of these services continues to increase annually.

Hospital-based

Emergency centres have historically been staffed and run
by medical officers and junior doctors, with either surgical
cover or often without any senior supervision. There have
been no nationally accepted patient management guide-
lines. Recent moves, however, have emphasised the need
for improved emergency care; one of the main drivers
behind this was the awarding of the 2010 FIFA soccer
World Cup to South Africa. In all parts of the country, ECs
are seeing an ever increasing patient load, with above 10%
annual increases in patient volumes [7].

As part of the increased emphasis on emergency care,
hospital ECs have seen increased investment and training of
staff, although there is still a long way to go in much of the
country. Part of the drive behind this process has related to
the development of emergency medicine as a speciality.

Emergency medicine speciality development

Emergency medicine has long been practised in many
forms and to a high standard across South Africa without any
formal recognition, and indeed elective periods in South
Africa have long been seen as a valuable addition to any
overseas trainee’s curriculum vitae. The recent development
of the speciality of emergency medicine was, as in most other
countries, driven by a small handful of key individuals.

EMSSA

The first formal emergency medicine structures were
developed in the late 1990s, driven in part by the success
of the Trauma Society of South Africa: interested and
motivated individuals formed the Emergency Medicine
Society of South Africa (EMSSA), which applied for and
received affiliate membership in the International Federa-

![Map of South Africa](fig1.png)

**Fig. 1** Map of South Africa
tion for Emergency Medicine (IFEM) in 2001. In 2004, full member status was granted.

October 2007 saw Emergency Medicine in the Developing World, a 4-day conference held in Cape Town, with 650 delegates from 42 countries. A second conference is planned for November 2009.

College of emergency medicine

In 2003, emergency medicine was added to the list of recognised specialities in South Africa. To help the establishment of a respectable speciality with a solid base from which to train registrars, a number of senior emergency medicine practitioners were added to the speciality register under the “grandfather” clause.

Concurrent with this development was the establishment of the College of Emergency Medicine (CEM(SA)). Emergency medicine exams have been held through the South African Colleges of Medicine since 1986: the Diploma in Primary Emergency Care (DipPEC) was initially offered by the College of Family Practitioners, but transferred to the newly formed College of Emergency Medicine in 2004. Applicants must have at least 6 months emergency medicine experience; the exam is intended for those working in emergency care in remote areas. There are currently over 250 diplomates who receive reciprocity with the Fellowship in Immediate Medical Care of the Royal College of Surgeons in Edinburgh.

The main role of the College is examination of trainees in the speciality, and to this end biannual fellowship examinations are held. The primary tests basic sciences (anatomy, pharmacology, physiology and pathology) and may be taken by any fully qualified South African doctor. The final fellowship (FCEM) examination may be taken after 3 years of speciality registrar training, and tests clinical emergency medicine in written and clinical sections. The first FCEM by examination was awarded in late 2007.

University training programmes

The Division of Emergency Medicine at the University of Cape Town (UCT) was established in 2001, and initially offered a Master of Philosophy (MPhil) degree by examination and dissertation. After the registration of the speciality, UCT commenced a Master of Medicine in Emergency Medicine (MMed) programme in 2004. This programme is now shared with Stellenbosch University, and has 32 trainees; similar programmes are offered at the University of the Witwaterstrand (eight trainees), Pretoria University (four) and Limpopo University (two). Plans are in place to expand the training programmes and increase the number of universities offering such training.

The MMed rotation involves 4 years of 3-month blocks, and includes EMS, intensive care, obstetrics and gynaecology, internal medicine, surgery, and paediatrics. The rest of the training time is spent in ECs. The first 10 registrars graduated from UCT in late 2007 and are now taking up specialist posts.

The future

The development of the speciality continues apace, and increasing numbers of emergency physicians are now present on the floor of emergency centres across the country. The benefits of such staffing are clear, and are seen in South Africa as they are in other countries where emergency physicians are working. However, resource limitations will continue and for the foreseeable future, demand will far outstrip supply of adequately trained emergency care practitioners.

Key areas to address as emergency medicine moves forward include increased advocacy at a provincial and national level; shop floor training of junior medical staff (and non-medical personnel); outreach programmes to rural, district and day hospitals; continuing medical education programmes, and establishment of local protocols and guidelines. The 2010 FIFA soccer World Cup will be a key test of our development.

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