Position Statement on the Health Professions Council of South Africa's Intention to Close the Short Course-Related Professional Registers

This document is presented in three parts. The first part is the Society's position statement and is intentionally short and succint, and without background or supporting information. The second part is a short listing of recommendations. The third part is the position statement's supporting information. It is recommended that the supporting information is read in conjunction with, or ideally before, the position statement and recommendations.

This statement reflects the position of the Board of Directors of the Emergency Care Society of South Africa on the intention of the Professional Board for Emergency Care (PBEC) to close the short course-related professional registers (i.e. those associated with the Basic Ambulance Assistant [BAA], Ambulance Emergency Assistant [AEA] and Critical Care Assistant [CCA] qualifications and the National Diploma in Emergency Medical Care [NDEMC]).

1. POSITION STATEMENT

a) Reasons for the Decision

The PBEC's decision to close the registers is based upon generally sound educational and professional reasoning. An improved two-tiered qualification structure has been put forward and there appears to be little sense in perpetuating both this approach and the short course training programmes in parallel. Whether or not there is both the required intent and capacity to produce a realistic number of Emergency Care Technicians (ECTs) and Emergency Care Practitioners (ECPs) is not certain. However retaining the short course programmes will only serve to divert resources from attempts to implement the new qualification structure.

b) Opposition to the Decision

Opposition to the PBEC's decision based upon a loss of income from discontinuation of BAA training cannot, unfortunately, be considered a valid reason to continue with the *status quo*. There are far too many BAAs for the available Emergency Medical Services (EMS) posts, a number which will most likely not increase significantly in the near future. It is difficult to argue in favour of private training institutions continuing to offer this qualification when those completing it will generally not have any signifcantly improved prospect of finding a job.

Most other arguments put forward in opposition to the PBEC's decision are largely negated by the assumption that the ECT programme will supersede the short course programmes, will be offered widely throughout South Africa and will provide an output of graduates sufficient to meet the needs of the EMS. Although large scale success of the ECT programme lies in the future and is thus not possible to accurately predict, the only way that this new programme will stand a chance of success is for the short courses to fall away and for a focused effort to be made to dedicate all available resources to it.

Lastly, but not least significantly, opposition to the PBEC's decision based upon a lack of reasonable opportunity for existing short course paramedics to integrate into the new two-tiered structure is valid. Those currently holding short course qualifications have every right to feel disappointed with the PBEC's apparent lack of forethought and absence of a viable framework to allow them access to the ECT or Bachelor's degree programmes without having to embark on this course of action as if they have no prior training or experience.

Clearly, there are rules and regulations to be observed in this regard, however it is up to the PBEC who have initiated this course of action to suggest a viable and equitable way forward. Doing so will not only enhance the career prospects of those already holding short course qualifications, but could also offset the possibly inadequate output of ECT and Bachelor's degree graduates derived from the school-leaver input stream alone.

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2. RECOMMENDATIONS: THE WAY FORWARD

The following three broad recommendations are suggested as a way forward.

a) Make the Decision
Whatever the outcome, a final decision must be made about the fate of the short course-related professional registers as soon as possible. Continued indecision leaves educational and training institutions, employers and indeed the entire profession in a state of instability, not knowing which direction to take with regard to future investments of time and money in emergency care education. This is of critical importance.

b) Provide a Viable and Realistic Integration Framework
A framework for integration of paramedics currently holding short course qualifications is urgently needed from the PBEC. This should recognise prior training and experience, should be focused on facilitating access rather than impeding it and should address not only academic considerations but also those of funding and employment. Considering this, it is unlikely that the PBEC will be able to devise such a framework alone. Consideration should be given to flexibility in determining access, and to the possibility of a finite period for this (a "sunset clause").

c) Communicate More Effectively
Events of the last few years related to the PBEC's intentions and reactions to it have been unpleasant for many in the profession. Polarisation has occurred along educational lines which has resulted in resentment and ill-feeling, something that has generally only had an outlet in less formal spaces such as social media networks and internet discussion forums. Neither side has thus far seemed to be particularly willing to communicate, discuss or compromise.

The Society's view is that this unfortunate state of affairs was largely avoidable. Poor communication and a lack of reliable information typically allows room for erroneousness, suspicion and anger. All parties, but particularly the PBEC who initiated this process, should commit to openness, dialogue and a willingness to compromise in the future. This is the only way that a successful transition can be made to a new era that is inclusive and that holds promise for the professional development of all emergency care personnel to the benefit of our patients.

3. SUPPORTING INFORMATION

a) Background
Formal pre-hospital emergency care training began in South Africa in the late 1960s and early 1970s. At this time and into the early 1980s the availability of and approach to training was fragmented, with what would be the precursor to today's basic life support (BLS)-level training offered in some services, and very little or no training offered in others. The earliest approaches to pre-hospital emergency care training focused on in-service, short-contact and skills-based methodologies.

By the late-1980s three levels of training had been established and were offered at Provincial Ambulance Training Colleges. These included the BAA course, the AEA course (which had as a precursor the Ambulance Medical Assistant course) and the CCA course. Although more structured, and offered according to national curricula, these courses were still based on an in-service training framework and were skills-based. The pre-hospital emergency care scopes of practice and capabilities associated with these three courses were strictly defined and explicitly set out in treatment protocols. Medical accountability in both training and in patient care rendered by the EMS lay with medical practitioners whose permission was required telephonically for some of the more advanced or invasive clinical skills.

In 1986 the first higher education emergency care programme was started - the National Diploma in Ambulance and Emergency Technology which was offered at several Technikons throughout South Africa. The National Diploma programme spanned three years of full-time study and comprised of medical and rescue components, along with basic science and ancillary subjects. Although the medical component was loosely structured along the lines of the three courses discussed above in first, second and third year, this changed in the early 1990s and the academic organisation of the medical component diverged from this pattern. The National Diploma programme was recurriculated in 1998 and the name changed to the National Diploma in Emergency Medical Care (NDEMC).

Although output of the NDEMC programme increased over time, the combined number of graduates from the institutions offering it was limited and not sufficient to meet the advanced life support staffing needs of the country. Consequently, the in-service training ("short") courses were continued and the two streams produced qualified emergency care personnel in parallel. Prior to the mid-1990s, short course training had only been offered at Provincial Ambulance Training Colleges. Beginning at around this time a number of privately-owned training colleges came into existence and were accredited by the PBEC to offer emergency care short courses, mostly the BAA course.

With a change in the educational landscape brought about by the Higher Education Act of 1997, Technikons restructured many of their existing qualifications to include Bachelor's degree programmes (previously not offered at these institutions). This led to the creation of a Bachelor of Technology Degree in Emergency Medical Care (BTEMC) which was first offered in 2000. The qualification was structured as a two year part-time programme, with the NDEMC (or other precursors) as an entry requirement. Academically, the BTEMC was comprised of a mix of diagnostic and clinical learning outcomes, along with some additional ancillary subjects. The completion of a research project was also added as a requirement in the final year of study. The short courses referred to above were also changed and

improved (recurriculated) after their inception, however the last time that this was done was in the mid-1990s.

The Health Professions Council of South Africa (HPCSA, then called the South African Medical and Dental Council) made registration mandatory for all emergency care personnel in the late 1980s and early 1990s. Consequently, a Professional Board for Emergency Care Personnel (currently known as the Professional Board for Emergency Care, PBEC) was established and three registers were opened, one for each of the three levels of short course qualification. With the NDEMC programme having been established shortly before this, the decision was made to place emergency care personnel with the CCA and NDEMC qualifications onto the same register. A new registration category, called Emergency Care Practitioner (ECP) was created in 2007, some six years after the BTEMC programme came into existence. Associated with the ECP register was a scope of practice extended beyond that associated with the pre-existing advanced life support (ALS) level qualifications (CCA and NDEMC).

In 2007, following a review of existing short courses by the HPCSA, a new mid-level qualification called the Emergency Care Technician (ECT) came into being. This qualification was designed as a two-year full-time programme to be offered at Provincial Colleges of Emergency Care. It is associated with a separate register at the HPCSA and has a unique scope of practice, which although not including all of the capabilities of pre-existing ALS qualifications, is still referred to as "Advanced Life Support".

Most recently, the part-time BTEMC programmes have been replaced by full-time four year programmes at the Universities offering them. These have been named variously as Bachelor of Emergency Medical Care or Bachelor of Health Sciences in Emergency Medical Care degrees. A Masters-level programme in Emergency Medical Care has also been available for some time.

b) Origin of the Intention to Close the Short Course-related Professional Registers and The Health Professions Council's Rationale

In 2009 the PBEC distributed a letter to training institutions notifying them of its intention to close the short course-related professional registers, following a review of the short course qualifications initiated in 2004.[1] This includes the registers associated with BAA and AEA qualifications and the Paramedic register (associated with both CCA and NDEMC qualifications). This process was to be completed by 1 December 2010 for the BAA and Paramedic registers, and 1 December 2014 for the AEA register.

Several reasons have been put forward by the PBEC for this:

i) Educational Structure and Integration of the Short Courses

The three short courses referred to above (BAA, AEA and CCA) were designed for an in-service training model, with a focus on knowledge of strict treatment protocols and skills proficiency. In the PBEC's opinion, this is not in keeping with the educational approach required to produce a professionalised workforce, and one which allows for career progression and life-long learning. The short courses are also largely outdated from a scientific content perspective, having last been recurriculated in the late 1990s.

The short courses are currently not compliant with the National Qualifications Framework (NQF) or the requirements of the South African Qualifications Authority (SAQA) and are not credit-bearing. Consequently, it is difficult for paramedics holding these qualifications to articulate with any educational programme other than another short course (for those holding the CCA qualification there is no "higher" short course qualification). Thus, historically, those holding short course qualifications and wishing to obtain a NDEMC or BTEMC have had to apply for recognition of prior learning for various parts of these qualifications rather than being exempted for parts of them. The lack of NQF alignment of these courses even makes the initial selection process difficult as they do not contribute quantitatively to University selection criteria.

ii) Control and Oversight of Private Sector Training

A large number of private training institutions have been accredited to offer short courses by the PBEC, mostly for BAA training. Over time, numerous reports of poor quality training or other irregularities have been investigated by the PBEC and, in some cases, private institutions have had their accreditation withdrawn.

According to statistics published by the HPCSA in their annual reports, there are far more registered BAAs in South Africa than will ever have a prospect of finding gainful employment. In March 2010 there were 88,031 registered BAAs.[2] The largest employer of BAAs in South Africa is the KwaZulu-Natal Emergency Medical Rescue Services which employs approximately 2,000 BAAs.[3] Considering the number of registered BAAs, by extrapolation this means that the vast majority are not employed by any EMS. Because of this relative over-supply of BAAs, and the PBEC's problems in controlling the quality of these courses at private institutions, the PBEC feels that closing the BAA register (and thus effectively discontinuing this level of training) will be beneficial for the Profession. It is unclear to what extent this quality and oversight problem extends to the other short courses and whether the PBEC's rationale for closing all of the short course registers is equally influenced by this.

iii) Movement Towards a Two-tiered Educational Structure and Creation of a Mid-level Worker in Emergency Care

The PBEC has stated that its intention, and that of the National Department of Health, is to move towards a two-tiered structure for emergency care education, consisting of the ECT and Bachelor's degree qualifications. The ECT qualification was put forward as the emergency care mid-level worker, synonymous with mid-level workers in other health professions (e.g. the clinical associate in medicine). This has been suggested

by the PBEC to solve the problems of non-compliance with SAQA and the NQF, lack of articulation between qualifications and over-supply of BAAs. The PBEC's view is that making the transition to this two-tiered structure will be resource-intensive and that maintaining a parallel structure of short course training will be wasteful, thus making a case for closure of the short course registers and discontinuation of the associated training programmes.

To date, the short course-related professional registers referred to above remain open. A moratorium declared by the PBEC on accreditation of new private training institutions was lifted in June 2010 following the Emergency Care Training Association v Minister of Health judgement (see c i) below).[4] An undated and unsigned document currently available on the PBEC's internet site states that the PBEC is still committed to closure of the registers but that this matter is awaiting consideration and signature of associated regulations by the Minister of Health.[5]

c) Opposition to the PBEC's Intention

The PBEC's intention to close the short course-related professional registers has met with some opposition. This ranges from informal comments on social media networks to more formal actions such as a High Court application to prevent closure,[4] a press release by a political party[6] and a letter published in the South African Medical Journal.[7] The main arguments in opposition to the PBEC's decision are summarised below.

i) The Livelihood Argument

The most prominent objection to the decision to terminate short course training was in the form of a High Court application by the Emergency Care Training Association (ECTA) in which the association argued that, among other things, neither the PBEC nor the HPCSA "…has any power to phase out training or close a register…" as that power is "…vested in the Minister [of Health] only".[4] The application brought by ECTA was clearly a response by the private training institutions whose belief is that closure of the registers will have an immediate and significant negative influence on their businesses and livelihoods.

The majority of private training institutions will almost certainly be forced to close or down-scale their operations if short course training (specifically the BAA course) is discontinued as a result of the PBEC's intentions. Transition to the two-tiered structure described above means that in order to offer the ECT qualification (the "lower" of the two qualifications), interested private training institutions would have to significantly increase their infrastructural support and register as Higher Education Institutions, neither of which seem viable for the vast majority of existing institutions.

Although the ECTA application was dismissed, it did serve to confirm that the short course-related registers cannot be closed by anyone other than the Minister of Health.

ii) The Supply and Demand Argument

A second objection is that, given the limited enrollment capacity of higher education institutions, insufficient numbers of people will be trained if short courses are terminated. Several newspaper articles[8,9] and the Democratic Alliance have argued that the vast majority of emergency care workers currently hold short course qualifications. These short courses are offered largely by private training institutions which, as established in the previous objection, may well cease to operate if short courses are terminated. Termination of short course training will thus, as the Democratic Alliance argued, "…result in tertiary institutions being the main source of training…" even though they account "…for only about one per cent of the current trained personnel".[6]

The supply and demand argument holds that higher education institutions are unable to produce sufficient numbers of graduates (in both ECT and Bachelor's degree categories) and that the closure of short course-related professional registers and termination of short courses will compromise the staffing capabilities of EMS for this reason.

iii) The Majority Patient Care Needs Argument

The PBEC's decision to close the short course-related professional registers and thus terminate short course training is based in part on the argument that these courses do not provide staff who can meet the needs of patients in the South African pre-hospital emergency care environment. Those objecting to this assertion argue that at least part of the body of emergency care personnel are only ever called upon to perform protocol-orientated, skills-based care rather than that requiring the type of insight associated with the ECT or Bachelor's degree qualifications. While there is an obvious need for a group of professional paramedics to be available for cases that merit their attention, the majority of cases require staff who can provide basic medical care and identify problems that require additional assistance. The decision to terminate short courses, by this argument, is based on the incorrect assumption that emergency medical care should only be provided by professionals who hold a higher education qualification.

iv) The Career Path Argument

There are several objections to the termination of short course training that relate in some way to the concept of career progression in EMS. In terms of access, this argument holds that movement to the two-tiered structure (of ECT and Bachelor's degree) described above will exclude many potential candidates from beginning a career in pre-hospital emergency care. This is due to the financially demanding minimum requirement of completing a two year full-time learning programme in order to secure an entry-level qualification, not to mention four years of full-time study at University to complete the Bachelor's degree programme.

For those already holding short course qualifications uncertainty about career progression brought about by the PBEC's intention is of even greater significance. Simply put, paramedics in this category argue that closure of the short course-related professional registers will effectively terminate any reasonable chance of career progression for them. Because short courses are not NQF compliant or credit-bearing, holders of these qualifications believe that if they wish to embrace the two-tiered structure they will have to initiate their studies from the same position as a school-leaver with no experience. They argue that there has been a lack of enthusiasm from the PBEC and the Universities and Provincial Colleges to offer some kind of framework for articulation which could recognise their existing skills and experience.

Apart from the argument that a failure to recognise existing skills and experience in those with short course qualifications is unfair, an additional contention by this grouping is that the financial burden of two to four years of full-time higher education without any kind of support is prohibitive. Closure of the short course-related professional registers will effectively exclude these people from professional development unless they resign from their current employment as, to quote an interviewee in a newspaper article on the PCEB's decision, "…no one would give me two years paid leave to do the [ECT] course".[9]

d) Disadvantages of Closure of the Short Course-related Professional Registers and Discontinuation of Emergency Care Short Courses

Disadvantages of the PBEC's decision to close the short course-related professional registers are summarised in this section. These disadvantages are based upon information available at present.

i) A Possible Decrease in Output of Qualified Emergency Care Personnel

There is currently no coherent National or Provincial strategy identifying a validly derived "ideal" number of emergency care personnel in different categories of qualification and capability. From the available evidence, it would seem clear that there is in fact an over-supply of BAAs in South Africa. Thus, in this particular category of emergency care personnel, the PBEC's decision could be considered an advantage because it would stop the training of more and more individuals, at great personal cost to themselves, who would most likely never be employed.

The situation with more highly-qualified personnel is different. While there is little to go on in terms of accurately quantifying the deficit of AEAs and ALS paramedics, it is generally acknowledged that there is currently a deficit. This deficit exists with a history of many years of short course output, which has a relatively high turnover (three months for an AEA and just less than a year for a CCA). Additionally, in all the years that the NDEMC programme has been offered, output of graduates has not increased significantly nor reached a steady state with regard to demand.

The proposed two-tiered structure suggests a transition to higher education programmes. The shortest of these (the ECT programme) is two years in duration. It is difficult to assess the output potential of the ECT programme reliably as it has not been in existence for very long, and it is not known how many institutions (Provincial and private) will eventually offer it. Several factors, which differentiate the ECT programme from the short course programmes, may potentially impede the output of ECT graduates in adequate numbers:

- *The number of Provincial Colleges and private institutions offering the ECT programme*. Currently the programme is offered at six Provincial Colleges of Emergency Care, the South African Military Health Service and no private institutions. Eventual closure of the short course-related registers by the PBEC may add to these numbers, as other training (which currently competes with the ECT programme for resources) will cease. However it cannot be seen as a certainty that enough institutions will offer the ECT programme in the future to guarantee an adequate output of graduates.
- *Student throughput*. The throughput of ECT students is currently estimated to be between 55% and 80%.[10] Although this is probably not worse than short course completion rates, it is based upon a small number of institutions offering the programme and thus future throughput is impossible to predict. Considering that in the new two-tiered structure the ECT is seen as the backbone of EMS and will fill the vast majority of posts, throughput of students on the ECT programme will have to be high to produce adequate numbers of graduates. This will be more challenging to achieve given the duration and level of education, compared to that of short course programmes.
- *Adequate numbers of appropriate applicants*. With the ECT programme lying in the higher education band of the NQF, access requirements are more stringent than those for short course entrance and may limit the number of entrants, thus having an added negative effect on output.
- *Funding support*. Because the short course programmes evolved as a form of in-service training, students completing these programmes at Provincial Colleges were already employed and released from duty for the duration of the course - which was paid for by their employer. The ECT programme, which is more costly than any of the short courses, must either be paid for by Provincial EMS (as in a model which has been adopted by some Provincial Colleges) or by the students themselves. In both cases, but particularly the latter, it remains to be seen where funding for the financial support of a large annual turnover of ECT students will be obtained, given South Africa's historical problems with adequate financial support for students entering higher education programmes.

The problem with the ECT programme and whether or not it will eventually be able to produce enough graduates is one of uncertainty, rather than known failure. The programme has been in existence for such a short time, and is currently offered by so few institutions, that it is not possible to make any meaningful predictions in this regard. Certainly though, all of the available resources for ECT education will have to be harnessed and managed in a very effective way for this programme to become the sole source of graduates for the vast majority of South Africa's EMS workforce.

The situation with the Bachelor's degree programme is a little more clear-cut. This programme is currently only offered by three Universities in South Africa. Intake of students to the degree programme is limited in number by the practical and clinical emphasis, with typical first year intakes per institution ranging between 30 to 40 students. Of these, not all will complete the programme in the minimum time, and some will not complete it at all. Currently, the annual output of Emergency Medical Care degree graduates at the three institutions combined is in the region of 70 to 80.

Although the two-tiered qualification structure clearly calls for a small proportion of ECPs and a much larger proportion of ECTs in any given EMS, the optimal relative quantities of each have not yet been determined. The current output of Emergency Medical Care degree graduates, one of only two proposed new qualification levels to make up all of the EMS staffing needs, is inadequate. Even if more Universities are interested in and willing to offer the programme, the enrolment limitations and traditionally poor South African higher education completion rate (approximately 15%)[11] will make the output of adequate numbers of degree graduates challenging.

ii) Lack of Career Path for Existing Short Course Paramedics

Listing this as a disadvantage may seem premature, as the short-course-related professional registers have not yet been closed. However the purpose of this discussion is to consider both the possible consequences of the PBEC's intention and any other measures taken by the PBEC in anticipation of the effects of closure. One of these relates directly to the integration of existing short course paramedics into the new two-tiered structure.

As described under c iv) above, there is currently no framework in place to facilitate the transition of paramedics with existing short course qualifications into the two-tiered structure in a way that recognises both their prior training and their experience. The PBEC's assertion that the short courses are not NQF compliant is correct, however this should not mean that holders of these qualifications should be expected to begin their ECT or Bachelor's degree education from the same point as a school-leaver. It seems both wasteful and illogical to expect a trained workforce to begin their emergency care education from the very beginning again, particularly when this will involve between two and four years of full-time study.

The absence of either a strategy or a framework to manage this transition, three years after communication of the initial intention to close the short course-related professional registers, is surprising. It could be argued that, in anticipation of a decision that would clearly be expected to have major implications for the vast majority of the existing EMS workforce, the formulation of such a strategy and framework should have taken precedence. The apparent absence of strategy in this regard has created an impression that the PBEC either does not understand the implications for those currently holding short course qualifications, or is unsympathetic towards those short course-qualified paramedics who would like to make the transition to higher education. Unfortunately, it would appear that much of the ill-feeling of existing short course paramedics towards the PBEC's intentions relates to a perception that they have been excluded from reasonable access to the new qualifications and that their career prospects do not enjoy significant priority compared to those of school-leavers.

e) Advantages of Closure of the Short Course-related Professional Registers and Discontinuation of Emergency Care Short Courses

i) Simplification, Focus and Development of the Pre-hospital Emergency Care Educational Environment

One of the chief advantages of the termination of short course training is simplification of the emergency medical care educational environment. Currently this environment is a confusing one that is poorly linked to the needs of the profession. Higher education qualifications and short course qualifications exist side-by-side and in some instances have identical or similar scopes of practice but different theoretical underpinnings and educational goals. Offering all of these programmes in parallel creates some difficult educational problems and significant duplication of resources.

Movement to a two-tiered qualification structure will greatly simplify the approach to both education and employment of emergency care personnel. Such an approach will streamline associated concepts such as scopes of practice, capabilities, protocols and performance indicators. It will also bring the emergency care profession to closer alignment with a number of other allied health professions which have a similar degree and mid-level worker structure. Thus closure of the short course-related professional registers will promote transition towards a profession that is aligned to others in the same or similar fields, and which has clear criteria against which these professionals can be evaluated.

ii) Better Alignment of Qualification Structure and Educational Resources with Emergency Care Needs

South Africa requires a larger number of emergency care personnel capable of practicing at a level that goes beyond just the deployment of skills in accordance with

strict protocol in order to meet the needs of the pre-hospital emergency care environment. This does not mean that every patient in this environment must be treated by a practitioner with a Bachelor's degree - the concept of a mid-level worker, in the form of the ECT graduate, who represents the backbone of the EMS seems to be a reasonable one. The ECT programme is also aligned with the NQF and being credit-bearing, allows for an easier interface with the Bachelor's degree programme.

Although the ECT qualification as an entry into pre-hospital emergency care would appear to be a movement in the right direction educationally, it is a comparatively long and resource-intensive programme to offer. Having the ECT programme exist in parallel with all of the short course programmes results in a situation where resources are split between the two entities. Currently this means that the ECT programme is at a disadvantage because training institutions, particularly private ones, are more likely to continue offering the programmes that they are familiar with and resourced to present - the short course programmes. Closure of the short course-related professional registers has the advantage that available educational resources can be focused on the ECT programme.

References

1. Professional Board for Emergency Care. Closure of BAA, AEA and CCA registers. Letter to training institutions. 23 January 2009 [cited 28 July 2012].
2. Health Professions Council of South Africa. Annual Report 2009/2010. Health Professions Council of South Africa. Unknown. [Accessed 18 June 2012]. Available from: http://www.hpcsa.co.za/downloads/press_releases/annual_reports/hpcsa-annual-report-2009-2010.pdf.
3. Wang C. Position statement information. E-mail to Christopher Stein. 1 July 2012 [cited 15 July 2012].
4. Emergency Care Training Association v The Minister Of Health And Others 2010 JDR 0636 (GNP).
5. Anonymous. Untitled. [Accessed 20 June 2012]. Available from: http://www.hpcsa.co.za/downloads/emergency_care/closure_date_of_baa.pdf
6. Waters M. Decision to scrap emergency medical services training system must be reversed. Democratic Alliance Press Release 2010 17 May; [Accessed 15 June 2012]. Available from: http://www.da.org.za/newsroom.htm?action=view-news-item&id=8320
7. Mac Mahon AG. HPCSA emergency care media release. South African Medical Journal. 2011;101:686.
8. Madlala M. Paramedics must be given thorough training. Daily News. 2011 September 13 [Accessed 12 June 2012]. Available from: http://www.iol.co.za/dailynews/news/paramedics-must-be-given-thorough-training-1.1136292
9. Slamdien F. Fears for emergency services as training terminated. West Cape News. 2012 May 20 [Accessed 10 June 2012]. Available from: http://westcapenews.com/?p=1503
10. Van Tonder B. Factors predicting the academic performance of Emergency Care Technician students: a decision tree model [research report]. Johannesburg: University of Johannesburg; 2011.
11. Letseka M, Maile S. High university drop-out rates: a threat to South Africa's future. Human Sciences Research Council 2008 March. [Accessed 11 June 2012]. Available from: http://www.hsrc.ac.za/Document-2717.phtml