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THE EVOLUTION



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Introduction

The role of the paramedic is one that is rapidly evolving, across many countries. Demands placed on health services, offload delays, cuts to budgets, increased expectations from the general public and an increasing older population all place the paramedic profession at a crossroads in its development. Paramedicine has yet to figure out where it belongs. Does it belong in public safety? Does it belong in healthcare? The road less travelled requires the paramedic profession to be pursued as a healthcare profession and not as emergency responders, EMS workers, or ambulance drivers, which we are so commonly identified with.

Increasingly seen as a true healthcare professional, the paramedic is now required to perform a detailed and thorough examination and history gathering, have knowledge of evidence-based treatment guidelines and therapy options, and formulate individual-

ised plans for treatment, further care and in some areas even discharge plans their patients⁽¹⁾. The requirement for paramedics to expand their clinical capabilities has been noted for over a decade. In 2005, the United Kingdom Department of Health stated:

"Ambulance clinicians should be equipped with a greater range of competencies that enable them to assess, treat, refer or discharge patients"⁽²⁾ [note the referral to clinicians at this stage]

The eventual move towards full professionalisation of the paramedic requires a paradigm shift from (i) training to education; (ii) trade representation to professional representation and (iii) a change in mind-set and attitude from technician to clinician.

Training to Education

Is there really a difference between training and education? Yes. Is this important for paramedic educators, and more importantly,

for their students? Yes. Education implies knowledge development of broad, core principles. Training is a narrow spectrum, focused on application rather than principles. Education of paramedics focuses on the ability of the student to think about what they're doing, and more importantly, why they're doing it, while training emphasises the actual skill and technique.

The paramedic however needs to be a versatile clinician, especially in the face of their expanding role. A paramedic who has education regarding airway management, but no training in the application of airway management techniques will be of little use to the patient who requires life-saving airway interventions. Neither is the paramedic who has training in the administration of a medication, but no education regarding its effects, side-effects, indications etc.

Therefore if a paramedic requires both education and training, then educators also



need to be trainers (and vice versa). Paramedic educational programmes at all levels need to ensure an integrated training component, while also developing the student academically. As paramedicine transitions to higher education, a move important for the evolution of the profession, the hands-on training cannot simply be replaced with academic knowledge. The move to higher education has played an important part in the evolution of other professions in the health care disciplines, such as nursing and the therapy professions⁽³⁾.

Traditional paramedicine education programs, whether in the UK, Ireland, Australia, Canada or the USA, tend to focus on emergency response and resuscitation, with limited (if any) education in patient safety, chronic condition management, care of the elderly or health promotion⁽⁴⁾. The move to higher education presents an opportunity to change the curriculum of paramedic education.

In Australia the field of paramedic education has evolved from vocational education and training, to university-based education⁽⁵⁾ with the majority of paramedic education at Bachelor's degree level. In the United Kingdom, paramedic education has evolved from technician training of approximately 400 hours plus placements, to a Foundation Degree (equivalent to a Diploma), with proposed plans to increase this to a minimum education level of a Bachelor's degree for registration as a paramedic. In Ireland, current paramedic training consists of a two year University Diploma. The first post-registration Bachelor of Science in Paramedic Studies in Ireland began in January 2015, again with proposals to make Bachelor degree education the entry to practice standard in the future.

Paramedic education in Canada differs slightly, as it is generally a one to two year college diploma. Some paramedics complete a Bachelor's degree in a non-paramedic discipline prior to entering paramedic college. There are some Bachelor of Science programs available, although the majority of paramedics complete their initial technical education, then pursue further education afterwards.

For most of the last forty plus years, paramedicine has also been regarded as a technical profession in the United States and is normally delivered through certificate programmes at community colleges. There is a move by many paramedics towards completing an Associate's Degree, but the incentive to complete further study is missing, as increases in pay are not guaranteed with more advanced education.

So how do we move forward? The authors propose the concept of integrated paramedic education for specialty disciplines such as Community, Remote and Rural, Advanced Practice, Critical Care/Flight, Industrial,

Education, Leadership and Research. This educational model would encompass a common educational grounding in emergency response for all paramedics at the college or undergraduate level followed by selection of a specialty stream, at either undergraduate or postgraduate level. Completion of a "residency" in this specialised stream would then lead to a specialty qualification. Similar to medicine, nursing and therapy colleagues, this would allow for career progression, potential for sub-specialisation, and the continuous development of a unique body of knowledge.

The question surrounding the education, regulation and professionalisation of other prehospital care staff also plays an important role, and one that has been forgotten until now. The terms we use to describe ourselves and our practice⁽⁶⁾, and how we present ourselves⁽⁷⁾, play an important role in our image as professionals. Emergency Medical Technicians (EMTs) are common in many services worldwide (although not in Canada), and their training generally consists of 160-200 hours of classroom education plus clinical placement time. The use of the term 'technician' implies the profession is a technical undertaking.

The EMT is an associate to the paramedic profession, and thus paramedics should

encourage the further education and development of the EMT, which contributes to the overall progression of the paramedic profession. The authors propose the consideration of adopting a higher education model for EMT education, with options to transition into paramedicine in the future. A new professional title should also be adopted, and regulation of these individuals should be investigated. Efforts to standardise levels of practice, and professional terminology of out-of-hospital care providers internationally should also be pursued.

Trade to profession

Merriam-Webster defines a profession as "a calling requiring specialized knowledge and often long and intensive academic preparation"⁽⁸⁾

Paramedics possess specialized knowledge which requires academic preparation. However, this isn't all that is required to be a 'profession'. Transitioning towards a professional model requires a number of steps to be undertaken, such as professional regulation, the establishment of professional representative bodies, the development of peer-reviewed journals, the introduction of advanced roles and increased scope and the advancement of discipline-spe-

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cific research. These aspects of professionalisation face challenges in many ambulance services around the world. Large variations in the delivery of paramedic-led care internationally make a unified approach to these challenges nearly impossible.

Nursing and therapy professions achieved their professional standing through a combination of registration and regulation, curriculum development, and scope of practice guidance. A key marker of professional status is professional regulation⁽⁹⁾. Paramedics are currently regulated (self or direct) in the United Kingdom, Republic of Ireland, South Africa, and a number of Canadian provinces (including New Brunswick, Alberta, Saskatchewan). Paramedics in these jurisdictions have a licence to practice paramedicine, albeit with certain provisions or requisites (in good standing, working for an approved service etc.). They agree to codes of conduct and professionalism, and are held to transparent clinical standards set forth by the regulatory body. In the unfortunate event of breach of those clinical or professional standards of the regulatory body, the individual paramedics can be held to account through fitness to practice proceedings. Unfortunately, not all paramedics worldwide enjoy this objectively structured process.

The Health Professions Regulatory Advisory Council in Ontario recently recommended against the self-regulation of paramedics in Ontario based on an application submitted by the Ontario Paramedic Association⁽¹⁰⁾. This was a major setback to establishing a true paramedic profession in Ontario, for paramedics, led by paramedics. Elsewhere, it appears that the pursuit of national registration and regulation of paramedics in Australia and New Zealand will have a positive outcome in the coming months, due largely to work being carried out by Paramedics Australasia. This will ultimately lead to improved patient safety, and as an added benefit, Australian paramedics will reap the benefits of regulation, including improved professional standing, the ability to develop national standards, easier inter-state and international labour mobility and more.

Although the College of Paramedics in the UK only represent approximately 25% of registered Paramedics in the UK, their influence on the future of the paramedic profession cannot be understated. Their proposed post-registration career framework (Figure 1) for paramedics, encompassing clinical practice, education, management and research is something which should be replicated by all countries that utilise paramedics (11). The Irish College of Paramedics is pursuing similar influence on the profession in Ireland, and holds a representative seat on the regulatory body. It is professional repre-

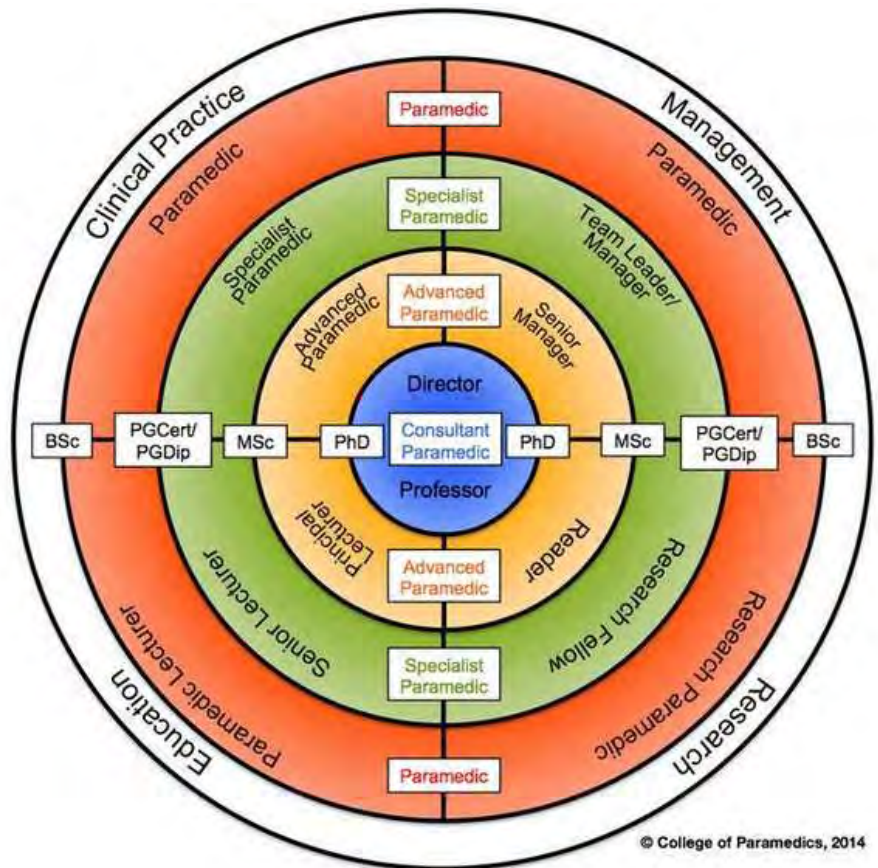


Figure 1. College of Paramedics Post Registration Career Framework (2015) Used with permission.

sentative bodies comprised of paramedics with a common, united vision that are needed to lead the paramedic profession.

Paramedics also need to define their educational curriculum, and develop the paramedicine body of knowledge. This can only be achieved through paramedics becoming involved in, and leading, the research in prehospital and out-of-hospital care. The U.S. Department of Transportation issued a statement in 2002 to all involved in the prehospital profession indicating that a lack of EMS research was the impediment to progress of emergency medical services (12). Canada and the Republic of Ireland have published national research agendas in response to the lack of coordinated published prehospital research (13,14). Unfortunately, there still remains a need for more high-quality evidence to validate many aspects of paramedic practice (1). Until we begin to validate what we do, and why we do it, we can never hope to build our unique body of knowledge. This can only be achieved by increased undertaking of higher research degrees by paramedics, including masters and doctoral level studies.

Technician to Clinician

Physicians practice medicine. Nurses practice nursing. Paramedics need to practice paramedicine. Anyone can be taught how to

administer a medication. A technician can be taught how identify the signs and symptoms of cardiac ischemia and administer that medication. A clinician can formulate a working diagnosis and decide when to treat, and when not to treat. A good clinician knows when to apply their clinical therapy options...but a great clinician knows when to withhold treatment.

A recent proposal by the Ontario Professional Fire Fighters Association proposed a role of "Fire Medic" which would grant fire fighters a similar scope of practice (with regards to symptom relief medication administration) as a Primary Care Paramedic in Ontario⁽¹⁵⁾. The education required to administer symptom relief medications would be delivered in 20 hours. Efforts such as this serve to continuously undermine the paramedic profession, reducing it to technical skills that can be taught in a manner of hours, and are unfortunately not unique to Ontario or indeed Canada. This is again where professional representative bodies can inform the public and other services, advocate for the profession and represent the views of their membership.

In the UK, Canada, the USA and Australia, community paramedicine and mobile integrated healthcare initiatives are seeing paramedics take on a broader clinician role with great success. Key to this success, as identified by O'Meara is if "paramedic education provides graduates with


suitable breadth and depth of capabilities that move beyond the traditional paramedic emergency response competencies” (16). The NHTSA stated in “EMS of the future will be community-based health management which is fully integrated with the overall healthcare system” (17). Paramedics need to embrace this changing view of their role, as a way that can bring something novel and useful to an integrated healthcare system while helping to characterize the identity of the paramedic profession.

In the USA, Australia, Canada and UK, advanced practice paramedics can now access what were once thought of as “hospital skills” such as thrombolysis, ultrasound, point-of-care laboratory testing and more. Treat-and-refer and treat-and-discharge guidelines have been developed for paramedics in the UK and Ireland. These expanded skills not only serve to provide better and efficient prehospital care, but also transition the paramedic from technician to clinician. Paramedic prescribing is currently on the agenda in the UK and is going through the government consultation process. If passed, suitably qualified paramedics will be able to prescribe patients medications, on a par with other independent-prescribing healthcare professionals.

Thus we see that the evolution of the paramedic role cannot be attributed to one aspect of professional practice, but that all are intimately linked – education, regulation, advocacy, expanding scope, research and leadership.

Conclusion

The paramedic is today seen as a healthcare professional in some countries. Many countries however have not yet fully realised the potential of the paramedic’s role. This is partly the fault of the paramedic profession as a whole for pursuing identity as an emergency responder instead of a healthcare professional. The profession needs to take ownership of non-traditional roles such as industrial paramedicine and remote practice paramedicine. Paramedics have been proven to play important roles in the community, health promotion, care of the elderly, unscheduled care, and specialised response roles such as critical care, hazardous access and rural and remote practice.

Only with an ongoing, gradual transition from technical training to professional education, representing ourselves as professionals rather than as technical emergency responders and shifting our mind-sets from protocol-driven medicine-led technicians to paramedic-led, evidence-based clinicians, will we truly take our seat at the healthcare professions table. 

Disclaimer: The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of their employers or organizations.

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