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A National Ambulance Service emergency ambulance is photographed from the air in Rosscarbery, Co. Cork.

Photo courtesy Kieran Minihihane, National Ambulance Service.

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International and unifying standards of pre-hospital care

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International and Unifying Standards of Pre-hospital Care

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In Ireland, as with most other developed countries, the provision of pre-hospital care has improved significantly, particularly over the last two decades. The establishment of regulatory bodies (1-3) to provide governance and oversight for pre-hospital providers has been an important step in improving the level of pre-hospital care.

There are varying models of pre-hospital care ranging from the professional paramedic provision of care through the mix of first aid (4) Basic Life Support (BLS), Immediate care, Advanced Life Support (ALS) and the many associated specialist paramedicine grades. This model of paramedic care is typically associated with established systems of pre-hospital care in countries with recognised professional bodies, with or without the associated regulator including Canada, the USA, New Zealand, South Africa, Australia, the United Kingdom, and Ireland. Depending where you are in the world an ambulance is staffed by varying numbers and differing practitioner qualifications. Discussions on the benefits, or not, of the various types of paramedic /EMS practitioners continues to try to determine which combination of grade provides the most appropriate level of care, ALS (5-7) or BLS (8), or a mixed model of crewing?

Another model of care is the physician-led approach or the 'Franco-German' model of EMS. This model is also an effective model of care and is utilised in countries such as Austria and Malta, as well as Germany and France. Studies showing the advantages of having a physician-led pre-hospital response are interesting and show, for example, how the success rate of intubations improve if the difficult airway is managed by an emergency physician (9). Or how a transport helicopter with a physician on-board has an important role to play by allowing admissions to specialised centres (10). There are discussions on the type of specialist required and the required competencies for that physician practicing in the EMS field. Should the physician be an anaesthesiologist as commonly deployed in Nordic countries (11) or a consultant, or other senior grade, in Emergency Medicine? Is there a need for an increased role of the General Practitioner through a type of collaboration between the Emergency Department and General Practice for urgent care collaboration (12) or an increased requirement to move the GP from the practice-based model towards the large scale GP cooperative model?(13)

Another model of care is the nurse-led model described as the 'new profession in the pre-hospital care field' (14) in countries such as Sweden, or a mixed model where nurses work with paramedics (15) or in the Netherlands where an ambulance is staffed by a 'registered

ambulance driver' and a 'registered nurse' (16). There are many studies comparing the various models of pre-hospital care from nurse versus physician (17), physician versus paramedic (16, 18) the benefits of having HEMS physicians (19) or the benefit in having HEMS nurses who demonstrate a higher rate of success with intubation compared to paramedics. (20)

Having considered the various alternatives in response type, and without trying to determine which one is best, we should decide firstly which model is required for our particular demographics and region, what are the common type of calls and what are the required competencies of those responding? Consideration should also be given to the proximity of the most appropriate facility, and not necessarily hospital, for the patient to be transferred to, if indeed they need transferred at all.

Internationally there are so many models of pre-hospital care but for example the efficient model of physician-led HEMS utilised in New South Wales, Australia linked to a major trauma centre (21) may not be the model for use in Ireland. Ireland currently has an aeromedical unit provided by the Irish Defence Forces which is clinically staffed by a National Ambulance Service Advanced Paramedic and a Defence Forces EMT. In addition Ireland also has access to four strategically situated Irish Coastguard search-and-rescue helicopters staffed by paramedics. Currently there are discussions regarding the introduction of physician-led HEMS in the south of the country. So in the small island of Ireland we will have six helicopters, from three organisations with three different models of deployment and staffing. This is great...but where's the evidence and what type of staffing is optimal, efficient, and effective?

Perhaps there are better ways to deploy physicians for pre-hospital care in the absence of developing extended skills for paramedics? For example, if paramedics are unable to replace urinary catheters for the patient with agonising pain at home or in the nursing home and the patient has to be taken out of the comfort of their residence to transfer them to an overcrowded ED, to wait and have the issue resolved, then this is an ideal task for the physician. The call could be appropriately triaged and passed to a physician to respond and perform the required procedure, thus removing the necessity of having to remove the patient at all. Many other examples of non-emergency low-acuity calls exist and physicians could be effectively utilised. Compare the evidence; let's see how many catheter changes are required compared to the many Rapid Sequence Inductions which are required, genuinely required, pre-hospital?

There is a role for physicians in pre-hospital care, there is no doubt about that. However the call triage or paramedic decision to call for physician assistance would appear more appropriate than sending physicians to calls where skilled EMTs, paramedics and advanced paramedics can manage the patient within their current scope of practice. In Ireland, paramedics can also call for aeromedical support which allows crews to handover to an advanced paramedic for immediate evacuation and effective advanced care.

As well as the various models of care there is a growing need to develop an international standard of paramedic and all of the associated grades. There are many examples of standards of education and of paramedic competencies (22-26) and guidelines (27-29). The profession has made significant strides over the years but there are many different standards of practitioner with different skills and scope of practice. Perhaps soon, an EMT certified in one country will be automatically recognised internationally. Maybe when someone has a paramedic license from their national regulator it will mean something outside their own country and will be valued in other countries. Imagine one international set of pre-hospital practitioner standards which standardise the various roles, skills, and competencies and provide automatic recognition in every other country. Is this too much to imagine? Perhaps with agreements between national paramedic professional bodies or respective regulatory bodies, we can develop an international acceptable minimal standard for the many levels of pre-hospital care practitioner.

We might then decide the composition of the responding crew, the skills of the responders and practitioners and the inclusion of other professions all tasked to appropriate calls to match their skills and scope of practice with the ultimate focus on effective patient care.

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Toward an international paramedic research agenda

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COMMENTARY**Toward An International Paramedic Research Agenda**Brian J. Maguire Dr.PH¹, Peter O'Meara PhD², Andy Newton PhD³*1. Central Queensland University, Queensland, Australia. 2. La Trobe University, Victoria, Australia. 3. South East Coast Foundation Ambulance NHS Trust, United Kingdom*Correspondence: Prof. Brian J. Maguire, Central Queensland University, Rockhampton North, Building 6, Rockhampton, Qld 4702. Email: b.maguire@cqu.edu.au

Around the world the emergency medical services (EMS) profession has made tremendous strides over recent decades. We have become more professional, have a rapidly growing proportion of paramedics who are university qualified, our practice has become more evidence-based, and a growing number of paramedics are completing graduate-level programs and going on to conduct their own research. In some countries, such as South Africa, the UK, and currently in Australia, this rise in professionalisation has resulted in paramedics becoming independently registered health care practitioners. As a profession we have much to celebrate when we consider these accomplishments.

These trends are, to some extent, related to the changing demand in terms of the patient case mix, itself a consequence of changes in population profile, epidemiology and, in some instances, also related to the health care systems EMS operates within. They also reflect the broader roles that EMS is creating and accepting; these roles require more from paramedics in relation to clinical decision making, inter-professional working, intellectual understanding, technical skills, research and much more.

We have seen other professions develop along similar pathways. A century ago physicians were trained in hospital basements and practiced procedures that had little evidence to ensure their quality or effectiveness. A half century ago nurses were largely trained in hospital basements and again had little research to justify their practices. Members of those professions recognized that the only way out of the basement was through the university. Members of those and other health professions took it upon themselves to make a university degree a requirement to enter practice. They recognized that a university degree was a key requirement of professionalism. Today we could not imagine a physician without a university degree and almost all new nurses and many allied health professionals are now graduates of university programs.

These professions also recognize the necessity of conducting their own research as an essential cornerstone of their professional status and identity. Physicians do not rely solely on biologists, chemists or physicists to conduct medical research. Instead, physicians, with the support and encouragement of their profession, are expected to pursue graduate research degrees and then work in university environments to conduct the research needed by their profession. In fact, over the past few decades it has become even more discipline-specific. Emergency medicine physicians, for example, no longer rely on cardiologists or

surgeons to conduct emergency medicine related research.

Alongside professionalism comes the recognition of the necessity to take more research responsibility and there is a particular need to do so in EMS where the research base was once described as 'scanty' by Callahan.(1) Over the past few years there have been some local efforts to develop and pursue EMS-specific research agendas. In Australia for instance, paramedic academics are pursuing the development of a national paramedic research agenda and associated priorities to "assess the progress of paramedicine research in Australia and New Zealand; map the research capacity of the paramedicine discipline, paramedic services, universities and professional organisations; identify current strengths and opportunities; make recommendations to capitalize on opportunities; and, identify research priorities." (2)

In the U.S., the National Highway Traffic Safety Agency (the lead EMS agency in the U.S.) commissioned a project to develop EMS research priorities. Their recommendations include: develop a large cadre of career EMS investigators; create EMS research Centers of Excellence; lobby federal agencies to commit to EMS research; encourage states, corporations, and charitable foundations to support EMS research; connect research and operations so that research results can be applied; as a profession recognize that our procedures should be evidence based; create standardizations in data collection; and, develop EMS-specific ethics strategies.(3)

In the Netherlands, a similar process identified the leading EMS research priorities as: "Non-conveyance to the hospital (ranked highest); Performance measures for quality of care; Hand over/registration/exchange of patient data; Care and task substitution; Triage; Assessment of acute neurologic signs & symptoms; Protocols and protocol adherence; Immobilisation; and Open/secure airway."(4)

In 2006, Canadian EMS leaders recognized that "EMS does not currently possess the research base and data collection capability required to systematically evaluate and provide guidance for the improvement of overall levels of care. They found that EMS research continues to be underfunded and neglected. It is constrained by funding considerations, lack of a central data repository, and underdeveloped technology infrastructure." They went on to note that objective standards and protocols "is a critical success factor in the provision of higher quality care."(5) A presumably more recent, but undated, document from the Paramedic Chiefs of Canada notes their priorities as including: "Strengthen research partnerships between EMS

academic centres, systems, regulators, educators and national associations; Increase funding opportunities for EMS research infrastructure and studies; Provide scholarships for EMS providers, managers and physicians to take research-based graduate degrees; EMS systems administrators should budget for research projects during annual strategic planning; and, the EMS Research Agenda needs to be viewed as an ongoing project. An implementation, evaluation and renewal plan should be designed and this process should include mapping gaps in EMS research.”(6)

In 2008, the University of Limerick published a national prehospital research agenda for Ireland where they noted the importance of research and called for a research strategy to guide building a productive, functioning research community in the prehospital arena.(7)

In the United Kingdom there has been substantial investment in pre-hospital research. The Medical Care Research Unit in Sheffield described international themes in a survey of international best practice published in 2009.(8) In 2016, the National Institute for Health Research (NIHR) published a themed review summarising relevant completed and current research that they have funded over the last 10 years. This review highlights 40 studies encompassing complex multicentre clinical trials, evaluations of service delivery and organisation, qualitative studies focussed on paramedic decision making and programmes to develop EMS quality and performance measures. A common feature of the research presented is the multidisciplinary and collaborative approaches adopted which bring together EMS providers, clinicians and academic partners and the emergence of a new cadre of research paramedics who are crucial to the success of this world class research. The review demonstrates the enormous progress made in this field in a relatively short space of time.(9)

Where we need to go from here

The priorities for us, as a profession, include setting systems in place to support not only medical based research but also operations, education and systems research that will ensure that our operations, education and systems are based on the best evidence for effective, efficient and safe delivery of out of hospital care. The same rigour that is applied to ensure that the drugs we administer are safe and effective need to be used to ensure that our operations and practices are safe and effective.

We must establish systems for EMS research that result in university-affiliated EMS professionals leading and conducting research in collaboration with EMS agencies and in partnership with other relevant disciplines, such as public health, statisticians, health economists and other specialist researchers. Every EMS agency that has an agency-based research department separate from a university EMS education program is hurting the profession. As Irish emergency medicine physicians recently noted: “a nationally focused research agenda is required to solve the main

challenges facing the delivery of optimal patient care in Irish EDs”.(10) So it is with EMS. We must form strong research consortiums if we are to hope to conduct research that will inform and create an increasingly professional EMS profession and that, at the same time, will support and encourage the long term sustainability of EMS researchers.

As a profession we must: develop systems for the development of national and international research agendas that will meet the needs of EMS agencies, EMS researchers, patients and local governments; create support mechanisms for paramedics to pursue research higher degrees; and, develop partnerships between university EMS programs and EMS agencies that facilitate funding and resources to support research.

Working together we can form international EMS research consortiums that will help both address the needs of today and enable us to anticipate and prepare for the needs of tomorrow.

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Paramedic Transition into an Academic Role in Universities: A Demographic and Qualification Survey of Paramedic Academics in Australia and New Zealand.

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RESEARCH**Paramedic Transition into an Academic Role in Universities: A Demographic and Qualification Survey of Paramedic Academics in Australia and New Zealand**Graham Munro MHSM PhD(c)¹, Peter O'Meara PhD¹, Amanda Kenny PhD¹¹. La Trobe University, Victoria, Australia.

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Correspondence: Graham Munro, Department of Paramedicine, La Trobe University. Email: graham.munro@utas.edu.au**Abstract****Objectives**

To identify the demographic and qualification characteristics of paramedic academics holding teaching and research positions at universities in Australia and New Zealand offering entry-level undergraduate or postgraduate degree programs in paramedicine.

Methods

A 17 item online normative internet survey was used to obtain demographic and qualification characteristics about the target group. The survey was divided into five categories: demographic data, professional qualifications, educational qualifications, learning and teaching experience, and level of academic skills. Data were collected over a two-month period in 2013 and then collated and reported utilising the capabilities of the Survey Monkey program.

Results

Of the estimated 66 eligible participants, 30 responded to the survey, 70% were male, the average age when entering academia was 43 years, and the average age when initially entering paramedicine was 23 years. Two-thirds completed their paramedic training in Australia and New Zealand, with the other third training in the UK, US, or Canada. There was a wide-range of levels of training and qualification reported with three having a PhD on entering academia, while most had little to no experience in research, academic writing, and publication.

Conclusions

Issues of the transference of cultural and professional capital from one community of practice (CoP) into another, the variance in the levels of academic qualifications amongst paramedics when entering academia, and the resources needed to mentor and educate a large majority of these new academics pose significant challenges to new academics and the universities employing them.

Keywords: *paramedicine, university, degree, transition, role***Introduction**

In this article we present the results of a survey of paramedic academics employed in Australian and New Zealand universities. The number of universities offering paramedicine degree programs is growing, and creates demand for qualified practitioners to assume academics roles. The results of this study indicate that most of those entering academic roles are underqualified to meet the traditional expectations of universities and there exist a number of challenges for paramedic academics and the institutions employing them. Little is known about the transition of paramedic practitioners into academic roles in universities. This study addresses this gap.

Paramedic Education

The discipline of paramedicine is relatively new compared to other more established healthcare disciplines, such as medicine and nursing. Universities provide undergraduate and postgraduate degree programs in Australia and New Zealand, where paramedic education has been situated in the university sector since 1995.(1) The

Ambulance Service of New South Wales provides a vocational training pathway for entry as an alternative to graduate entry.(2) The employee then graduates with a Diploma in Paramedical Science after three years. The longevity of this pathway is unknown.

In its move toward official recognition as a registered health discipline in Australia and New Zealand, the quality of education and training in paramedicine at tertiary institutions must meet industry standards, that in Australia are jointly administered by the Council of Ambulance Authorities (CAA) and Paramedics Australasia (PA).(3) In the United Kingdom (UK), where professional registration has been in place since 2000 (4), paramedic education standards are set by the Health and Care Professional Council (5) and the College of Paramedics.(6) With the increase in the number and size of paramedicine programs in Australia and New Zealand, with six programs in existence in 2006 (7) to 19 in Australia and two in New Zealand as of 2016 (8), there is a high demand for academically qualified paramedics to assume teaching and research roles. A major challenge for both the universities and the paramedics is the demand by

many of the universities that candidates for fulltime, lecturer positions have a PhD or are actively working toward a PhD, as a condition of employment.

The Paramedic Association of Canada has recently released proposed changes to the way in which paramedics will be educationally prepared for entry-level practice. As part of the Canadian vision, the Association is advocating for all paramedic education to be at baccalaureate level by 2025. (9) In the Republic of Ireland, graduate diploma-level post-employment courses, as well as Master of Science degrees in Emergency Medical Services, are being offered at the University College Dublin (UCD). (10) They are planning to offer a baccalaureate degree in paramedicine at a future date to be determined. The University of Limerick has commenced a four-year undergraduate degree program in 2016 along with an online honours degree for experienced paramedic practitioners. (11) Our findings will assist in the development of tertiary education for paramedics internationally, providing universities and potential paramedic academics with insights into some of the issues that may confront them, particularly those related to recruitment and preparation of future academics involved in university paramedicine programs.

The Transition to Academic Roles

There are many challenges that confront professional practitioners who transition to academic roles within universities. These challenges are arguably the result of new academics being under-qualified and underprepared for their future roles. These characteristics impact on their level of academic appointment, induction and mentoring, performance management requirements, expectations of research and publication output, and professional development. (12) The existing literature largely deals with the experiences of those transitioning from nursing and teaching positions into academic roles in universities. (13-22) It is unclear whether paramedic practitioners experience similar issues.

The demographic and qualification characteristics of paramedic academics are unknown and a greater understanding of the makeup of this group would assist universities and the members of the paramedic academic community of practice (CoP) to facilitate the successful recruitment and transition of new academics. Our aim was to identify the demographic and qualification characteristics of paramedic academics holding teaching and research positions at universities in Australia and New Zealand offering entry-level undergraduate and postgraduate degree programs in paramedicine.

Methods

This study used a 17 item normative internet survey through Survey Monkey (Sydney, Australia®).

The target population consisted of all paramedic - qualified individuals holding academic positions in

universities offering entry-level undergraduate or postgraduate degree programs in paramedicine in Australia and New Zealand. They were contacted by email to participate in the survey using the membership list of the Network of Australasian Paramedic Academics (NAPA). The membership of NAPA is currently restricted to fulltime lecturers in paramedicine degree programs in Australia and New Zealand and is a Special Interest Group (SIG) of Paramedics Australasia. (23) Non-members of NAPA were contacted through email and word-of-mouth by NAPA members. Reminders were sent out by email through the NAPA mailing list one-month following the original request for participation. It is estimated that there were 66 members in NAPA at the time of the survey, based on the email list for the group.

A search failed to identify any surveys that identified the demographic and qualification characteristics of paramedics in academic positions in Australian or New Zealand universities. As there was no previous validated survey instrument, the survey questions were initially developed by the researchers, then piloted with five individuals with similar backgrounds to the participant population outside of the target geographic region of Australia and New Zealand. Revisions were made to the survey before it was made available via the Survey Monkey website.

Data were collected over a two-month period in 2013. The survey consisted of an electronically-based questionnaire (Survey Monkey) with 17 items requesting responses. All items were designed as forced responses with no provision for "other" responses. The data were stratified into five groups; demographic data, professional qualifications, educational qualifications, learning and teaching experience and level of academic skills. All participants were presented with an information sheet that fully described the nature of the research and the conditions of participation, along with a consent form. By accessing and attempting to complete the questionnaire, they gave their consent on the date of access. A link to the survey was provided for the participant to access anonymously.

This study received ethics approval from the La Trobe University, University Human Ethics Committee Approval No: FHEC13/088.

The data were collated and reported as part of the capabilities of the Survey Monkey tool. Where applicable, data were illustrated as both bar graphs and by number of responses and percentages for each response in that item. Other data were illustrated as individual responses to the specific survey item. Any data that required means and medians for reporting were calculated by using Excel (Microsoft, Redmond, Washington). Because of the normative nature of the survey no statistical analysis software programs were required.

Results

Response Rate

The number of paramedic academics that are employed in universities offering undergraduate paramedicine degrees in Australia and New Zealand is unknown. An estimate was made that the potential study population was 66 paramedic academics, based on the number of members of The Network of Australasian Paramedic Academics (NAPA) on the email contact list. It is unknown how many potential participants were not on the NAPA list. At the end of the data collection period, 30 participants had completed the survey, providing a response rate of 45%.

Seventy percent (n=30) of the respondents were male, reflecting the current gender profile of the paramedic practitioner workforce in Australia and New Zealand which is 68% male and 32% female(24). The percentage of female paramedics in the 20 – 29 age group is 53% and growing, which is reflective of the changing demographic profile of the profession, which was predominately male until the mid-1980s.(24) The ages ranged from 28 to 56 with the median age being 43 years. The six age groupings and their data are illustrated in Table 1. The mean age when the participants entered the profession of paramedicine and the mean age of the participants at the time of the survey, equates to a mean time of 20 years of involvement in paramedicine before becoming an academic.

Table 1. Demographics

| Variable | Value |
|--|---------|
| Male n (%) | 21, 70% |
| Age in years (mean, median) | 43, 43 |
| Age by category n (%) | |
| 25-29 years | 1 (3) |
| 30-44 years | 2 (7) |
| 35-39 years | 3 (10) |
| 40-44 years | 11 (37) |
| 45-49 years | 6 (20) |
| 50-55 years | 6 (20) |
| Age not reported | 1 (3) |
| Median age (in years) at which respondent entered the profession | 23 |

For the participant population, 67% (n=30) entered the paramedic profession in Australia and New Zealand. The remaining 23% began their careers in North America or the United Kingdom. The remaining 10% were non-respondents. As there are no clear, internationally recognised definitions of paramedic qualifications or role descriptions, the levels of paramedic qualification used were obtained from the Paramedics Australasia document, Paramedicine Role Descriptions.(25) An Emergency First Responder is someone that has received accredited training in Advanced First Aid and usually responds prior to the arrival of more highly-trained emergency personnel. Primary Care Paramedic, Advanced Care Paramedic, or Paramedic is a healthcare

professional who provides rapid response and a higher-level of assessment and treatment in the out-of-hospital environment. Presently, the entry to practice qualification in Australia and New Zealand is a Bachelor Degree in Paramedicine, with New South Wales still offering a vocational entry pathway in addition to the degree entry pathway. The Critical Care or Intensive Care Paramedic has a more advanced scope of practice which encompasses advanced resuscitation and treatment modalities. They may function in a land-based ambulance service or provide critical care retrieval services in a flight environment. The present qualification in many states is a Master Degree in Intensive Care Paramedicine. The category of Special Teams was included because of the potential number of participants that practiced in North America. Special Teams are comprised of paramedics that receive specialized training in Tactical Paramedicine (work with Police and/or Military tactical teams), and Chemical, Biological, Radiological, and Nuclear (CBRN) teams to name two. These specialized teams have yet to be formalized in Australia and New Zealand. Each of these definitions and qualifications vary according to the state or country. The length and type of their entry-level training, the location of their paramedic experience, and the level of scope of practice is illustrated in Table 2.

Table 2. Paramedic qualification and experience

| Variable | Value n (%) |
|---|-------------|
| Location of paramedic system where initial training obtained | |
| Australia | 20 (67) |
| United Kingdom | 1 (3) |
| Canada | 3 (10) |
| USA | 3 (10) |
| No response | 3 (10) |
| Length of entry-level training | |
| <6 months | 7 (23) |
| 6-12 months | 5 (17) |
| 1-2 years | 4 (13) |
| 3 years or greater | 14 (47) |
| Type of entry-level training | |
| In-house vocational | 16 (53) |
| College vocational | 10 (33) |
| University diploma | 3 (10) |
| University degree | 1 (3) |
| Paramedic system where majority of experience gained as a paramedic | |
| Urban city | 23 (77) |
| Urban/rural fringe | 3 (10) |
| Rural | 3 (10) |
| Remote | 0 |
| Military | 0 |
| Industrial | 0 |
| Air ambulance | 1 (3) |
| Level of paramedic certification obtained | |
| Primary care paramedic | 1 (3) |
| Advanced care paramedic | 10 (33) |
| Critical care paramedic | 14 (47) |
| Special teams | 0 |
| No response | 5 (17) |

The level of postsecondary education prior to entering academia is profiled in Table 3. This data contributes to the discussion of the influence of their experience in academia as a student to their perceptions and expectations of their role as a new academic in a university.

| Table 3. Education | |
|--|-------------|
| Variable | Value n (%) |
| Level of post-secondary education completed prior to entering academia | |
| None | 1 (3) |
| College | 1 (3) |
| Undergraduate degree | 9 (30) |
| Graduate Diploma | 5 (17) |
| Master's Degree | 10 (33) |
| Doctorate/PhD | 3 (10) |
| No response | 1 (3) |
| Mode of tertiary education | |
| Full time/on-campus | 6 (20) |
| Part-time/on-campus | 11 (37) |
| Distance/online | 11 (37) |
| No response | 1 (3) |

Table 4 depicts the level of instruction/teaching experience the participant had prior to entering an academic role in a university. This contributes to the discussion surrounding the type of learning and teaching experience the participant had in comparison to the methods and expectations of tertiary learning and teaching. In addition, Table 4 depicts the participant's average years of clinical practice before becoming involved in instruction/education.

| Table 4. Learning and Teaching Experience | |
|---|-------------|
| Variable | Value n (%) |
| Involvement in training/education prior to first position as part-time/full-time academic | |
| CPR/First Aid Instructor | 10 (37) |
| Sessional instructor in vocational programme | 13 (48) |
| Sessional instructor in tertiary programme | 10 (37) |
| Full-time instructor/trainer | 15 (56) |
| <i>*Some participants responded more than once to some of the questions.</i> | |
| Years of paramedic experience before pursuing any educator role | |
| Mean | 8 |
| Median | 10 |

Table 5 details participants' levels of qualification and experience in each of those academic skills categories that universities expect of novice academics. These data are particularly relevant to the discussion about levels of academic appointment, issues related to induction and mentoring, performance management requirements, and professional development.

| Table 5. Academic Skills | |
|--|-------------|
| Variable | Value n (%) |
| Level of experience in research before entering academia | |
| None | 11 (37) |
| Participant | 9 (30) |
| Member of investigation team | 5 (17) |
| Chief investigator | 3 (10) |
| Higher education qualification | 8 (27) |
| Level of formal education in research before entering academia | |
| None | 9 (30) |
| Self-taught | 1 (3) |
| Undergraduate subject | 4 (13) |
| Postgraduate subject | 11 (36) |
| Research qualification | 4 (13) |
| No response | 1 (3) |
| Level of experience in academic writing before entering academia | |
| None | 5 (18) |
| Self-taught | 4 (13) |
| Undergraduate | 7 (23) |
| Postgraduate | 13 (43) |
| Doctoral/PhD | 1 (3) |
| Experience in journal/book publication before entering academia | |
| None | 20 (67) |
| Co-author | 5 (17) |
| First author | 6 (20) |
| Number of publications prior to entering academia | |
| None | 21 (70) |
| 1-3 | 8 (27) |
| 3-5 | 1 (3) |
| > 5 | 0 |
| <i>*Some participants responded more than once to some of the questions.</i> | |

Discussion

The path taken by paramedics when entering academic roles in universities is strewn with challenges and obstacles. While these transition experiences are not unique to paramedicine, there is little to no knowledge of their experiences.

The traditional role of the academic is to provide transference of knowledge and cultural tradition through formal and informal teaching and learning, as well as conducting research into their discipline and expanding the foundation of knowledge through publishing in peer-reviewed journals and other media. In addition, they are role models and mentors to the students who assist them with their entry into their respective community of practice (CoP).(26)

The demographic profile of paramedic academics in this study closely resembles that of the paramedic workforce in Australia and New Zealand.(24) One advantage is that this provides paramedicine students in university programs with a realistic representation of the workforce they will enter following graduation. This type of role modelling has been

shown to have a substantial influence on career choices, particularly for underrepresented groups such as women.(27)

For most students, their first exposure to the culture of paramedicine is obtained during their initial time spent in the classroom with academics and instructors prior to being exposed to practicing clinicians during field placements in paramedic services. This is the time when the effect of mentorship and role modelling can have its greatest impact. (28) The importance of this timeframe is demonstrated by Gibson (28), where he explores three major aspects of positive role models. First, students are able to perceive that they are similar in some aspects to the role model, which provides a level of satisfaction. Second, the role model can provide role-expectation information, standards of performance and expertise of skills that can contribute to Bandura's concept of self-efficacy.(29) Third, a role model can exemplify what the novice can possibly accomplish, after attaining prominence within the CoP. These aspects are all part of the early development of a student's emerging professional identity.

Australia and New Zealand have been graduating degree-qualified paramedics since the first undergraduate program was started at Charles Sturt University in 1995.(1, 30) Subsequent programs have evolved over the past 20 years, yet there remains a dearth of academically qualified paramedics willing to move from clinical practice into academic roles in universities. This has necessitated the recruitment of qualified paramedics from overseas to fill some of the growing demand in Australia and New Zealand (see Table 2).

With approximately 25% (n=30) of participants teaching into degree programs in Australia and New Zealand coming from outside of the region, important questions need to be asked about the positive and negative transference of paramedic culture, methods, practices and principles that overseas academics bring with them to paramedic programs in Australia and New Zealand. If students acquire their first exposure to the culture of paramedicine at university, what impact do these academics have on the formation of the students' professional identity? Wenger's concept of community of practice (CoP) would describe these students as legitimate peripheral participants (LPP); novices that remain on the outside of the community of practice with the aim of moving into the core of the CoP by attaining experience, knowledge, and acceptance (26), otherwise known as professional capital.(31) In relation to the international paramedic academic, the impact of differences in clinical practice, the philosophy of practice or ethos, and other principles that exist between their home cultures or CoPs and the cultures and CoP of paramedicine in Australia and New Zealand is unclear. More importantly, potential challenges to the international academic teaching in a paramedicine program needs investigation.

The reason that universities recruit internationally is possibly related to a desire to bring 'richness' and a

difference in perspective and experience to the courses offered. In research conducted on the culture of universities in the UK, Kim (32) argues to the contrary:

...the contemporary condition and pattern of transnational academic mobility is shaped by neoliberal policy and market-framed research competitions. The international recruitment of academics in universities is mainly for research and research assessment exercises in the UK, and certainly not for 'interculturality' in higher education (32, p.396)

With the increasing focus by Australian universities on obtaining research funding, conducting research and the resulting publications that ensue, if the focus of Australian universities is similar to those in the UK, then the recruitment of paramedic academics without research and publication experience seems to be counterproductive to the forces that drive academic output. Additionally, it might be a threat to the continuing viability of paramedicine programs in 'elite' universities that often have strong policies to only recruit academic staff with doctoral-level qualifications. As the data reveal, 67% of participants had no prior experience of involvement in academic publications and 70% had no publications of their own.

This suggests that universities may have difficulty recruiting enough qualified paramedic academics to deliver their programs and to satisfy other scholarly objectives. A radical change in the structure and delivery of some paramedicine programs may be indicated, with a core group of academics assuming the traditional roles of research and publication while providing supervision, oversight and mentoring of a greater number of sessional teaching staff. Another option being utilised is that of joint appointments seen in medical and nursing programs in which academics continue to work in practice while holding part-time or sessional positions at the university. These models provide economic savings to the universities while providing students with exposure to experienced practitioners as positive role models.

It has been estimated that the average amount of time needed to bring a novice academic with little to no experience to independent performance in a university is seven years. (33) Universities need to be aware of this issue and if they wish to employ academics from the professions that are lacking a sufficient number of academically qualified practitioners, then considerable resources need to be dedicated to mentoring and developing these individuals to bring them to expected levels of performance.

Aside from teaching knowledge and skills, there is an expectation from universities that academics will have the necessary skills to begin the core duties of an academic on commencement of employment. The data in Table 5 demonstrates that a large majority of paramedic academics beginning academic roles in paramedicine programs in Australian and New Zealand universities did not have the

requisite skills required to permit them to start meeting performance expectations within the first year of their employment.(21) Due to these deficits, many new academics required a considerable amount of time and resources to enable them to acquire these necessary academic skills, such as research, academic writing, and publishing in peer-reviewed academic journals and textbooks. There may be a correlation between these challenges and the relatively high-rate of turnover of paramedic academics at Australian and New Zealand universities.

Universities have expectations that new academics bring a certain level of expertise with them concerning the pedagogical approaches utilised in universities. In this study we found that the majority of participants acquired their knowledge and experience in teaching and learning within the vocational education sector (Table 4). Thus, many bring with them the skills and concepts learned in their vocational educational experience as well as the methods utilised when they may have attended university. This is of concern when the belief is that most teachers teach the way they were taught, bringing with them good and bad methods and attitudes.(34) The extent to which their own learning experiences influence their ability as paramedic academics to adapt to and implement pedagogies associated with centres of higher learning need to be explored. This issue is partially addressed by universities, in that they require most new academics to undertake some form of course work into the principles of university learning and teaching, but the depth varies between institutions.

Academics teaching in paramedicine programs in Australia and New Zealand constructed their perceptions of academic culture and process in various ways. The data in this study indicate that most academics teaching into paramedicine programs in Australia and New Zealand obtained their degrees by attending university in the traditional way as young, fulltime, on campus students. However, it should be noted that a considerable percentage of them (39%) acquired their degrees, and ultimately, their construct and perceptions of academia “from their dining room tables” through online or distance education formats as mature-aged students, having spent various numbers of years within their profession. The issues confronting both groups of academics are documented in the literature for other health professions (21), but the impact on paramedic professionals transitioning into academic roles in Australian and New Zealand universities is unknown.

There has been discussion over the past ten years that some of the reasons that paramedics are not entering the academy is that salaries and benefits in the paramedic services are superior to those in universities.(35) Other arguments are that university appointments are unattractive when fixed-term contracts of one or two years are offered and when a post-graduate degree or PhD is an essential or desired qualification for relatively junior appointments. Some universities are mitigating these issues with offers of teaching

focused positions, thus modifying the requirements for post-graduate qualifications and the need to demonstrate research and publication outputs.(36,37) These issues pose the question of why an academically gifted paramedic would leave a position of relative security to take on a role that is relatively insecure from a financial and professional perspective.

Even though Australia and New Zealand have a relatively high number of degree-qualified paramedics, there is limited evidence that universities or paramedic services are providing consistent and accessible avenues for professional development in an effort to assist those with a desire to upgrade their qualifications to post-graduate or doctoral levels before being recruited into academic roles. This raises the question of where the responsibility lies for the development of the paramedic academics of the future.

A dialogue between major stakeholders in the profession needs to take place to try and find a reasonable structure to facilitate professional development and career paths for those seeking to transition into academic roles. Possible avenues to explore would be to provide aspiring academic paramedics with academic professional development programs such as the program trialled at the University of Tasmania’s Sydney campus in 2015/2016. Sessional tutors were mentored by academic staff and provided with learning materials and seminars on principles of adult learning, effective lecturing, debriefing of students engaged in simulated learning environments, and opportunities to conduct lectures with both written and verbal feedback provided by experienced academics. Anecdotal feedback from students, the sessional staff and academics was very positive indicating an increase in engagement from both sessional staff and students, an increase in satisfaction of the experience by the tutors due to more formal structure in the delivery of subject materials and a heightened sense of professionalism. Learning and teaching grants are available to provide support to the tutors who wish to pursue additional educational development opportunities. Further consideration is being given to exploring joint appointments and giving better qualified tutors opportunities to develop and deliver entire subjects under academic supervision. An additional benefit would be exposure to the culture of the university regarding research, publication and learning and teaching expectations.

Limitations

The survey instrument used in this study was constructed with forced-response questions that aimed to limit the responses available, thus forcing some participants to provide answers that may not have been an accurate description of their response.(38) In some of the questions, participants provided more than one answer thus skewing the results. Because the total number of paramedic academics working in paramedicine programs in Australian and New Zealand universities is unknown, it may be difficult to ascribe

accurate deductions from the data. There is presently academic debate concerning the relevance of response rates in quantitative surveys. In a survey by Carley-Baxter, et al. (39) of journal editors, they indicated that there was no agreed standard for acceptable response rates in the acceptance of papers for publication and that only 3% of respondents stated that they rejected primarily due to a low response rate; 69% indicated that this happened some of the time; and 29% stated that they never rejected a submission due to low response rates. So the effect of our response rate of 45% is a matter of debate.

Conclusion

The results of this survey indicate that a large percentage of paramedic practitioners transitioning into academic roles in paramedicine degree programs in Australian and New Zealand universities face challenges. These include the transference of cultural and professional capital from their previous community of practice (CoP) into the CoP of Australian and New Zealand universities; their ability to acclimate to the environment of academia; the degree to which they have developed the necessary academic skills to achieve an acceptable level of performance in undertaking research, obtaining research grants, academic writing and publishing, and teaching in the higher education environment; and the significantly increased burden of time and maintaining their psychological well-being as a result of the added workload needed to acquire or improve these necessary scholarly skills. Individual universities and the wider CoP need to recognise these challenges and decisions need to be made concerning the dedication of human and monetary resources to mentor and educate aspiring and new academics in the emerging paramedicine discipline.

Author contributions

GM was the principal author of the manuscript and performed the literature review. POM and AK validated the literature review and contributed to the final editing.

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Paramedic Education – Is Dynamic Problem Based Learning The Way Forward?

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EDUCATION**Paramedic Education – Is Dynamic Problem Based Learning The Way Forward?**Mark Dixon MSc¹, Frank Keane BSc¹, Andrew Taylor MSc²

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Modern Emergency Medical services and the role of the paramedic is a new departure when compared with other healthcare professions. The evolution of such emergency care services begin as recently as the 1960's with the development of responding systems and practitioners who performed patient intervention rather than the traditional transport only functions.

While military battlefield evacuation protocols stemming from as far back as the Napoleonic wars defined medical models, the patient demographic of fit young men could not accurately be transposed into a public health model. It may be argued that a United States initiative to introduce a cardiovascular survival strategy in 1964 resulted in the establishment of five Regional Medical Programs (RMP).

Although such programmes sought to challenge mortality and morbidity rates associated with heart disease, cancer and stroke RMPs promoted expansion of health care providers by expanding training for groups such as nurse practitioners, physician assistants, emergency medical technicians and effectively laying principles for the modern EMS services and education in the western world. A key component of the system promoted a philosophy of technologically advanced and intensive health care centered on academic medical and education centers.(1)

In Ireland recognition of further education development requirements resulted from the report of the 'Ambulance Service Review Group 1993'.(2) This report identified the need for service level improvements in paramedic knowledge as well as the establishment of a national regulator to oversee education standards.

While the development of clinical skills is well documented over this 50 year time frame.(3) It can be argued that paramedic education modalities have not kept pace with clinical advancements. Traditional ambulance service education followed traditional pedagogy i.e. the 'teacher' was the gatekeeper of the information and the paramedic was given this information for rote learning and subsequent regurgitation come examination. The presentation media may have changed from blackboard, through flip chart and overhead projector but essentially even the modern use of PowerPoint and Keynote etc. is a reflection of this outdated methodology. Margolis et al in 2009 stated:

"Just giving instructors a PowerPoint file fosters lack of preparation"(4).

Citing that this method of education does not keep pace as ideas are developed and practice changes with best evidence, it is too easy for the instructor to ignore the latest

theory for a pre-ordained lecture structure.

With existing paramedic training based on this lecture driven paradigm albeit with the inclusion of scenario based exercises to establish practical application of theoretical models it became evident that new modalities would be required. Established training was based around systems devised by the Institute of Healthcare and Development (IHCD) and subsequently the Joint Royal College of Ambulance Liaison Committee (JRCALC). A framework for the training can be found in the British Paramedic Association document created in 2006.(5) In Ireland this process was mirrored under the auspices of the statutory regulator the Pre Hospital Emergency Care Council (PHECC) with core principles and standards reflecting the IHCD model can be found under the PHECC Education and Training Standards.(6)

The challenge is therefore how do EMS educators upgrade the educational pedagogy to match the advances in clinical and health professional skills? In 2016 the Graduate Entry Medical School of the University of Limerick launched a four year Honours Bachelor's degree in Paramedic Studies (LM103) and have adopted a modified Problem Based Learning (PBL) model to make up the shortfall in paramedic education currency.

Problem based learning has been used in medical education for a long time.(7) Doctors and nurses are experienced in this methodology of education, however, paramedic education at this level is in its infancy and PBL is something not commonly used.

Traditionally within PBL, the students are given a problem at the beginning of a week and told to present the solution at the end of the week, thus enabling self-directed learning and group interaction.(8)

Vernon et al as far back as 1993 showed that in a meta analysis across 22 systems (medicine and nursing) not only did PBL produce better graduates academically but also showed higher scoring in faculty attitudes, student mood, class attendance, academic process variables, and measures of humanism.(9) They conclude that the results generally support the superiority of the PBL approach over more traditional methods.

Therefore, a dynamic PBL modality was adopted with three escalating scenario models of delivery being the new variant. Whereas the method of using scenarios is not new (10), the idea of using the students to complete the scenario themselves appears to be a new direction for the PBL. The benefits are an enhanced team ethos and learning over and

above those found by Willis et al.

Phase 1

Week 1-4 – During this initial introduction students are offered paper driven PBL case reviews. As group they then review the data given and begin to self illicit information, definitions, data and add process to the case. They also develop a set of learning objectives for the week and this is supplemented by the facilitator to ensure mandatory components of the syllabus are not omitted. All sources of information are permitted including library resources and online information, with group discussion heavily promoted. The weeks conclusion is the cross presentation of the case to a peer student group with practical re-enactment of the scenario utilised as the delivery method of choice; this may then be supplemented by any other resources, models, videos etc. but it is essential this remains at the students discretion.

Phase 2

Week 5-8 – Once familiar with the general principles (including establishment of student driven ground rules) each week begins with students' being instructed to undertake a facilitated medical scenario simulation. Performance is video recorded and played back to the group for feedback. Shortfalls and good performance criteria are then identified and the students develop the weekly learning plan to address patient care improvements. Pathophysiology, anatomy, pharmacology etc. also form part of the learning and access to all resources is granted. Similar to Phase 1 the week ending is marked by practical re-enactment with debriefing offered by peer students on a parallel tract.

Phase 3

Week 8-10 – As experienced PBL operatives students are now required to again cover a range of practical scenarios and skills. Access to electronic and library resources is now removed with the knowledge held within the group deemed sufficient to work out bodily function, process, consequence etc. End of week presentations to the parallel peer group rely completely on student interaction and delivery with others. No electronic or written resources are permitted representing a true reflection of the acquired knowledge.

Discussion

As the programme is still within it's first cycle comparative studies versus conventional methodology are not yet possible. However student reaction to this initiative has been positive and all learning objectives have been met thus far. In the opinion of the faculty, we would strongly endorse that PBL is more effective than learning based on established disciplines in the traditional curriculum.(11-13) Moreover, PBL conforms to the principles of adult learning and cognitive science.

As identified by Charlin et al. (12) there are four principles identified which enhance adult learning and

improve the efficacy of learning:

1. learners are active processors of information;
2. prior knowledge is achieved and new knowledge is built upon it;
3. knowledge is acquired in a meaningful context;
4. learners have opportunities for elaboration and organization of knowledge.

It is the opinion of the authors that a dynamic PBL model for paramedic education is not only appropriate in terms of acquisition of knowledge but that students have ownership of this learning and the education takes place within a paramedic context.

Further study will be required at the end of the programme to ascertain the effectiveness of the PBL approach to paramedic education in general and the new style of PBL used by Paramedic Studies within the Graduate Entry Medical School, University of Limerick. That said, anecdotal evidence thus far would suggest that, thankfully, the end of 'Death by Powerpoint' is close at hand.

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Dip(ping) into Foreign Waters: Irish Paramedics' Royal College Experience.

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Dip(ping) into Foreign Waters: Irish Paramedics' Royal College Experience.Karl Kendellen MSc GradDipEMS DipIMC(RCSEd)^{1,2}, Stephen O'Reilly GradDipEMS DipIMC(RCSEd)¹

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Abstract

The Diploma in Immediate Medical Care (Dip IMC) awarded by the Royal College of Surgeons of Edinburgh (RCSEd) is an internationally recognised award specifically aimed at the area of pre-hospital emergency medical care. The study syllabus is based on phase 1 of the UK Pre-Hospital Emergency Medicine curriculum. Award examinations are inter-professional with a set standard regardless of candidates' clinical level or back-round. The Dip IMC has a reputation for being difficult to pass and, equally, for attracting medical professionals of the highest standard at all grades.

To date in Ireland, it has mostly been doctors specialising in emergency medicine that have attempted the award. With the introduction of advanced paramedic practice, the range of practitioners eligible to attempt it has increased. At the time of writing, three Irish advanced paramedics have successfully achieved the award.

While it is a difficult award to achieve, and much content is outside current Irish paramedic scope of practice, a motivated, well prepared advanced paramedic can be successful. This article outlines the processes and preparations that two such paramedics followed to successfully achieve the Dip IMC RCSEd.

Keywords: *Dip IMC; education; paramedic; pre-hospital; RCSEd***Introduction**

The last fifteen years has seen a generational change in Irish pre-hospital emergency care. There is now an emerging paramedic profession with national accreditation, clinical progression, professional development and most importantly, delivery of internationally accepted (and expected) advanced interventions pre-hospital. In 2015, the authors, both advanced paramedics that had completed various academic and clinical professional development courses, considered what direction to go in next. They sought a course that would challenge them as practitioners but also be professionally credible. After much researching, one course seemed to demand equal levels of respect and fear from previous participants, as a pre-hospital qualification across both medical and paramedic professions, the Diploma in Immediate Medical Care (Dip IMC) awarded by the Royal College of Surgeons in Edinburgh (RCSEd)

The Dip IMC is awarded by the RCSEd through the Faculty of Pre-Hospital Care (FPHC). It is an internationally recognised, prestigious award specifically aimed at the area of pre-hospital emergency medical care. It is open to doctors, nurses, paramedics, military medics and other practitioners that demonstrate they meet the entry criteria. Award examinations are inter-professional with a set standard regardless of a candidates' clinical level or back-round. Average failure rates are between 15-20 per cent.

Application

Potential candidates must first be approved by a FPHC regional advisor before applying to sit an examination (diet). This involves submitting a detailed CV specifying academic and professional qualifications among other criteria. Emphasis is placed on the amount of actual pre-hospital emergency care experience the candidate has and that they can practice to Level 5 or above in the UK Skills for Health Career Framework for Health.(1) The syllabus for the DipIMC is based on phase 1 of the UK Pre-Hospital Emergency Medicine (PHEM) curriculum.(2) This is a broad syllabus covering a vast range of legal, managerial, medical theory, pharmacological and clinical skills. The FPHC provides a recommended reading list, however study for a diet is entirely self-directed by candidates.

Preparation

Once approved, the authors applied for a diet and study began in earnest. The first challenge was to design a study schedule over a nine-month period that would cover enough topics and progressively build up to the exam dates, all without any guidance or detailed information as to exam content or scope. It was exceedingly difficult to source past exam questions, sample papers or any definitive context as to the level of difficulty expected in the exams. Indeed, speaking to past candidates about exams elicited responses ranging from "It would be no problem at all" to involuntary shudders at the thoughts of repeating a traumatic ordeal! The

self-directed study proved to be one of the biggest challenges of the Dip IMC. While distance learning was not an issue, not having a framework to judge progress against meant there was a huge level of uncertainty about whether enough topics were covered, level of detail was sufficient or preparation enough.

The study process proved equally rewarding and frustrating at various times throughout. The authors quickly realised one text was not authoritative or sufficient to address the scope of knowledge needed to pass the exam. The Joint Royal Colleges Ambulance Liaison Committee (JRCALC) clinical practice guidelines provided the basis for clinical pathways to be learned.⁽³⁾ CPG:CPD was a useful online tool by which to self-examine against the JRCALC guidelines and assess knowledge.⁽⁴⁾ A wide variety of texts (e.g. Oxford Handbook of Pre-Hospital Care), guidelines (UK Resuscitation Council, British Thoracic Society, National Institute for Health and Care Excellence [NICE], etc.), journals (British Medical Journal, Emergency Medicine Journal, etc.) and databases were cross referenced for information on each area studied.

Clinical skills and medications outside Irish paramedic scope of practice at the time had to be thoroughly studied also, including but not limited to Rapid Sequence Induction, surgical cricothyroidotomy, central venous access, nerve blocks, shoulder dislocation reductions, anaesthetic medications, ketamine, chlorphenamine, dexamethasone and others. Theoretical and practical competency in these skills was necessary as any could equally have been part of a written paper or Objective Structured Practical Exam (OSPE). In the month prior to sitting the diet several days were added to the schedule of constant reading and referencing to practice simulated OSPEs under exam conditions.

The Exam

Examinations take place over two days. To be awarded the Dip IMC candidates must pass both days' exams independently. The FPHC does not publish a minimum pass mark and actual pass marks vary for each diet depending on the difficulty and weighting of questions set. In January 2016, the first day consisted of two written papers. The combined score for both papers was taken as the overall score for this day. The first paper was 2 ½ hours duration with 140 questions to be answered. These were a combination of single best answer type and extending matching answer type questions. The second exam was a projected material paper of 30 minutes' duration. Images are projected as a slideshow for 90 seconds each before changing. Candidates must answer 40 questions relating to the projected images. Half were 12 lead ECGs while the remainder were a mixture of injuries, equipment, medications, etc.

The second day consists of 14 OSPEs. Twelve each of seven minutes' duration and two extended each lasting 16 minutes. The extended OSPEs covered multi-system trauma

and resuscitation scenarios. There is a break of one minute between each OSPE to read the briefing and prepare for the next station. OSPE's can consist of any clinical procedure or scenario within the PHEM curriculum. Many stations have a live patient with moulage and some have paramedics or technicians to assist. The cumulative score from all OSPEs is considered as the final score for the second day.

Finally, the day arrived to sit the examinations in Edinburgh, and standing before the impressive façade of the Royal College there was an equal mixture of preparedness and of uncertainty as to what lay ahead. In the first written paper, careful reading of both questions and answer options was required, as nuances as to what was being asked were quite subtle and most answers on the initial reading seemed equally right. The projected material paper increased the pressure, as the time constraints with slide changes made for a high-pressure thirty minutes taking information from the screen, interpreting options and answering multiple questions simultaneously.

Day two consisted of OSPEs which turned out to be a whirlwind of scenarios, brief rests to recompose and gather information before further scenarios. This was a very fast paced day, and with only one minute between stations it was critically important to put the previous performance out of one's mind and focus on what was being tested in the next station. Adding to this, a seemingly random mixture of stations covering a large scope of pre-hospital scenarios, and assessors that were resolutely neutral in offering clarifications or interactions, meant it was very difficult to have any sense of how well a candidate was performing. At the end of the two days, the exam process left the authors with a conflicting impression of how they had performed. There was confidence that parts had been done well and apprehension as mistakes and omissions in other areas reduced the possibility of a pass. Overall, it was impossible to feel confident about achieving a pass. All that remained was the wait for results.

Challenges

Sitting the Dip IMC was a challenging, and at times frustrating process, not without stress or difficulties. The usual pressures of studying for a third level award while working full time and balancing professional and personal life applied throughout. Attempting to adapt Irish practice to United Kingdom pre-hospital care practice, guidelines and medications was a significant challenge. A constant difficulty was the lack of information about the examination itself. Lack of past papers, sample questions or a guide to areas of study of greatest importance meant very little structure was easily accessible. Study had to be carefully planned to ensure cover of a sufficient range of areas of what is a broad curriculum. This made it very difficult to judge whether sufficient weight was given to specific areas and if an adequate depth of knowledge had been achieved. The result was sitting the diet extremely well prepared but unsure as to whether all the preparation was in the appropriate areas

required.

Conclusion

The Dip IMC is a prestigious internationally recognised award. It has a reputation for being difficult to pass and, equally, for attracting medical professionals of the highest standard at all grades. To date, in Ireland, it has mostly been doctors specialising in emergency medicine that have attempted it. Having passed the Dip IMC there are, at time of writing, three Irish Advanced Paramedics that have successfully achieved the award.

While it is a difficult award to achieve, and much content is outside current Irish paramedic scope of practice, a well-motivated and prepared Advanced Paramedic can be successful. The process has broadened and deepened the authors' core knowledge and expanded their clinical skills, which have directly influenced their professional and clinical practice. However, undoubtedly the most satisfying aspect of being awarded the Dip IMC RCSEd is demonstrating that Irish paramedics have a standard of training and experience that is the equal of other countries and that they can perform to the highest standards of their peers internationally.

Author contributions

KK and SOR were joint principal authors of the manuscript, and both contributed to the final editing.

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**Irish College of Paramedics**

"The Professional Body for Irish Pre-hospital Emergency Care Practitioners"

**VIOLENCE AGAINST PARAMEDICS
QUESTIONNAIRE**

Professor Brian Maguire of the Central Queensland University, School of Medical and Applied Sciences, is conducting important research into violence against ambulance personnel, and is seeking responses to a multi-university, international research survey. Violence against ambulance personnel is a growing problem.

Your input is needed on a multi-university, international research survey to examine violence against ambulance personnel. All ambulance personnel are encouraged to participate. The purpose of the survey is to obtain the information needed for the design of interventions (including training programs, policies and procedures) to reduce and prevent violence against ambulance personnel around the world.

If you'd like, you can visit the survey here: <http://www.vaprp.org>. It will take about 15-20 minutes of your time. We hope you will support these efforts to improve the safety of ambulance personnel worldwide. As a token of appreciation for your time, all participants who chose to participate will be entered in to a drawing for iPads.

The ICoP Member Services Guide 2016 outlines the many benefits of membership of the Irish College of Paramedics. Also contained in this guide are details of many exclusive member-only discounts, on medical supplies, textbooks, car, home and travel insurance, CPC activities, conferences, training courses, instructor courses and more.



All this for only 10EUR per year! This is fantastic value, as many of the discounts we have secured for our members are worth several times the membership fee!

**Irish College of Paramedics**

"The Professional Body for Irish Pre-hospital Emergency Care Practitioners"

Dr. Shane Knox, President of the Irish College of Paramedics, has been invited to speak to the members of the Turkish Paramedic Association at the 4th International Paramedic Congress and Ambulance Rally taking place in Bodrum, Turkey from the 8-11th December this year.

Shane will be speaking about his research into Continuous Professional Competency and will be meeting with the Executive of the TPA to discuss further collaboration between ICoP and the TPA. Strengthening the ties between ICoP and paramedic associations worldwide is a priority for the Executive Committee in the coming months.



Alan Batt, ICoP Executive Member (Member Services Officer) and Editor of the Irish Journal of Paramedicine, has been invited to speak at the upcoming Paramedic Association of Canada (PAC) "Paramedicine Across Canada Expo" (PACE) to be held in Quebec City, in August 2017.

The Paramedicine Across Canada Expo is designed to bring together front-line paramedics from all practice settings to learn and network with each other. Regardless of location, background, or experience, the various tracks that this conference offers (clinical, education, specialty, as well as mental health and wellness) ensure there is something of interest for everyone.

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