Gaps in work readiness of graduate health professionals and impact on early practice: Possibilities for future interprofessional learning

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Abstract

Introduction: It is increasingly imperative to retain new graduates in order to meet the growing health workforce needs of Australia's ageing population. Concurrently, there is a need to prepare graduates to work effectively in interprofessional teams by providing interprofessional educational opportunities at tertiary level, although which skills, knowledge and competencies should be delivered in an interprofessional context is a point of contention. Limited attention has been given to the identification of cross-professional gaps in entry-level work readiness of graduate health professionals that could subsequently be addressed to some extent by interprofessional education.

Methods: Qualitative responses were collected from 88 Department of Health Western Australia employees using a survey tool with open fields. Respondents were recent graduates across a range of health professions. Responses were analysed to identify significant self-reported gaps in graduate work readiness and their impact.

Results: Gaps in entry-level work readiness across multiple professions were identified. These included caseload and time management, clinical administration skills, employability, lack of experience with high-risk patients and emergencies, insufficient practicum to transform theory into practical knowledge, conflict management, and stress management and reality shock.

Conclusion: The gaps identified in current graduate work readiness, across a range of health professions, should inform the focus of future interprofessional training. As such, this paper could play a role in ensuring graduates are work ready, and also provide ideas for building the interprofessional skills of the future workforce.

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Introduction

It is predicted that significant shortages across a range of health professions will be faced by the Australian health workforce by 2025 (Mason, 2013). In order to meet the needs of the ageing Australian population and the resultant growing demand for healthcare, retention of the health workforce is a priority (AIHW, 2014). As new graduates' early experiences influence their future career decisions (Parker, Giles, Lantry, & McMillan, 2012), adequate pre-service training across a range of skills and experiences is beneficial for staff retention as well as patient safety.

Meeting the needs of future health professionals by providing interprofessional learning opportunities is increasingly a priority for both public and private healthcare providers, as interprofessional education (IPE) offers benefits for "quality and safety of patient care, greater understanding and respect for other disciplines, efficiency and cost-effectiveness, commonality of skills and knowledge between different health disciplines, and the needs of the health system into the future" (Nicol, 2013, p. 10). While IPE offers significant benefits, there is some contention in Western Australian universities about which content should be delivered interprofessionally (Nicol, 2013). Thus, identifying gaps in work readiness that have cross-professional relevance is useful for determining beneficial pre-service IPE and continued interprofessional learning (IPL).

While there is a broad body of research exploring the work readiness of graduate nurses across a range of geographic contexts and specialities (e.g., Boychuk Duchscher, 2008; Dyess & Sherman, 2009; Kelly & Ahern, 2008; Parker et al., 2014), there is less research exploring the graduate work readiness of medical interns (e.g., Brennan et al., 2010; Dent et al., 2006; Duns et al., 2008; Marel et al., 2008). Graduate work readiness in occupational therapy (e.g., Gilman, 2011; Hodgetts et al., 2007) and pharmacy interns (e.g., Mak, March, Clark, & Gilbert, 2013; Stupans, 2012) has been explored; however, there is less research in the graduate work readiness of other allied health professions.

In addition, few studies explore cross-professional issues that may impact on the entry-level experiences of health professionals, generally. This paper seeks to contribute to the body of research in this area by highlighting gaps in work readiness that have cross-professional relevance. The limited existing research in this area indicates that cross-professional issues do exist. For example, Smith and Pilling (2007) found that allied health graduates (from occupational therapy, physical education, physiotherapy, podiatry, social work and speech pathology) participating in a graduate interdisciplinary program identified common concerns, including "time management; dealing with full time work; having the full responsibility for a full patient caseload and decision making about patient care; less access to supervision than when a student; [and] understanding how the health system works", as challenges in early practice (pp. 270–271).

In response to research initiatives instigated by Professor Claire Langdon, the Graduate Work Readiness Project (GWRP) was undertaken by the Department of Health, Western Australia in order to identify gaps in graduates' preparedness to engage in the full scope of practice appropriate to an entry-level practitioner. The aim of the project was to improve understanding of perceived gaps in graduate work readiness that could affect patient safety, early career staff retention and staff effectiveness. There was a particular interest in identifying gaps that could be addressed through IPE, as increasing IPE has been identified as a workforce priority by the Department of Health Western Australia (Nicol, 2013). This paper reports on the gaps that were identified by the GWRP, with a view to promoting an increase in appropriately targeted IPE in order to improve the performance and experiences of early career staff.

Methods

Designing the study

This paper reports on key findings from the qualitative data obtained using the GWRP survey tool. The quantitative data were not approved for external publication. Qualitative data collection is guided by "appropriateness of method" (Flick, 2009). The addition of qualitative fields allowed this survey to be exploratory, enabling respondents to raise new issues potentially extending beyond the anticipated scope of responses as defined by the existing literature. This paper adopts a post-positivist/critical realist approach towards qualitative research, in that it assumes "that reality exists and can be probabilistically, but not fully, apprehended" (Annells, 1996, p. 384). The post-positivist approach acknowledges the role of the researcher in shaping the research inquiry and process (Clark, 1998).

The research question addressed by this paper is, "What interprofessional gaps in work readiness do graduate health professionals perceive that could affect patient safety, early career staff retention and staff effectiveness?"

The qualitative survey items that investigate this question were:
- What was the most significant gap in your entry-level job readiness? If you experienced no gaps, please write n/a in this field.
- How did this gap in your job readiness (in Question 13) affect your entry-level experience? If you experienced no gaps, please write n/a in this field.
- Were there any other gaps not addressed in previous questions that could be addressed in pre-service training to improve your work-readiness? Please explain.
- If there are any further related insights that you wish to share, please add them here.

An open field appeared underneath each question in order to collect written responses.

Ethics approval was obtained from the Western Australia Health Human Research Ethics Committee. The GWRP survey tool was piloted prior to formal data collection. Further minor changes to the tool were subsequently made and ethics approval granted. The survey was designed in SurveyMonkey, where data were subsequently collected and

stored. Data were collected from 22 October 2014 until 9 November 2014, inclusively. This timeframe would be considered short, however it was necessary to meet resourcing and reporting constraints.

Subjects

A convenience sample of 147 recent graduates (less than 12 months in the profession) employed by WA Health participated in the GWRP survey. WA Health is the Western Australian public health provider. Subjects were recruited via email. The primary researcher contacted prospective respondents after determining likely eligibility through internal (WA Health) database analysis.

Analysis

A thematic coding method was used in order to "discern conceptual similarities, to refine the discriminative power of categories, and to discover patterns" (Tesch, 1990, p. 96) in the data. This method was employed to identify key gaps in work readiness from the qualitative data, and the perceived impact of these gaps. The primary researcher read through the data multiple times, developing and refining the qualitative coding scheme at each reading. Quotations are edited verbatim, with care taken to preserve the original intended meaning. While respondents were asked about their profession only, themes with interprofessional relevance were identified through analysis of data across a range of professions, as identified in Table 1. Respondents had unlimited time to complete the survey within the response period, and there was no word count limitation imposed on the length of responses to questions.

Table 1
Respondents by Profession

Professional title	Number of respondents
Dentist	2
Dietitian	6
Medical practitioner (intern)	14
Medical scientist	2
Midwife	2
Midwife and registered nurse	9
Medical imaging technologist	3
Occupational therapist	13
Pharmacist (intern)	6
Physiotherapist	5
Registered nurse	16
Social worker	6
Speech pathologist	4

Results

The qualitative responses of 88 (59.9%) out of the 147 respondents highlighted what they considered to be the most significant gaps in their readiness for work and the impact that these gaps had on them. Qualitative responses were obtained from graduates from a range of professions, as detailed in Table 1.

The majority (n = 70) of qualitative responses came from graduates practising in the Perth Metropolitan area, with 14 practising in a rural location and 4 practising in a remote location. The seven key themes that emerged in analysis are explored below.

Caseload and time management

This theme emerged across the following professional roles: dentist, dietitian, medical intern, occupational therapist (OT), physiotherapist, registered nurse (RN), social worker and speech pathologist. Graduates who identified caseload and time management as a significant gap in their work readiness felt that they needed additional support while at university to organise their patient load across their available working time. Increased responsibility and difficulty knowing how and when to delegate tasks were highlighted as accompanying issues. In some cases, caseload and time management were experienced within a context of work overload, for example:

> We were trained that we are meant to work [with] a safe number of staff, and then in practice I came to find it is not what happens. (RN/midwife)

Respondents perceived that this context increased stress levels and a sense of inefficacy. In some cases, this was exacerbated by the perception of unreasonably high expectations from managers and peers.

Among the respondents who identified caseload and time management as an issue, rural respondents highlighted this as a particularly significant one. A rural-based OT described the impact of this issue in a rural context:

> It made managing a large and geographically spread caseload difficult using trial and error to manage. (rural OT)

This respondent was able to refer to clinical prioritisation guidelines for occupational therapy from the WA Country Health Service, and sought advice from other OTs. A rural-based dietician stated that she had developed a system of time management but would have liked insight into how others managed daily scheduling. She ultimately realised:

> It is not the end of the world if you are unable to see all patients on [the] waiting list; this is where prioritising patient loads and finding ways to deliver services more efficiently is very important. (rural dietician)

A medical intern felt that ongoing mentoring could play a valuable role in improving caseload management, with the mentor modelling ideal practice and providing support. This respondent suggested:

Given final year rotations match intern rotations to a large extent, [it] would be good to be paired with an intern "mentor" who could provide insights into the roles and responsibilities of each job and act as a support person in the following year. (medical intern)

Clinical administration skills

Respondents across the medical intern, midwife, medical imaging technologist and OT professions identified clinical administration skills as a significant gap in their entry-level readiness. This gap manifested as insufficient practical understanding of a number of facets of clinical administration, such as rostering, handover, filing notes and range of human resource issues.

The key impact of insufficient clinical administration skills was believed to be reduced efficiency. Some respondents also described increased stress, anxiety and uncertainty. A midwife described the initiative undertaken to improve their efficiency at handover, stating that she "learnt about note writing by reading others and using that as a framework."

Employability

A widespread concern across medical scientist, midwife, medical intern, OT and RN professions was the need for skills to gain employment and options for graduate employment and future career pathways. These respondents suggested that their university education had failed to provide adequate information and employment support. In addition, individuals from nursing and a range of allied health professions believed that they were disadvantaged by inadequate exposure to key fields within their profession, and that this subsequently impacted on their capacity to gain employment either generally or in their preferred area. For example, a dietician believed that since practical placements determined clinical experience, job opportunities were limited to the scope of the experience gained through placements, a view that was broadly supported across the range of professions.

Respondents felt that their lack of knowledge and experience in key fields impeded their employment prospects.

I do not have the experience to apply for jobs in the areas I do not have experience in, therefore I am relying on employers to train me from scratch, if I even get to that point. (OT)

Many also felt that their lack of experience had a significant impact on their confidence.

Having come from an undergraduate double degree, I feel that I was disadvantaged by not being placed at a tertiary hospital as a student. I was not exposed to the situations in the peripheral hospitals that I am at [Western Australian maternity hospital] and this certainly limits my confidence and experience as a new grad. (RN)

In this case, lack of experience in a tertiary hospital is seen as a significant disadvantage. In several cases, this led to a greater volume of required on-the-job training and a greater volume of support required from senior staff.

Solutions to this lack of preparedness were posed by some respondents. An OT described accessing external professional development in order to increase confidence. On-the-job training, developing a learning plan with a mentor or supervisor, accessing support from the graduate program (if applicable) and increasing the length and diversity of clinical placements were also solutions suggested by respondents.

Lack of experience with high-risk patients and emergencies

Of the clinical skills that respondents described as gaps in their entry-level readiness, experience managing high-risk and emergency scenarios was mentioned across the nurse, midwife, medical imaging technologist and medical intern professions. These respondents typically felt unprepared for the level of risk and required autonomy. An RN explained that a lack of experience with high-risk patients in a tertiary hospital setting meant that she did not feel sufficiently prepared for the level of risk that accompanied care for high-risk patients, perpetuating a sense of incompetence. Respondents also described premature exposure to high-autonomy roles, such as managing trauma with limited support and insufficient training with high-risk and deteriorating patients as responsible for feelings of incompetence. One midwife commented on having to be "prepared to be left alone with a labouring woman, [despite] not [having been] left alone at all as a student" (midwife). Exposure to high-risk and emergency situations without sufficient previous experience led to high levels of stress, anxiety and diminished confidence.

Insufficient practicum to transform theory into practical knowledge

Respondents from a range of professions (RN, midwife/RN, dietician, OT, pharmacist, physiotherapist, social worker, speech pathologist) also had reservations about their work readiness, as they considered the amount of practical placement they received insufficient to facilitate the transfer of theory to practical knowledge. An RN provided an illustration of the impact of insufficient practical experience on confidence:

> When I was working on my own for the first few weeks, there was a voice in my head screaming, "Get everything double checked or you're going to kill everyone!" … More prac would be beneficial. At the end of prac you feel quite confident in that area, by the next prac or by grad programme time my brain was empty again. (RN)

Lack of confidence was the most widely reported impact of insufficient practicum experience in terms of transforming theory into practical knowledge. A heavy reliance on senior support staff and the perception that they possess insufficient clinical reasoning skills were also reported as impacts.

In order to expedite the development of practical knowledge, a number of possible approaches were proposed. Support from colleagues and senior staff was seen as invaluable, with one nurse feeling that their perceived lack of practical readiness did not affect job readiness due to the volume of support available. The opportunity to "shadow" a senior colleague for a week was gratefully received by an OT. On the job training and external professional development opportunities were also described as beneficial.

Conflict management

While respondents across a range of roles (medical interns, OT, physiotherapist, RN) lacked confidence in conflict management, notably, 5 out of the 14 medical interns reported conflict management as one of the most significant gaps in their work readiness. Insufficient readiness for conflict management was described as including managing aggression from patients and their visitors, as well as aggression from colleagues.

Role ambiguity may perpetuate this issue, as medical interns described being subject to unrealistic expectations from management and peers in addition to being pushed by them to perform beyond the scope of their role. A perceived over-reliance on the medical intern to take the principal role in conflict resolution and problem solving on the wards was also highlighted, with one medical intern stating:

> Aggressive patients and concerned nursing staff expect doctors to fix all their problems, which is unreasonable for a medical intern. (medical intern)

Lack of sufficient preparedness for conflict management led to stress, and no respondents discussed potential solutions to this scenario.

Stress management and reality shock

Graduates from the dietician, medical intern, midwife and RN professions identified the capacity to manage stress as a significant gap. Stress management issues were often described as being the result of difficulty dealing with foreseeable stressors that are workplace realities. Difficulty dealing with work realities was noted across the dietician, midwife, social worker and RN professions. Issues included adjusting to shift work and working in a rural setting with high autonomy. Respondents described "a significant difference between the reality presented at uni and the actual work" (social worker). Another social worker supported this statement with the view that "the experience as a student was not a true representation of the emotional stress of taking on the professional role". The only solution proposed to address the issue of reality shock was allowance being made for time to adapt.

Discussion

The following discussion explores how the themes outlined above have emerged across a range of professions (where previous research exists) as well as implications for IPE.

Caseload and time management

Difficulties managing time and prioritising caseload have been documented in previous qualitative research exploring the early experiences of junior doctors (Brennan et al., 2010), nurses (Delaney, 2003) and allied health professionals (Smith & Pilling, 2007). Research examining the expectations of nursing students found that workload management and time management were both anticipated as likely problem areas (Heslop, McIntyre, & Ives, 2001), suggesting that this skill area is a foreseeable stressor.

In addition to supporting time and caseload management skills in pre-service health professionals and new graduates, realistic expectations and workload allocations are essential to enable graduates to transition in the safest possible manner, with the wellbeing of patients and the healthcare professional paramount. The stress of managing a caseload can be exacerbated when work expectations are unrealistic (Boychuk Duchscher, 2009), described as "role overload" (Chang & Hancock, 2003). Supporting graduates to deal with their caseloads is an imperative for retention, as it has been found that in the case of nurses, work overload is one of the primary reasons for attrition (Chang, Hancock, Johnson, Daly, & Jackson, 2005), and recent occupational therapy graduates have also reported having "too much" expected of them (Hodgetts et al., 2007).

While the employer can help to mitigate this gap by providing early mentoring support to expose graduate health professionals to management strategies, these strategies can easily be pre-taught at tertiary level, such as through exposure to best-practice models for time and caseload management. Adequate practicum experience to acquire these skills is essential. Further areas for pre-service training include the following:

- knowledge of how and when to delegate tasks to other health professionals and support staff to ensure efficient service delivery
- practical time-management and planning skills
- specific support in dealing with caseload and time management in the rural context
- guidance on how to effectively prioritise patient loads.

Clinical administration skills

Clinical administration skills can be viewed as an important component of the broad skill set required for effective practice. Hoge, Huey and O'Connell (2004) explained that this was imperative "to adhere to the ever-growing requirements regarding the documentation of care, privacy and security, credentialing, accreditation, regulatory compliance, and electronic billing" (p. 98).

Our findings would suggest that more attention should be given to providing pre-service health professionals with the suite of administrative skills that they require to meet the demands of their role, as greater pre-service exposure to best-practice models was desired by graduates, to build their competence and confidence. In addition, health providers could ensure greater clarity about administrative processes, expectations and opportunities for further training or mentoring during their induction processes for graduate staff. Additional areas for pre-service training that graduates considered important included:

- record-keeping and note-writing skills, particularly in relation to handover
- sourcing support for human resource issues
- mechanisms for eliciting feedback on work performance.

Employability

The difficulty in providing learning and practical experiences in specialist areas or minority delivery contexts to meet employability needs is compounded by the over-crowded curricula of health professions in general. For example, with over 80% of

pharmacy interns working in community pharmacy, a perceived course focus on community rather than hospital-based pharmacy is understandable. Mak et al. (2013) proposed a rotational internship rather than a single-site internship as a solution to better equip pharmacy interns with diverse experience across a broad range of practice settings. While the issue of employability is best dealt with by ensuring breadth of practical experience within individual professions, a generic IPE unit instructing students in how to take responsibility for actively broadening their scope of skills by accessing external professional development and other learning opportunities could be beneficial.

There is a paucity of previous research documenting a need for greater pre-service employment support as an issue in graduate work readiness, although the available research suggests that more could be done in the education of health professionals in this area. For example, Dent et al. (2006) found that Australian prevocational doctors lack confidence in choosing a career pathway, and Parker et al. (2009) contended that more attention should be given to providing career pathways for nurses in primary care. It is likely that the expectation that universities will provide employment skills support has evolved in relatively recent times, since expectations for universities to act in capacities beyond the transmission of information and the support of acquisition of vocation-specific skill sets is expanding.

Lack of experience with high-risk patients and emergencies

The skills to support preparedness for emergency management, such as basic life support and cardio-pulmonary resuscitation (CPR) are not part of the core curriculum across all health professions (Josipovic, Webb, & McGrath, 2009), and this can impact on graduates' confidence and competence in this skill set. Despite the range of available education in this area in Western Australia (Department of Health Western Australia, 2016), this research suggests that graduates may be experiencing insufficient pre-service training in this area, perhaps warranting a broader audit of the emergency management component of extant tertiary and vocational education courses for health professionals likely to encounter emergency situations. Research suggests "that formal education programmes in undergraduate and prevocational curricula using practical teaching methods are likely to improve the perceived preparedness of prevocational physicians for resuscitation skills and management of emergencies and might improve patient outcomes" (Duns et al., 2008, p. 148).

Simulation-based teaching is one of the favoured practical approaches. While it is logical to provide simulation activities to interprofessional teams likely to be involved in emergency and high-risk cases, recent findings suggest that simulation is not used for interprofessional learning at most medical schools in Australia (Riley, Deacy, & Carr, 2013). It is also imperative that adequate support be given to graduates in the workplace while they are developing their competence in managing emergency and high-risk situations because reports of being "alone" and unsupported suggest that in addition to staff retention, patient safety may be at stake because of inadequate early support.

Insufficient practicum to transform theory into practical knowledge

Insufficient practical experience to achieve practical competence and professional confidence results in a gap in the work readiness of health professionals, a subject previously explored in the research on nursing (Burns & Poster, 2008; Heslop et al., 2001), midwifery (Davis, Foureur, Clements, Brodie, & Herbison, 2012), occupational therapy (Hodgetts et al., 2007), speech pathology (McAllister, 2005), pharmacy (Stupans, 2012) and physiotherapy (McMeeken, Webb, Krause, Grant, & Garnett, 2005). The need to balance the benefits of clinical placements with the ever-increasing costs places significant limitations on the amount of practical experience available for students (Buchanan, Jenkins, & Scott, 2014), increasing impetus to find alternative avenues for achieving competence and confidence. Amongst individuals, there is significant variance in the quantity and diversity of clinical experience required to achieve competence and confidence (McAllister, 2005). While adequate on-the-job training and external professional development opportunities were identified by respondents as highly beneficial for supporting the transformation of theory into practical knowledge, simulation could provide additional support for students who require additional practice establishing key foundational skills. As quality mentoring and opportunities to "shadow" senior staff were believed to mitigate the effects of a perceived lack of practical readiness, opportunities to observe others using clinical reasoning skills should be increased within the workplace.

Conflict management

While encountering workplace aggression is an issue of concern across a range of health professions, nursing and medical graduates appear to be at particular risk; however, the bulk of the research in this area focuses on the nursing profession. Research suggests that nurses may receive insufficient training to enable them to effectively respond to and prevent aggression in the workplace (Chang et al., 2005; Curtis, Bowen, & Reid, 2007; Dyess & Sherman, 2009), and interpersonal conflict has been identified as a key issue that can impact on retention rates and self-confidence of graduate nurses (Cowin & Hengstherger-Sims, 2006).

Conflict management should be addressed early in the tertiary course, as conflict management skills may be needed prior to graduation. Western Australian research by Hopkins, Fetherston and Morrison (2014) found that more than half of the nursing students sampled experienced non-physical violence, with over a third of second-year students experiencing physical violence. Research also suggests that horizontal violence is not limited to a post-graduate experience (Randle, 2003), with more than half of respondents in an Australian study indicating that they had experienced or witnessed horizontal violence during clinical placement; most of these indicated that the experience would impact on their future career choices (Cowin & Hengstherger-Sims, 2006).

Interestingly, role ambiguity is generally discussed in reference to nursing in the available research (e.g., Boychuk Duchscher, 2008; Chang & Hancock, 2003), although the research reported in this paper suggests that role ambiguity is also relevant for medical interns. The findings of this paper indicate that WA Health institutions need to act further to address bullying of graduates in the workplace.

Additional areas for pre-service training that warrant consideration include:

- graduates' need to be fully aware of the scope of their role, and liability issues involved in exceeding this scope
- graduates' need for pre-service and ongoing training in conflict management to deal with aggression from both the public and colleagues.

Stress management and reality shock

The transition of graduates into the workforce is often extremely stressful (Brennan et al., 2010; Delaney 2003), and research suggests that stress in nursing is related to higher absenteeism, reduced work satisfaction, early departure from the profession, co-worker conflict and negative psychological effects, which in turn can impact on quality of patient care (Chang & Hancock, 2003). The provision of stress education and management strategies is thought to have the potential to reduce workplace stress (Chang & Hancock, 2003; Chang et al., 2005). Previous research into the work readiness of Australian medical and nursing graduates suggests that the development of individual stress management strategies was important for coping with the demands of the health profession and maintaining an individual's wellbeing (Walker et al., 2013). While "reality shock" is primarily explored in the research within the context of the nursing profession (e.g., Dyess & Sherman, 2009), the research reported in this paper suggests that it is an issue that may also affect other professions, such as social workers. This research supports the contention that education in stress management and coping with reality shock would be appropriate to deliver in an IPE context, as it is an issue experienced across a range of professions and can be readily dealt with in generic terms. Pre-service training should have an increased focus on identifying and dealing with foreseeable stressors, particularly in relation to shift work, where professionally applicable.

Limitations

The study is constrained by a number of limitations, the most pertinent of which are outlined herein. Firstly, the study was limited by reliance on self-report of respondents. Secondly, all respondents were employees of the body funding and conducting the research, the Department of Health Western Australia. While respondents were guaranteed anonymity, this could have potentially influenced respondents' willingness to disclose gaps in their work readiness. In addition, as this study was conducted through the Department of Health Western Australia, the researcher was constrained by the publication permissions of the Department, and as such, as aforementioned, the quantitative data from this project were not permitted for external distribution. While the qualitative data stand alone as offering valuable insights into this area of inquiry, permission to share the quantitative data would have increased the richness of this offering. In addition, the data are not longitudinal and report on a single instance of data collection. A more robust sample may have been achieved if the time and resourcing constraints of the project had been alleviated, with the data collection period very short, as aforementioned.

Conclusions

This paper sought to identify interprofessional gaps in graduate work readiness that could affect patient safety, early career staff retention and staff effectiveness, in order to inform future IPE. A number of gaps were found to have interprofessional applicability, suggesting that at present, pre-service training across a range of professions could be better tailored to ensure that graduate health professionals are optimally prepared to perform their roles effectively, safely and with confidence.

Gaps in entry-level work readiness included caseload and time management, clinical administration skills, employability, lack of experience with high-risk patients and emergencies, insufficient practicum to transform theory into practical knowledge, conflict management, and stress management and reality shock. Limited practicum experience was perceived as subsequently limiting employment prospects as well as impairing graduates' capacity to transform theory into practical knowledge. Graduates also perceived that they had insufficient experience with high-risk patients and emergency situations. These gaps were perceived to result in a number of negative effects, predominantly increased stress and decreased professional competence.

While some graduates appeared to successfully seek timely solutions for the gaps they experienced, not all were able to do this within their unique resourcing or personal circumstances, and not all gaps lent themselves to resolution without external support, for instance, management of emergency situations. However, it seems apparent from the solutions posed by some students, that in some cases, fostering a general capacity for self-reflection (Delaney, 2003) and initiative in problem solving may address some of the issues raised.

Despite being a national priority, the "integration of IPE/IPL within healthcare education curricula is not as yet occurring in a systematic fashion within Australia" (Nisbet, Lee, Kumar, Thistlethwaite, & Dunston, 2011, p. 21). Identifying and addressing key areas where pre-service IPE can meet gaps in current work readiness can play an important role not only in producing more work-ready graduates, but also building the interprofessional skills of the future workforce. While not all themes lend themselves readily to education initiatives for all professions within this study's scope, and the expected role of the professionals would differ in some of the prevalent themes (such as managing high-risk and emergency situations), this paper presents a number of key opportunities for pre-service and early career interprofessional learning by locating gaps in entry-level graduate work readiness that have currency across a range of health professions.

Finally, the full onus of addressing graduate work readiness should not rest solely with pre-service tertiary training providers. There was a clear call for greater mentoring and support for students in the early phase of employment, suggesting that greater workplace support of graduates is also warranted. Graduates' perceptions of mentoring and availability of supportive preceptors has been found to impact upon their attitude and positive transitioning (Delaney, 2003), and thus, in addition to appropriate induction and ongoing professional development, it is likely that the provision of quality mentoring can do much to improve graduate work readiness.

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