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ORIGINAL ARTICLE

Interprofessional education in aged-care facilities: Tensions and opportunities among undergraduate health student cohorts

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ABSTRACT

This article examines the reflective discourses of medical, nursing, and paramedic students participating in interprofessional education (IPE) activities in the context of aged-care clinical placements. The intent of the research is to explore how students engage with their interprofessional colleagues in an IPE assessment and care planning activity and elucidate how students configure their role as learners within the context of a non-traditional aged-care training environment. Research participants included cohorts of volunteer medical (n = 61), nursing (n = 46), and paramedic (n = 20) students who were on clinical placements at two large teaching aged-care facilities in Tasmania, Australia, over a period of 18 months. A total of 39 facilitated focus group discussions were undertaken with cohorts of undergraduate student volunteers from three health professions between February 2013 and October 2014. Thematic analysis of focus group transcripts was assisted by NVIVO software and verified through secondary coding and member checking procedures. With an acceptable level of agreement across two independent coders, four themes were identified from student focus group transcripts that described the IPE relations and perceptions of the aged-care environment. Emergent themes included reinforcement of professional hierarchies, IPE in aged care perceived as mundane and extraneous, opportunities for reciprocal teaching and learning, and understanding interprofessional roles. While not all students can be engaged with IPE activities in aged care, our evidence suggests that within 1 week of clinical placements there is a possibility to develop reciprocal professional relations, affirm a positive identity within a collaborative healthcare team, and support the health of vulnerable older adults with complex care needs. These important clinical learnings support aged-care-based IPE as a potentially powerful context for undergraduate learning in the 21st Century.

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Introduction

The World Health Organization (2010) promotes interprofessional education (IPE) as critical for collaborative healthcare practice and patient outcomes. IPE offers educational experiences in which students from different professions learn with, from, and about each other in the context of providing collaborative healthcare, either in simulated or in real-world situations (World Health Organization, 2010). There is a paucity of literature regarding the integration of IPE within curricula of undergraduate health courses in Australian and international universities (Lapkin, Levett-Jones, & Gilligan, 2012; Pollard, 2009). Notable exceptions include regional work undertaken in Western Australia (Hoti, Foreman, & Hughes, 2014) and Tasmania (Annear, Lea, Lo, Tierney, & Robinson, 2016) that examine health student (particularly undergraduate) engagement with collaborative medical management and holistic health assessment of residents in aged-care settings. Despite limited data specific to undergraduate health students, there is emerging evidence for positive outcomes associated with interprofessional interventions more generally. These outcomes include practitioners' increased knowledge and skills in working collaboratively (Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011; Centre for the Advancement of Interprofessional Education, 2002; Thistlethwaite, 2012), increased awareness and respect for other health professions (Pinto et al., 2012), enhanced understanding of the value of IPE for improving health outcomes (Reeves et al., 2010; Thistlethwaite, 2012), improved collaborative team behaviour (Carlisle, Cooper, & Watkins, 2004), and reduced clinical error rates (Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013).

There are challenges, however, in the implementation of effective IPE. In a recent Cochrane review, Reeves and colleagues (2013) recognised that while IPE appears to be a sound investment in the future healthcare workforce, the evaluation of undergraduate IPE programmes is complex and the evidence base required to guide research design is in its early stages. As testament to the complexity of implementing successful undergraduate IPE, other investigators have raised questions about the efficacy of programmes that aim to engender collaborative practice. Some medical educators, for example, have identified concerns about the time costs of IPE in undergraduate curricula that potentially reduce opportunities for clinical skill and knowledge development (Bridges et al., 2011). Australian, Malaysian, and Norwegian

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studies of students' IPE experiences have reported discord among student groups, particularly when medical students are involved. They cite negative outcomes including reinforcement of negative stereotypes about other health professions, poor attitudes towards interprofessional colleagues, and a lack of willingness to engage in shared decision-making (Aase, Hansen, & Aase, 2014; Aziz, Teck, & Yen, 2011). Additional barriers emerge when faculty do not promote the importance and relevance of IPE to students, or when they actively discount the importance of IPE associated with clinical placements in residential aged-care facilities (RACFs; also known as nursing or long-term care homes) (Meiboom, Diedrich, De Vries, Hertogh, & Scheele, 2014). Both educators and students need to understand that the competencies required for IPE and interprofessional practice are designed to complement, rather than compete with, profession-specific competencies in facilitating person-centred care (Haralambous et al., 2010).

RACFs provide a potentially fertile training ground for undergraduate health students to learn the craft of IPE and prepare them for accelerations in population ageing and life-limiting conditions, such as dementia (Ferri et al., 2005). The capacity for students from different professions to work together as part of collaborative healthcare teams will be increasingly important as population health becomes more complex, with greater focus required on community care and management people with multiple morbidities (Annear, Lea, & Robinson, 2014). A recent Australian government report identified that 53–87% of people in RACFs had been diagnosed with dementia and associated morbidities such as diabetes, cardiovascular disease, and stroke (Australian Institute of Health and Welfare, 2012). RACFs have been recognised as potentially valuable learning environments for health students for several decades and ideal sites for IPE because of the complexity of resident health concerns (Jeon, Merlyn, & Chenoweth, 2010; Reeves, 2000; Stringer, 2007). Evidence from Australia supports positive health and quality of life outcomes for adults in residential care who have interactions with health students as part of large-scale and well-supported clinical placements (Elliott, Annear, Bell, Palmer, & Robinson, 2014; Seaman, Bulsara, & Saunders, 2014).

Currently, clinical placements in RACFs are rare for students in medicine and paramedicine compared to students in nursing and some other health professions (Health Workforce Australia, 2014). Across Australia, for example, only 0.5% of medical student placement hours are undertaken in RACFs compared to 78% of placement time in hospitals (Health Workforce Australia, 2014). The relative absence of clinical RACF placement programmes for medical and paramedic students speaks to the position that community-based aged care holds among health curricula, at least in Australia. Despite the complex care needs of residents (Mitchell, Kiely, & Hamel, 2004), aged care has traditionally been viewed as an area where nurses and care assistants play an important role, particularly in palliative care, but also as an area where the technologically based care provided by highly trained medical professionals and other health professionals is not required (Jeon et al., 2010). The perceived social standing of RACFs, both within the community and health professions, highlights the complexity of implementing IPE for nursing, medical, and paramedic students.

The lack of engagement in undergraduate curricula with RACFs or IPE is potentially underpinned by the perpetuation of historical tensions among health professions and deeply embedded notions of *appropriate* clinical identity, practice, and training environment. For example, medical education discourses have historically inculcated students with a set of power/knowledge structures and relations that position them as superordinate to other health professionals (Walker, 1997) and perpetuate hierarchy within and across health professions (Walker & Holmes, 2008). Nursing and medical undergraduates remain at odds over the perceived value of caring and out-of-hospital medicine, which is arguably encountered in its most confronting manifestation in RACFs (MacLeod, 2011). The identity and interests of medical students is shaped in terms of competence constituted in biomedical discourses, often contextualised in hospitals, which marginalise caring and confer superiority within healthcare settings (MacLeod, 2011). Arguably, this tension undermines opportunities for collaboration between nursing, medical, and paramedic students and questions the appropriateness and efficacy of clinical experiences in RACFs.

Background

During 2013 and 2014, a series of interprofessional clinical placements were undertaken in two RACFs in Tasmania as part of the Wicking TACF programme (Robinson et al., 2015). The TACF programme builds on an evidence-based best practice model of quality aged-care placements that includes appropriate preparation of staff, adequate on-site support and supervision, and exposure to dementia palliative care and other age-related issues prevalent in care settings (Robinson et al., 2015).

Prior to student placements, the IPE activity is organised through a series of planning meetings involving senior RACF staff (referred to as *mentor leaders*), tutors, and academics from the respective healthcare professions (Fyfe, Phillipson, & Annear, 2015). In these meetings, the professional mix of student groups are organised (i.e. which student groups will work together), placement schedules of the different professions are structured to ensure periods of common activity, and processes that frame the IPE assessment and care planning activity are negotiated.

At the beginning of the placement, students attend an information session during which they are provided with instruction about the IPE activity and introduced to their interprofessional team members from other health professions. They are also assigned a volunteer resident by the mentor leader who has agreed to be the focus for their IPE assessment and care planning activity. Volunteer residents are selected based on the following criteria: consent (resident or legal guardian depending on individual capacity) to participate in student-led health assessment, presentation of a complex mix of comorbidities, and diverse psychological and social backgrounds.

This IPE assessment and care planning activity involved students working together to assess their allocated resident using profession-specific techniques (Table 1). The respective assessments, which are conducted by the students in the presence of their interprofessional peers, include a medical chart

Table 1. Configuration of the IPE assessment and care planning activity.

1. Interprofessional assessment	2. Care planning	3. Presenting recommendations
Introduction to IPE, interprofessional partners, and volunteer residents.	Collaborative development of recommendations to improve care.	Grand round presentation with mentors, RACF staff, and academic tutors.
Collaborative biospychosocial assessment of resident.	Mentor leader review and oversight of assessment procedures and student recommendations.	Organisational follow-up and IPE protocol review.
IPE process		IPE outcomes
Learning with: collaborative assessment from students' own disciplinary perspective.	Learning with: students collaboratively consider assessment data, health history, and mentor feedback.	Collaborative healthcare provision: student recommendations are implemented, where appropriate, by RACF staff or the treating physician and tracked by the facility.
Learning about: understanding the disciplinary skills, knowledge, and role scope of interprofessional peers.	Learning from: students develop and negotiate recommendations for care based on their disciplinary perspective.	

review; observation; face-to-face interviews; and examination followed by collaborative history taking with family carers (when available), nursing, and care staff. Through this approach, students develop a case study of the resident, focussing on salient issues (physical, psychological, behavioural, social, cultural, or environmental) that actively impact the resident and their quality of life. The students also devise recommendations for ongoing care management changes. Management plans are detailed, patient centric, and interprofessional and consider the capabilities of the facility where care is provided. Students present their case study and associated recommendations at a formal *grand round* presentation to RACF staff at the end of the IPE placement and summarise their findings in residents' medical notes (Fyfe et al., 2015).

The collaborative placement activity described above has the potential to foster improved working relations between diverse health professions in the care of vulnerable older adults. Yet, underlying tensions and power relations among health student cohorts that may undermine positive collaboration have been seldom investigated in the context of RACF-based IPE (Baker, Egan-Lee, Martimianakis, & Reeves, 2011). In this article, we examine the reflective discourse of medical, nursing, and paramedic students participating in IPE activities in the context of RACF clinical placements. An evaluation of student focus group transcripts over 18 months was undertaken in order to explore how students engage with their interprofessional colleagues in an IPE assessment and care planning activity and elucidate how students configure their role as learners within the context of aged care.

Methods

This study was conceived as a multiple-time-point exploratory study within a social constructivist paradigm (Creswell, 2014). As relatively little research has been undertaken to examine undergraduate IPE in Australian aged-care settings (Annear, Lea et al., 2016), an in-depth study of subjective student comments was required to elucidate the diverse experiences of training collaboratively in a non-traditional placement setting.

Over an 18-month period, 39 focus group discussions, with three to eight students in each discussion group, were conducted with the health students on clinical placement. Each focus group was comprised of students from only one profession to encourage candid responses. A large number of focus group discussions were necessary as the research covered the inception, run-in, and maintenance of the IPE programme. It was anticipated that a diversity of student experiences would be encountered as the programme developed over time.

Participants and setting

Students from the professions of medicine (fifth year), nursing (first and second year), and paramedicine (second year) attended a compulsory clinical placement as part of the Wicking Teaching Aged Care Facilities Program (TACF) (Robinson et al., 2015). Nursing cohorts participated in the placement for 2–4 weeks, while medical and paramedic students participated for 1 week. Disparities in placement duration across cohorts were due to the varying time available due to course demands and competition with *priority* placement areas among medicine (hospital placement focus) (Annear, Lea et al., 2016) and paramedicine (ambulance training focus) (Lucas et al., 2015). The IPE component of the placement ran for 1 week (five placement days) and involved up to 16 hours of collaborative assessment and group work in the RACF context. Each student participated in the IPE activities only once during their undergraduate degree programme. IPE activities were undertaken most commonly with a team of three students from medicine, paramedicine, and nursing. Occasionally, when placement schedules did not overlap, partnerships were undertaken with combinations of students from only two professions (nursing-medicine or nursing-paramedicine). All student activities were supervised by a course coordinator from their respective professions and a senior nurse mentor from the aged-care facility. Activities were directed by a collaboratively developed protocol document, with input from academic and clinical stakeholders, which was frequently reviewed and updated with the aim of improving collaboration and the student placement experience (Annear, Goldberg, Lo, & Robinson, 2016). Two Tasmanian RACFs (RACF 1 and RACF 2) were involved in this research. RACF 1 is a 140-bed facility with a mix of low- and high-care wings. RACF 2 is a 120-bed, high-care facility with a secure dementia wing. Volunteer RACF residents participated in the student IPE assessment activities and were required to have the capacity to provide informed consent and be free from advanced cognitive impairment. The intention was to provide students with diverse and complex cases and allow them the opportunity to conduct holistic health assessments with the aim of making recommendations to improve care and quality of life for the older person. The research was reviewed and approved by a university human research ethics committee (ref no. H0011576).

Data collection and analysis

At the end of each placement week, students participate in a 1-hour, profession-specific focus group where they share experiences of their IPE assessment and care planning activity, as well as their overall IPE placement experience. Focus groups were undertaken by project officers of the TACF programme in the presence of a research assistant who made additional notes and observations. While the authors were part of the TACF project team, steps were taken to systematise analysis and reduce bias.

Focus group discussions were audio recorded and transcribed to identify preliminary data categories and facilitate *qualitative thematic analysis* using descriptive and analytic coding, memo development, and theoretical saturation (Glaser & Strauss, 2009; Lofland & Lofland, 1995). Over the course of the 18-month placement programme, saturation was reached and evidenced by the emergence of similar themes across different cohorts of nursing, medical, and paramedic students. Qualitative analytical techniques draw on processes described in Glaserian grounded theory (Glaser & Strauss, 2009), although they fall within broader pragmatic and social constructivist research paradigms, which focus on using the most effective approaches to elucidate the research problem, principally reliance on self-reflective reports (Creswell, 2014). All qualitative data analyses were conducted using NVIVO (QSR International, 2012) to enhance rigour and consistency (Bazeley, 2007). Focus group transcripts were coded by two researchers with training in the analysis of qualitative information. Emergent themes were also checked by the medical student placement coordinator (AL) and senior nurse mentor at the RACF. The lead author is a gerontologist (MA) with experiences of qualitative health research and focus group facilitation. Co-authors represent the professions of nursing (KW and AR), medicine (AL), and sociology (PL).

Results

Of the 136 students who participated in interprofessional clinical placements, 127 (93%) voluntarily completed the research component of the placement, which involved participation in the IPE assessment and care planning activity and the associated focus group discussions. The small number of non-completions was due to illness or unexplained absence. Facility 1 hosted 89 students, while facility 2 hosted 38 students. Student ages were comparable (with an average age of 25 years), although there was a distinct gender bias among the nursing cohort, with female students the overwhelming majority. Most students were Australian born and many had no experience of an RACF prior to the IPE placement (Table 2).

Analysis of focus group transcripts identified four primary themes that revealed the challenges and opportunities inherent in an RACF-based IPE activity: reinforcement of professional hierarchies; RACF-based IPE perceived as mundane and extraneous; opportunities for reciprocal teaching and learning; and understanding interprofessional roles.

Table 2. Interprofessional clinical placement student characteristics (N = 127).

Student groups	Cohort size (n)	Female gender (n)	Male gender (n)	Born in Australia (n)	Previous visit to an RACF (n)
Nursing (first and second year)	46	41	5	42	30
Medicine (fifth year)	61	32	29	43	36
Paramedicine (second year)	20	11	9	17	12

Reinforcement of professional hierarchies

Within the context of the IPE activity, some medical and paramedic students positioned themselves as hierarchically superior to nursing students. Despite the non-traditional and unfamiliar clinical training setting of aged-care facilities, where medical and paramedic undergraduates previously had limited clinical training experience, these students sometimes conceived of their roles as natural leaders who had little to learn from their nursing counterparts. This was evidenced in comments that addressed a perception of disparities in knowledge across the professions, as outlined in the following data extract:

> There is always going to be a disparity with doctors working with anyone who is not a doctor. Whether you're now a Fifth Year student working with a Second Year nurse or whether you're a 15-year consultant working with a fully-fledged nurse, there's always a disparity in knowledge. (RACF 1, M5068)

Nursing students often reinforced the observed hierarchy by positioning themselves as subordinate within the IPE relationship, particularly in relation to the medical students. They were concerned with what they perceived to be a knowledge gulf between themselves and medical students. Rather than considering how operationalising nursing knowledge was complementary in the context of an IPE assessment process, they viewed medical students as threatening, with superior knowledge and skills. For example, a second-year nursing student commented that the medical students, "…know a lot more than you, and make you feel a bit stupid" (RACF 1, N2041). Another argued that the disparity in knowledge and experience between second-year nursing and final-year medical students represented an impediment to collaboration in IPE because, "they're nearly finished their training; they're nearly doctors" (RACF 1, N2044). This student commented that if the medical students were in second year the situation might be different because "…they just mainly do the bio [logical] stuff, so we would probably know more than them at that stage" (RACF 1, N2044).

Furthermore, some paramedic students often aligned themselves more closely with their medical counterparts than with nursing students, positioning themselves as hierarchically superior. For example, some paramedic students considered that it was more appropriate for them to be teaching nursing students, rather than collaborating with them in the IPE activity. One paramedic student commented, "I didn't particularly feel that it was a great learning relationship between us because [the nursing students] didn't really have

anything to teach me" (RACF 1, PM2023). Another paramedic student asserted, "I think that it would be a good to give the paramedics more of a role in teaching the nursing students" (RACF 2, PM2009). These comments suggest that some medical and paramedic students did not value the knowledge of nursing students and were unwilling to learn from peers based in other professions.

RACF-based IPE perceived as mundane and extraneous

Perceived differences in knowledge across professions played out in how medical and paramedic students viewed the RACF placement. Nursing students reported experiencing a lack of respect and empathy from medical and paramedic peers. Certain medical and paramedic students viewed the aged-care environment as mundane, with what they perceived to be a focus on the provision of basic hygiene care, rather than cutting-edge, clinical practice. Nursing students reported feeling frustrated by the lack of engagement shown by some medical and paramedic students, which in their view limited collaboration. One nursing student reported:

> [When the] medical and paramedic students got together they would just put nursing down [and say things like] "How could you work in this [environment]?" and "It seems so boring," [. . .] I just think that's so disrespectful and rude. [. . .] I offered to take the paramedic student through taking blood sugar levels because she didn't know how to do it. But she didn't even want to come into the room, didn't want to meet the patient. When we were doing showers she didn't want to touch the resident. (RACF 2, N2011)

Another nursing student reported that paramedic students, ". . .just think they're better than us. There was this attitude of, 'I'm too good to wipe a bottom'" (RACF 2, N2012). Negative perceptions of the aged-care environment as lacking challenge or relevance extended to engagement in the IPE activity. Some medical students stated that they were already competent at engaging collaboratively with individuals from other professions and did not require additional training. Such perceptions were manifest in the context of limited prior IPE experiences during their undergraduate curricula. One medical student commented, "I don't think there was much value in[the IPE activity] to be honest. At this stage of our training, I think we've all got a grasp on IPE" (RACF 2, M5031).

In viewing the IPE activity as being of limited relevance, medical students also reflected upon their priority in fifth-year undergraduate training. Experiences of interprofessional engagement in an RACF were regarded as immaterial by some in comparison to preparations for hospital internship, "this year's a lot to do with getting ready to be an intern and in this sense [an IPE placement in aged care] doesn't fit" (RACF 1, M5068). Similarly, another medical student commented, "the main aim and focus of our fifth year is to prepare for [hospital] internship" (RACF 1, M5064), which in this student's eyes had little relevance with engaging with frail old people in the context of an RACF. Such comments reflect medical students' desire to maximise their knowledge and experience in teaching hospitals and preferences for acute care.

Reciprocal teaching and learning

Although there were challenges arising within the RACF-based IPE experience relating to the reinforcement of hierarchies and negative perceptions of the environment and collaborative activity, students also reported positive learning outcomes. Within the context of their IPE activity, there was evidence that students from all three professions took this opportunity to share their knowledge and gain insights into interacting with and assessing a vulnerable older person. In these circumstances, nursing students reported that their medical and paramedic colleagues often taught them about pathology, diagnosis, and assessment measures. The following medical student comment expresses a willingness to engage in this kind of knowledge exchange:

> I found it quite a natural process when performing those [medical] examinations. I thought it was good to explain [to the nurse], "This is what I'm doing, this is what I'm looking for, this would be normal, this would be abnormal—do you want to have a feel of this pulse and tell me what you think, is that a normal pulse, not normal?" It's a good interrelationship. (RACF 1, M5052)

Similarly, medical and paramedic students reported that their nursing colleagues taught them about how to communicate with challenging residents and the provision of appropriate care. For example, a paramedic student described learning different skills through their engagement with a nursing student in the provision of hygiene care (showering and dressing) with a frail resident. The paramedic student reported:

> [When it was time to shower the resident] I'd say, "You show me what to do, I haven't showered the residents before"—[the nursing student] was really good at teaching me how to do that [. . .] when it came to doing the GPCOG [the General Practitioner Assessment of Cognition] assessments with residents [the nursing student] just stood back and said, "You do that and I'll watch." (RACF 2, PM2007)

Such encounters highlight the intent of IPE with students encouraged to learn with, from, and about each other.

As outlined above, nursing students had longer clinical placements than their medical and paramedic peers (2–4 weeks). This meant they often had more comprehensive knowledge and experience of residents who were the subjects in the IPE activities. This enhanced experience situated the nursing students as having a more informed understanding of resident needs and ways of communicating. They argued that this gave them the confidence to support their medical and paramedic colleagues to communicate with residents more effectively, thereby facilitating their capacity to assess residents, particularly those with dementia. One nursing student recounted:

> Because I knew the residents from the previous [placement] week [. . .] I knew how hard it was finding all the information [needed for the assessment], so I wanted to help [the paramedic student] as much as I could and make him feel comfortable. (RACF 1, N2041)

A medical student also spoke about the positive engagement with a nursing student and how they provided material support for her participation in the IPE assessment activity:

> The nursing student already knew the patient quite well and so before we went he was able to go through a little bit of the history

> with me and the idea of what this patient's background was and what his function was like. Then we went to see him together and I took more of a history from the patient from a medical perspective and then we went through the assessments together. (RACF 1, M5052)

A paramedic student also shared their experience of when a nursing student taught them, " … a lot of the practical stuff, like how to talk to some of the patients" (RACF 1, PM2022), which challenged their habitual way of operationalising an assessment process. The paramedic student recounted:

> I'm quite used to just doing the blood pressure and just going in, strapping the cuff on. And [the nursing student] said, "Just slow down a bit, because you've got some time, just talk to them, talk them through what you're doing, hold their hand while you're taking their blood pressure, really calm them down." (RACF 1, PM2022)

Such incidents suggest that nursing students were able to play an important role in facilitating medical and paramedic students' ability to communicate with and assess vulnerable residents. Reciprocity in the IPE context also helped students to learn about the boundaries of their own roles and appreciate and respect the skills and knowledge of their interprofessional peers that contributed to the provision of effective and comprehensive team care.

Understanding interprofessional roles

The IPE activity assisted students to learn more about the roles of their peers from other health professions. Medical students, in particular, often valued the opportunity to clarify how nursing skills differed from those of other health professionals and complemented the medical assessment of frail residents. One medical student noted that:

> Seeing a nursing assessment will assist us to understand what's involved in the assessment, where they're coming from, and what types of input and knowledge we can expect from nursing staff. (RACF 1, M5066)

The comments of a second medical student illustrate the appreciation they developed of their nursing colleagues: "You could get a lot [of information] from the nursing students and you realise how valuable they are" (RACF 2, M5029). In learning about and interacting with students from other professions, some students also reported that they developed a greater appreciation for the boundaries and expectations of their own role. Medical and paramedic students reflected on developing new understanding of the interactions between medical and nursing knowledge in the assessment of a frail nursing home resident:

> I realise that I'm the medical student and she's the nursing student … I focus [my assessment] on the medical field and she focuses [her nursing assessment] on some of the behavioural and mental issues … it went well when we're collaborating. It was a bit of learning process for me. (RACF 1, M5066)

> We wrote out a big list of [clinical] questions and what we wanted to know [about the resident]. Then this morning we did a 12-lead [ECG] on [our resident], so [the nursing student] helped me out with that and I taught her how to put the leads on. I think we supported each other quite well. (RACF 2, PM2007)

In the context of effective, collaborative IPE experiences, there was also opportunity for students to make a positive contribution to the care of vulnerable older residents. This was viewed by students as a significant motivator for collaboration that helped them to understand that there is always an opportunity to improve health-related quality of life, even in the context of a high-care environment and palliative care. One medical student recounted:

> We did a comprehensive assessment of a patient [with the nursing student] and then returned and discussed it—that was really useful and effective for me and we learnt a lot … More eyes looking at a resident's situation. (RACF 2, M5042)

RACF-based IPE provided understanding about how to collaborate with health workers from a different profession and realise an opportunity to put training into practice in a real-world setting as members of an interprofessional team. As one medical student commented, "I think [the IPE activity is] definitely valuable and I wish it happened more in the hospital, but it just doesn't in real life" (RACF 2, M5029). In the RACF context, existing hierarchical relations and profession-specific practice can change to a collaborative engagement that fosters appreciation of the value of diverse professional knowledge in the assessment of frail older people.

Discussion

This study explored the reflections of undergraduate medical, nursing, and paramedic students following their IPE-focussed placement in an RACF. There was evidence of the perpetuation of traditional expressions of power/knowledge tensions between student cohorts and also for medical students' preference for clinical training in acute care. Focus group evidence, however, also documented that the RACF-based IPE experience provided many students with positive learning outcomes that afforded opportunities to experience reciprocal teaching and learning with peers from different professions; it also offered a deeper understanding of the role of other healthcare professionals and, through this, an appreciation for the scope and boundary of their own role within a collaborative team. While it is clear that not all students who participated engaged in meaningful and collaborative practice, the results show the transformative potential of IPE that can be achieved in as little as 1 week in this non-traditional environment.

Within the relatively unfamiliar and perceived low-status context of an RACF, students quickly positioned themselves within a status hierarchy, with medical students at the apex, paramedic students aligned with medical students, and nursing students assigned to a subordinate position (Aase et al., 2014; Aziz et al., 2011). This positioning reflected students' assessment of the value of their knowledge and skills within the aged-care environment. Some medical and paramedic students saw themselves as holding superior knowledge and skills to their nursing counterparts (perhaps also influenced by their relative seniority), thereby reinforcing existing health sector hierarchies, demarcating the boundaries of collaboration, and undermining the value and potential contribution of nursing competencies. In this context, some nursing students

reinforced these hierarchies by positioning themselves as inferior to, or in competition with, medical students. Such positioning is antithetical to the aims of IPE and reflects a traditional understanding of how different health professions need to interact in the provision of effective and patient-centred care. The devaluing and subjugation of the work and/or knowledge of nurses, in particular, was also affected by medical and paramedic student perceptions of the aged-care sector as mundane and irrelevant and preferences for work in acute care (Meiboom et al., 2014). Some students believed that their existing skills and hospital placement experiences provided a level of mastery over the aged-care environment, and this context offered little relevant clinical training to prepare them for pending hospital internship or emergency care.

Results from other studies reinforce medical student difficulties with engaging collaboratively in an IPE context (Annear, Lea et al. 2016). For example, a recent Norwegian study identified that nursing and medical students' attitudes towards IPE engagement at a university teaching hospital were predominantly negative, resulting in experiences of distrust, confrontation, disrespect, and the emergence of hierarchical structures (Aase et al., 2014). In this study, shared responsibility was particularly problematic for medical students. Having a strong awareness of their role identity as clinical leaders, medical students expressed an unwillingness to defer to the expertise of nursing students during collaborative assessment and decision-making (Aase et al., 2014). The researchers identified entrenched professional identities and a lack of knowledge about the competencies and capabilities of peers from different professions as the greatest barriers to effective IPE (Aase et al., 2014). Similarly, researchers in Malaysia observed that nursing and other health students were significantly more willing to be engaged in IPE compared to medical students during interprofessional engagement at a university medical centre (Aziz et al., 2011). Although medical students acknowledged their lack of understanding about the knowledge and abilities of interprofessional peers, they exhibited the most negative attitudes to teamwork and communication on a validated survey measure (Aziz et al., 2011). In both of these examples, medical students had the greatest difficulty engaging effectively in IPE exchanges with nursing and other health students. Despite relatively limited IPE research involving paramedic students, a Finnish study examined interprofessional relations between medical and paramedic students during an emergency medicine placement (Hallikainen, Väisänen, Rosenberg, Silfvast, & Niemi-Murola, 2007). Consistent with the alignment between students from these two professions in the results of the present study, the researchers reported positive co-education outcomes among these two groups (Hallikainen et al., 2007). These results suggest that there may be *natural* alignments between student cohorts that are based on shared elements of professional identity and clinical competency. Medical students, for example, often engage with other student groups by taking charge in a perceived low-status environment and other students are challenged either to align with their perspective or to submit to the dominance of their biomedical expertise. In this context, there may be a perceived disjunct between professions that are considered to be aligned with clinical and biomedical competencies (medicine and paramedicine) and those that are often considered to be aligned with care and compassion (nursing) (Fealy, 2004).

Although power/knowledge tensions, a conceptualisation of professional relations that was popularised by Michel Foucault (1980), were evident among the cohort of student learners who attended RACF placements during 2013 and 2014, there was also evidence that such relations could be effectively challenged and renegotiated through a formalised and structured interprofessional engagement over the course of 1 week. The IPE placement that revolved around the collaborative assessment of a volunteer RACF resident provided opportunities for students to take turns learning from and teaching one another from the standpoint of their own profession. This often manifested in medical and paramedic students teaching clinical skills, while nursing students focused on psychosocial and interpersonal competencies. In this way, each student attained a deeper understanding of the knowledge and competencies of their interprofessional peers, while also learning to demarcate more appropriate boundaries of their own role within the context of a collaborative healthcare team. In conducting the assessment and formulating recommendations for improving the care and quality of life for a resident, the findings suggest that students also learned to bring together their disparate skills in ways that sought to achieve best-evidence care for a vulnerable older person—consolidating undergraduate learning and vivifying the benefits of collaborative practice. In this way, the power/knowledge nexus (Foucault, 1980) between student cohorts was reconfigured to reflect more collaborative relationships, which were perceived as enhancing their professional contributions to the assessment of residents and the conclusion they reached in recommending changes in care.

There are relatively few examples of reported positive interprofessional encounters between medical and nursing students as part of undergraduate clinical placements, although (as mentioned earlier) paramedic and medical students have been reported to interact comparatively well together during collaborative exercises (Hallikainen et al., 2007). Where positive experiences have been reported among undergraduate health students in an RACF context, researchers have focussed on health outcomes for care recipients and observed that student IPE creates an environment where care and quality of life can potentially be enhanced (Elliott et al., 2014; Seaman et al., 2014). Such findings align with the results seen in this research where students valued the opportunity to interact with and contribute to improving the health of a volunteer resident with complex medical needs. This study is potentially among the first to provide direct evidence of positive learning outcomes among diverse student cohorts, including reciprocal teaching and learning, consolidation of undergraduate competencies, and greater awareness of the role scope of self and others within an interprofessional healthcare relationship.

The outcomes reported in this study did not arise spontaneously and were the result of significant planning and

preparation (Fyfe et al., 2015; Robinson et al., 2013). The IPE experience described herein was founded upon three core tenets: (a) preparation of student cohorts and RACF mentors within an iterative action research framework, (b) high-quality supervision from both RACF mentors and clinical tutors, and (c) a formal and highly structured approach to IPE with clear learning objectives and a collaboratively developed protocol that created the collegial space for students to learn with, from, and about each other (Fyfe et al., 2015).

As it has already been acknowledged, there are relatively few existing studies of undergraduate student IPE within an aged-care context (Annear, Lea et al., 2016; Hoti et al., 2014; Seaman et al., 2014). This study is among the first to reveal the mixed, personal experiences of a large group of health students when they are engaged in a protocol-driven (Annear, Goldberg et al., 2016), structured, and supervised IPE activity that is designed to foster collaboration in preparation for future workplace interactions. The results indicate that a tremendous and sustained effort is required to capture the "hearts and minds" of undergraduate learners and convince them of the benefits of IPE in an aged-care context. In a recent systematic review, Reeves et al. (2010) identified that a limitation of existing interprofessional studies was lack of utilisation of qualitative methods that might offer insights into how IPE potentially changes practice. This study responds to this identified paucity by using qualitative focus group research to reveal the underlying power relations that potentially hamper efforts to facilitate IPE collaboration, while also showing how to capture student interest in aged-care-based IPE. Students were particularly stimulated by experiences of the complexity of aged care and the opportunity to work with colleagues from other professions to assess, understand, and address challenging issues associated with ageing (such as multimorbidity, chronicity, polypharmacy, dementia, and others). The research also showed that IPE activities should focus on building a culture of reciprocal teaching and learning among undergraduates by helping students to understand the boundaries of their own knowledge and experience, while recognising the capabilities of colleagues from closely aligned professions. The findings also signal a number of possible new research directions, which should be investigated by IPE researchers: mixed-methods triangulation of IPE intervention outcomes in aged care; comparison of IPE experiences when students from different and similar year levels collaborate; and long-term follow-up with students who have undergone IPE activities to evaluate sustainability of effects, particularly once they enter the health workforce.

In terms of study limitations, evaluation of the IPE experiences was undertaken by utilising students' personal reports that were provided during focus group discussions on the final placement day. The validity of student feedback may have been affected by social desirability with students not wishing to undermine the RACF or their tutors on their last day of placement. In an effort to elicit reliable and trustworthy feedback, the following steps were taken: students provided feedback within their professional groups; focus group discussions were undertaken in a closed meeting room with no RACF staff or university tutors in attendance; and respondent confidentiality was ensured by researchers verbally and in writing. Furthermore, due to the very high rate of research participation among the three cohorts of health students, it is likely that respondents represented the diversity of views inherent among most medical, nursing, and paramedic students. Further verification of the data may be achieved with the inclusion of anonymised surveys to provide a measure of triangulation. Despite a high number of student participants and efforts to encourage a diversity of respondents, it is possible that the different year level of IPE activity partners (e.g. second-year nurses with fifth-year medical students) may have challenged collaboration if students considered themselves to be either superior or inferior to their interprofessional peers based on year level alone. This may have resulted in some negative perceptions of the interprofessional practice within the aged-care context. Future comparative studies of students at different and similar year levels may yield interesting results concerning the efficacy of undergraduate collaboration in aged-care settings. Finally, as no follow-up with students was undertaken in the weeks and months after the placement, further research efforts are required to determine how the placements affect practice and attitudes over a longer term.

Concluding comments

The results of the present study provide useful insights into achieving positive learning outcomes among undergraduate health students as part of interprofessional learning activities in RACFs. However, it is important to acknowledge that such gains occur against a background of entrenched identities and attitudes. The prevailing power/knowledge tensions in health education preconditions medical and paramedic students to devalue the role of nursing students and look down upon the aged-care environment. As such, the complexity associated with facilitating effective IPE for undergraduate students in aged-care contexts should not be underestimated. Significant preparation and resourcing is required to achieve collaborative practice. Arguably, the task of IPE would become much more assured if structural changes could be made in health curricula to provide more extensive student engagement with IPE and aged-care settings.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

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