A student-led, interprofessional care, community-based healthcare service: Student, clinical educator and client perceptions of interprofessional care and education

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Abstract

Introduction: Interprofessional clinical placements present an opportunity for students to enhance their competence in interprofessional practice. Student-led clinics have been shown to be effective for a variety of outcomes, but the experience of students in relation to their development of skills and the perspectives of clinical educators and clients are unknown. This study aimed to investigate student, clinical educator and client experiences, along with perspectives of interprofessional care and interprofessional education in an interprofessional, community-based health service.

Methods: This study implemented a mixed methods design through the administration of self-report surveys, focus groups and semi-structured interviews of key stakeholders, including students undertaking full-time placements, clinical educators and clients, in 2019. Survey data were analysed quantitatively, and qualitative data were subject to thematic analysis.

Results: Students reported increased confidence to deliver interprofessional care and attributed this in part to their clinical educators. Clinical educators felt equipped and prepared to deliver interprofessional education activities and displayed high levels of confidence in their ability to provide feedback. Clients were confident in the students' abilities to be involved in their care and understood the role of the educators. Clients also acknowledged an appreciation of teamwork between students.

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Conclusions: The results of this study indicate an interprofessional student-led clinical placement increased student confidence in their ability to deliver interprofessional care and emphasised the role of the clinical educator. The perspectives of clients in this paper provide a unique and important viewpoint when considering models of clinical placements that are interprofessional in nature.

Keywords: interprofessional relations; interdisciplinary communication; clinical education; allied health

Introduction

It has long been recognised in Australia that the way in which healthcare is provided must adapt to meet the needs of the population. Seventeen years ago, the National Health Workforce Strategic Framework (2004) and the Australian Government Productivity Commission (2005) recognised that the skills of many health professionals were not being utilised to their full scope. It was determined that professional education was required to optimise team delivery of care and interprofessional care (IPC). Five years later, in 2009, the National Health Workforce Taskforce acknowledged an increased demand on the health workforce due to population growth and changes in the nature of the burden of chronic disease, particulary related to older Australians, where community-based care focuses on improving health outcomes and delivering patient-centred care (Bookey-Bassett, 2017). These factors, in combination with a greater focus on illness prevention, value-based care and evolving landscapes in consumer expectations, have forged the reconceptualisation of existing health professional roles and the advent of IPC (Maloney et al., 2017).

There is evidence to suggest that IPC can influence patient safety, improve clinical outcomes and enhance patient and staff satisfaction in a cost-effective way (Boshoff et al., 2020). However, IPC is complex and requires health professions to work effectively, both together and across teams and settings (Hickman et al., 2007). This requires skills in client consultation; role awareness of, and communication with, other professions; teamwork; and conflict resolution in complex environments (CIHC, 2010; Kent & Keating, 2013).

For IPC to be successfully implemented, interprofessional education (IPE) is required to develop professional competency in working collaboratively across disciplines. IPE occurs when students from two or more professions learn with, from, and about each other to enable professional collaboration with a focus on improving clinical outcomes for clients (WHO, 2010).

In undergraduate health professional education programs, IPE aims to foster graduates who practise collaboratively, work in a team and resolve conflict in order to deliver client-centred care (Brewer et al., 2017). Gilligan, Outram and Levett-Jones (2014) describe clinical placements for undergraduate health students as underutilised opportunities to

employ IPE strategies and develop interprofessional skills. There is increasing evidence that such experiences enhance knowledge of other professions, interprofessional collaboration, communication and teamwork skills (Boshoff, 2020; Brewer et al., 2017; Cox et al., 2016). However, while there is not an extensive body of research in the area of client experiences of IPC, studies which do exist suggest a high level of client satisfaction with the care received in an interprofessional student environment (Brewer et al., 2017; Hallin et al., 2011; Kent & Keating, 2013).

Interprofessional student-led clinics have been established to build capacity beyond traditional single-discipline placements, facilitate development of collaborative approaches to healthcare and address community healthcare needs (Schutte et al., 2015). Traditionally, interprofessional student-led clinics have sought to address underserved populations within the community, providing free, or low-cost, short-term programs that utilise an interprofessional model (Schutte et al., 2015). Interprofessional student-led clinics can provide a supported learning environment in which students can learn the roles of other health professions and develop key skills in IPC delivery (Australian Government Department of Health, 2019; Sheu et al., 2010). Gustafsson et al. (2016) reported that through an immersive practice experience in a student-led interprofessional rehabilitation clinic, students developed an increased understanding of, and respect for, differing roles, whilst also demonstrating improved confidence in working and communicating within an interprofessional team. Other studies have also demonstrated that student-led interprofessional clinics have positive impacts on both students and clients (Buckley et al., 2014; Farlow et al., 2015; George et al., 2017; Stuhlmiller & Tolchard, 2015).

Whilst there is evidence of the effectiveness of interprofessional student-led clinics, it has not been contextualised within a framework or model that allows for longterm evaluation. O'Brien and colleagues (2015) framed an interprofessional experience in a community of practice model, placing students and clients at the core of the model with clinical educators. Their representation of stakeholders within a community of practice presents a cohesive framework for how IPC should occur and potentially be evaluated to improve care. Very little research has evaluated how an IPC model has been implemented within an inteprofessional student-led clinic whilst evaluating key perspectives from students, clinical educators and clients.

The aim of this study is to investigate student, clinical educator and client experiences and perspectives of IPC and IPE in an interprofessional, community-based health service. To address this aim, the following three research questions are posed:

1. What was the student experience of IPE throughout the placement and how did perceived confidence in IPC and collaborative team care change as a result of the placement?

2. How confident were clinical educators in facilitating IPE and what did they perceive were the challenges and benefits of supporting students in the delivery of IPC?
3. Did clients recognise their care was delivered collaboratively (by a student and clinical educator and by different health disciplines) and did they believe the care they received positively impacted their health service experience?

Methods

Context: Activities and structure of the clinic

The UQ Healthy Living clinic is based in metropolitan Brisbane, Australia. Established in June 2018, the UQ Healthy Living clinic delivers interprofessional health services (Table 1) to those aged 50 years and over through interprofessional student teams. All student teams are supervised by clinical educators who are registered health practitioners in their discrete discipline; between them, clinical educators represent five different health disciplines. Clients are either referred or self-referred for private and Medicare-funded services at a reduced cost to comparative services within the community (Forbes et al., 2020). The University of Queensland (UQ) opened the UQ Healthy Living clinic as a strategy to increase capacity in meeting the demand for student clinical placements and interprofessional training requirements. The University of Queensland philosophy of contributing to the community was also a driver for this initiative.

All UQ Healthy Living clinic services are delivered by interprofessional student teams supervised by clinical educators (Table 1). Initial client assessments prior to starting any exercise program are typically conducted by at least two disciplines (commonly exercise physiology and physiotherapy). The initial assessment is delivered collaboratively, rather than traditional discipline-specific assessments, and a shared IPE assessment template is used regardless of the disciplines involved. The only discipline that follows a more traditional single profession model in the clinic is dietetics, and students on these placements consult clients individually, as well as providing cooking demonstrations and education. Following an initial assessment, clients transition to a gym-based exercise program supervised by a number of students from different health disciplines. Other regular IPE activities include daily team meetings between clinical educators and students (huddles), case conferences and informal student-hub discussions. In addition, a number of disciplines provide individual consultations to clients. Clinical educators are employed on a parttime and casual basis to provide IPE facilitation and student support and direction, which exposes students to supervisors from a wide range of disciplines throughout their placements. The UQ Healthy Living clinic operations are managed by a fulltime clinic manager in addition to two administrative personnel.

Table 1

Client Health Services Offered by the UQ Healthy Living Clinic and Student Health Disciplines Involved With Their Delivery

Client Health Service	Student Discipline
Health assessment & personal exercise programs	All healthcare students*
Group exercise sessions	All healthcare students*
Educational seminars & workshops	All healthcare students*
Dietetics consultations	Dietetics
Physiotherapy consultations	Physiotherapy
Exercise physiology consultations	Exercise physiology
Occupational therapy consultations	Occupational therapy
Psychology, counselling & social work consultations	Psychology and social work
Restorative care: cancer recovery, cardiac & pulmonary rehabilitation and diabetes support	All healthcare students*

* The following healthcare disciplines place students at the UQ Healthy Living clinic: counselling, dietetics, exercise physiology, nursing, physiotherapy, occupational therapy, psychology and social work. The phrase "all healthcare students" refers to all students except dietetic students, who were co-located but did not participate in all activities.

Forbes et al. (2020) discuss the interprofessional care model used at the UQ Healthy Living clinic and its unique model of student-led, interprofessional healthcare delivered by students studying counselling, dietetics, exercise physiology, nursing, occupational therapy, physiotherapy, psychology and social work. While individual disciplinary consults occur, primarily in the dietetics discipline, the majority of the UQ Healthy Living clinic services are designed to facilitate exercise-based healthcare for older adults.

Research design

A mixed methods design (Creswell & Plano Clark, 2017), involving surveys, focus groups and interviews, was implemented to ensure depth and breadth in the results. While the surveys provided an opportunity to obtain greater numbers of participants, the focus group and interview data was then used to further explore the perceptions of participants. Surveys were administered to students, clients and clinical educators, with surveys open for a 6-week period commencing in July 2019. Further data was obtained through focus group discussions with students and semi-structured interviews with clinical educators approximately 4 weeks after the surveys closed. All students had completed their placement when the focus group took place. Transcription was performed independently of the research team, and disciplines of the respondents were not recorded during transcription, so quotes could not be attributed to a specific discipline. Ethical approval was obtained from The University of Queensland Human Ethics Committee (#2019000476).

The research team was comprised of academics from four different disciplines, including nursing, physiotherapy, psychology and exercise physiology. This team was formed specifically for this project, although some members had worked together previously. The academics had varying skill sets in qualitative and quantitative data collection and analysis, with all members interested and supportive of IPE.

Survey measures included 5-point Likert scale questions and open responses. Surveys were developed by the research team and piloted using 10 contacts of the research team. Minor changes were made following piloting. Surveys were disseminated, using SurveyMonkey™, to students via an email list and to clients via email contacts generated from the clinic database. Clinical educators were approached directly by the research team.

Student outcomes

Anonymous student surveys and focus group interviews explored students' perceptions specific to delivering IPC prior to their placement and upon placement completion. Survey questions included a focus on the development of competencies required for IPC and were grouped into six competencies: teamwork, role clarity, conflict resolution, collaborative leadership, patient-centred care and communication (CIHC, 2010). The focus groups expanded on competency development and included questions related to students' understanding of IPC and their experiences in developing related IPC skills as well as the support they received from the clinical educators at the UQ Healthy Living clinic.

Student surveys were administered following completion of the placement, and following the survey, participants were invited to take part in focus groups. Focus groups were facilitated by a member of the research team (BC) who was not known to the students and had not taught or interacted previously with them in any way. The interviews were audio recorded for transcription.

Clinical educator outcomes

The clinical educator data was obtained through anonymous surveys and semi-structured interviews, with a particular focus on interprofessional knowledge and practice, as well as confidence in facilitating IPE activities and supervising care that used the IPC model at the UQ Healthy Living clinic. Participants were invited to participate in interviews following completion of the survey. Interviews were conducted by a member of the research team (BC) who had no prior relationship to the clinical educators and audio recorded for subsequent data transcription.

Client outcomes

An anonymous client survey focused on the client experience, their satisfaction and their understanding and awareness of the different student health professions working at the UQ Healthy Living clinic to capture their perceptions of the interprofessional

teamwork between students and also between students and clinical educators. Focus groups did not occur with this group as the clients had recently undertaken focus groups for another project and minimising participant burden was deemed to be appropriate. Access was given to the previous focus group data, but it did not relate specifically to interprofessional collaborative care.

Data analysis

Surveys

Survey data was exported to Microsoft Excel for analysis. Descriptive statistics were calculated for all Likert-scale questions, and open-ended responses were coded into themes, where possible, by adding this data to the focus group and interview responses.

Focus groups and semi-structured interviews

Analysis of interview and focus group transcripts was informed by Braun and Clarke (2006) and involved reading and re-reading the transcripts, assigning preliminary codes to describe content, searching for and reviewing patterns and themes across transcripts and defining themes. Interview (clinical educator) and focus group (student) transcripts were repeatedly read by two researchers (EB and RF), who independently highlighted key phrases and then engaged in inductive analysis to identify recurring codes. The research team discussed and agreed on themes by consensus. The recurring codes were grouped into preliminary themes by EB—a process which was repeated by RF before EB and RF reached consensus through discussion for the final set of themes prior to discussion with the wider research team. Individual quotes were drawn from key themes when they increased descriptive power or analysis of the survey data (Braun & Clarke, 2006).

Results

In 2019, 114 students undertook fulltime placements at the UQ Healthy Living clinic; five fulltime equivalent clinical educators were employed; and 500 active clients received services. Thirty-one students (27%) responded to the student survey (Table 2), although not every student answered every question. The length of student placements varied from short block placements of 2 weeks or less (3.2%) to 4 weeks (6.5%), 5 weeks (29%) or 6 weeks or greater (61.2%). Eight students participated within one focus group, consisting of the counselling, exercise physiology, occupational therapy, physiotherapy and psychology disciplines. All clinical educators (n = 5, 100%) volunteered to participate in the study and completed the survey and interview. The postgraduate practice experience of clinical educators supervising the UQ Healthy Living clinic students varied from less than 2 years (20%, n = 1) to between 2 and 6 years (40%, n = 2) and greater than 10 years (40%, n = 2). Twenty-three clients completed the online survey (5%); most were between the ages of 65–79 years and were predominantly female respondents (82.6%).

Table 2

Demographics for Students, Clinical Educators and Clients Involved With the UQ Healthy Living Clinic

	Students	Clinical Educators	Clients
Respondents (n)	31 (27%)	5 (100%)	23 (5%)
Age	18–24 years: 18 (58%) 25–34: 12 (39%) 35–44: 1 (3%)	18–24 years: 1 (20%) 25–34: 2 (40%) 35–44: 2 (40%)	50–64 years: 5 (22%) 65–79 years: 17 (74%) 80–94 years: 1 (4%)
Gender	25 (81%) female	4 (80%) female	19 (82.6%) female
Discipline	Student discipline	CE discipline	Client exposure to disciplines
	Exercise science and exercise physiology 5 (16%), physiotherapy 6 (19%), dietetics 14 (46%) and other professions 6 (19%, including nursing and counselling).	Exercise physiology 4 (60%), physiotherapy 1 (40%)	Professions involved in their care: exercise physiology 21 (90%) and physiotherapy 15 (65%); 17% consulted with a dietitian.

Table 3

Student Responses to the UQ Healthy Living Clinic Placement Survey Questions Following Their Placement

	Strongly agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly disagree n (%)
I felt prepared for interprofessional care before I attended practicum/placement	0 (0%)	3 (10%)	17 (59%)	7 (24%)	2 (7%)
The interprofessional education model at the UQ Healthy Living clinic enhanced my skills in working with other professions	4 (15%)	13 (50%)	2 (8%)	3 (12%)	4 (15%)
The UQ Healthy Living clinical educators effectively supported my learning experience at the UQ Healthy Living clinic	9 (35%)	3 (12%)	8 (31%)	3 (12%)	3 (12%)
I was aware of the scope of practice of other allied health professions and how it was similar to mine before attending the UQ Healthy Living clinic	0 (0%)	12 (43%)	8 (25%)	7 (25%)	2 (7%)
Following my experience, I understood the abilities and contributions of the other allied health profession team members	4 (15%)	15 (58%)	4 (15%)	1 (4%)	2 (8%)
I was able to learn with, from and about the other allied health profession team members to enhance care for the clients	0 (0%)	12 (46%)	5 (19%)	1 (4%)	8 (31%)

Student experience and change in perceived confidence

In the survey data, students predominantly reported they were neutral about their level of confidence in delivering IPC prior to their UQ Healthy Living clinic placement (Table 3). Students mostly agreed that their clinical placement enhanced their ability to work with other professions (65%) and that following their placement they felt they better understood the abilities and contributions of other health disciplines (73%) (Table 3).

Within the student focus group, three themes were generated following analysis: value of the IPE clinical placement to develop student learning and team skills, recognition of the value of teamwork in client care, and challenges related to IPC placements and opportunities for IPE and development.

Theme 1: Value of the IPE clinical placement to develop student learning and team skills

When students reflected on their IPE clinical placement experiences, they particularly considered their own learning and skill development. Students strongly expressed that the IPE setting and experiences led to an increased awareness of the value of teamwork and how it can improve clinical practice and their own knowledge and skills. Importantly, students also saw this as contributing to a more "holistic" approach to client care.

> *I think for interprofessional practice, it's really about targeting not just your specific discipline but, basically, targeting all the needs of a patient in one hit so that it can create more of a holistic approach to whatever you're doing, because you can still impart your own knowledge.* (Student B)

Whilst learning about team skills was seen as valuable for their current practice, it was also seen as something that could contribute to their future practice.

> *In a way, you also build your own knowledge of what everyone around you is … specialising in, and that's a really nice thing that you can take across to the rest of your placements.* (Student D)

This was particularly clear when some reflected on the siloed approach that they are typically used to within their own disicplines and how this changed when they experienced the inclusion of the professions together in the UQ Healthy Living clinic.

> *I think it also helps having the knowledge about what the other disciplines do because when you're at uni, you're really in your own faculty, but—and especially once you go out on your first couple of placements—you don't really have a great sense of what everyone else can do because you didn't study it.* (Student A)

From a student perspective, an increased understanding of the role of other professions was felt to enhance their confidence in working in interprofessional teams.

> *So when you come here, you can sort of build off that, and that helps your connections to be able to just go to them and ask them a question that you may not [have known] who to ask before.* (Student B)

Theme 2: Recognition of the value of teamwork in client care

Student participants strongly reflected on the value of their IPE placement—the associated teamwork around client care and outcomes.

> *I feel like it's definitely grounded in the client's good care, so being able to get everyone's opinions from all their best instructions in order to get the best outcome for their care.* (Student E)

This often related to students perceiving that an interprofessional approach to clients provided a basis for care to be more thorough and "holistic".

> *I think having an interprofessional model here makes the clients more comfortable, and they probably have more confidence in our clinic just because they're getting that holistic care.* (Student C)

Student participants reflected on specific instances providing first-hand opportunities to experience the role of other professions in client care. These experiences were often during challenging client consultations, where involvement of other professionals was not only appropriate but considered necessary.

> *I would have just breezed over it because she was talking about her husband leaving her and it was a difficult time for her, … [and] I would have just noted that down and moved on. But … the social worker in my team kind of picked up that she was crying. So from there, I think the social worker took over and delved a little more into the depression and anxiety issues that the client had.* (Student G)

Some students acknowledged that clients often needed care from more than one professional group, and the ability to offer this led to better outcomes. This related to students' growing understanding of selecting an approach to care delivery based on the environment the client was in.

> *The knowledge from psychology is a little bit different to counselling, and then you have … social work [with] more … resources, and I think it's just really powerful having the combination of the different professions.* (Student D)

Theme 3: Challenges related to IPC placements and opportunities for IPE and development

Despite mostly positive experiences, student participants reflected on challenges related to working in interprofessional teams within their placement. These tended to relate to not clearly understanding the role of other professions within client care, which also extended to differing communication, terminology and practices.

> *From my perspective, it's a bit different, in a sense, because, for example, phrases that are familiar to my discipline may not be … similarly understood by other disciplines. There is [a] need to [have] extra time to explain the terms, actually explain what [they] mean, specifically the context I guess … compared to … just a singular discipline where everyone just [understands] what each other means.* (Student G)

Participants acknowledged that this required negotiation amongst their group in the delivery of client care.

> *Because everyone has their own sort of ideas coming from their own profession, it can be hard to put all of the ideas into the structure. So kind of when to negotiate what's going to be the best for the group.* (Student F)

Some participants had specific suggestions for placement opportunities to better prepare students for working in teams from diverse professional backgrounds.

> *Encouraging each profession more to maybe do a presentation or something on what their discipline is and does.* (Student D)

> *Giving a template to new students to say, "Hey look, you're going to be taking clients into interprofessional teams." So they know and then they can also relay to the client, "Oh, look, our clinic is based on this interprofessional model; … We aim to give you holistic care". To make it a … smoother transition when new students come here.* (Student H)

Table 4

Clinical Educator Survey Responses Specific to Interprofessional Education and Care

	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
I feel equipped to provide IPE	0 (0%)	4 (80%)	0 (0%)	1 (20%)	0 (0%)
Students are prepared for IPC when they commence their practicum at the UQ Healthy Living clinic	0 (0%)	2 (40%)	1 (20%)	1 (20%)	1 (20%)
Students are prepared for IPC when they complete their practicum at the UQ Healthy Living clinic	2 (40%)	1 (20%)	0 (0%)	1 (20%)	1 (20%)
I am able to confidently identify the barriers to effective IPE between students	0 (0%)	1 (20%)	3 (60%)	1 (20%)	0 (0%)
I am confident with providing feedback to an individual to promote their functioning as part of the overall team	2 (40%)	2 (40%)	0 (0%)	1 (20%)	0 (0%)

Clinical educator confidence and perceptions of challenges and benefits

The survey results indicated that most clinical educators (80%) felt equipped to provide IPE to students. The number of clinical educators who believed students were prepared

for IPC increased from 40%, before their placement at the UQ Healthy Living clinic, to 60% after their placement (Table 4).

In semi-structured interviews with the five clinical educators, two key themes were identified: strategies used by clinical educators to support effective IPE and challenges in the delivery of IPE in a clinical placement setting.

Theme 1: Strategies to support IPE

Throughout the semi-structured interviews, all clinical educators made comments related to how they were able to facilitate IPE activities for students. They reflected on opportunities within the clinic and across the placement to facilitate IPC that were considered to enhance student confidence and competence. An example of this was where two clinical educators described the role and value of modelling, especially in situations relevant to client care.

> *I will go in and have a chat, even if it's just "Hey, this is what I'm thinking, what do you reckon?" I think modelling that behaviour is a great approach.* (Educator N)

Clinical educators strongly recognised the value of the interprofessional clinical setting in providing authentic and valuable interprofessional learning for students and compared the benefits of the setting to other multiprofessional settings.

> *This is the only place where they've worked this way; everywhere else has been a multidisciplinary team where although they might come together for case conferences or those informal hallway meetings, they're not actually working side by side together.* (Educator H)

One educator reflected on the importance and value of students clearly understanding and also articulating their roles and responsibilities in the collaborative team, which contributed to a perceived development of confidence.

> *The main thing is a real improvement … [of] confidence in knowing what their role is and how … they can help to develop this with the clients.* (Educator N)

Theme 2: Challenges in the delivery of IPE

Educators reflected on a number of challenges in delivering IPE within the clinic and placement setting. Differing student timetables and placement periods were a key challenge to ensuring students were matched in teams and, therefore, clients could access the care they needed.

> *Okay, so … [a] logistical thing is orienting students. … It's worked okay when they're all starting and finishing at different times, but when you've had them all leave at once and then on Monday you've got three new EP and three new physio students starting, … you've got no trained students.* (Educator H)

Educators reflected on the challenge of providing adequate supervision and feedback to students with limited time observing those students.

> *It can be hard to track a student that I see one and a half days a week even though I'm here [throughout the week]. It's just that they might not have been booked on any of my consults so I'm not going to have that direct observation over them.* (Educator S)

A large number of students across multiple professions also resulted in challenges relating to assessment of student performance whereby educators have to prioritise how to provide assessment.

> *We'll get to the mid-unit feedback and … we haven't really seen a lot of them. So we make sure that we make an effort. I kind of have to bias my time to spending more time assessing the physio students on the days that I'm here because otherwise I will get to the mid-unit feedback and say, "Oh, I don't know, they seem alright".* (Educator H)

Table 5

The UQ Healthy Living Clinic Client Survey Responses Specific to Student Activity Within the Clinic and Their Perceived Clinic Outcomes

	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
I am aware of the different student health professions involved in my care at the UQ Healthy Living clinic	17 (74%)	2 (9%)	3 (13%)	1 (4%)	0 (0%)
I understand the role of the students at the UQ Healthy Living clinic	13 (57%)	7 (30%)	2 (9%)	1 (4%)	0 (0%)
I am confident in the students' ability to be involved in the development of my UQ Healthy Living clinic plan	11 (48%)	7 (30%)	3 (13%)	1 (4%)	1 (4%)
I noticed that students were willing to work together	16 (70%)	5 (22%)	1 (4%)	0 (0%)	1 (4%)
I understand the role of clinical educators in my care	16 (70%)	4 (17%)	2 (9%)	0 (0%)	1 (4%)
I observed collaborative teamwork occurring between students and clinical educators at the UQ Healthy Living clinic	15 (65%)	6 (26%)	2 (9%)	0 (0%)	0 (0%)
I was involved in developing my healthy living plan at the UQ Healthy Living clinic	15 (65%)	5 (22%)	3 (13%)	0 (0%)	0 (0%)
How effective was the UQ Healthy Living clinic at assisting you achieve your goals?	13 (57%)	5 (22%)	4 (17%)	0 (0%)	1 (4%)
I was satisfied with my care at the UQ Healthy Living clinic	19 (83%)	2 (9%)	0 (0%)	1 (4%)	1 (4%)

Client recognition of collaborative care and impact on healthcare experience

Survey responses from key statements related to clients' perceptions of students, clinical educators and their care are presented in Table 5. Clients felt confident in the ability of the students to be involved in their care (78%), recognised aspects of teamwork between the students (92%) and, overall, were satisfied with the care they received (92%).

Discussion

Using both quantitative and qualitative data, this study explored the perspectives of key stakeholders in an interprofessional context to better understand the experience of IPE within the UQ Healthy Living clinic. Quantitative data suggested significant changes to teamwork skills, but qualitative data provided an understanding of what changed, which was directly related to exposure to other health professionals where teamwork facilitated a bigger picture of client care. Focus group data provided important insights into survey data, however the students (while forthcoming) did not go into great depth and detail in their responses, which made it challenging to unpack deep-rooted themes. This may be related to their limited IPE experience.

A key component of the student learning that occurred appears to be a direct result of clinical experiences during their placement and, moreover, their educators' abilities to deliver IPE activities and facilitate IPC. The UQ Healthy Living clinic educators felt largely equipped and prepared to deliver IPE activities and displayed high levels of confidence in their ability to provide feedback to students to promote team functioning. This is reflective of previous research, which identified competencies for interprofessional teaching such as confidence in delivering learning and understanding of group dynamics (Freeth et al., 2005).

Previous research also identified significant challenges to the facilitation of IPE and IPC, particularly that whilst professionals are well trained in defined roles, this may not include facilitation of IPE (Anderson et al., 2009). Also identified in that study were limitations in timetabling and availability, a finding that was also identified in the current study, suggesting work needs to be done to streamline learning opportunities for students. Clinical educators also consistently expressed the importance of modelling IPC, and this, in turn, resulted in unconscious modelling to students in the IPC environment. Future research should aim to capture this process and ensure it is an important part of IPC clinical placements.

Client satisfaction with service delivery is often assessed in IPC environments, and previous research has shown, similar to the current study, that satisfaction is often high as a result of student-led IPC (Buckley et al., 2014; Farlow et al., 2015; George et al., 2017; Stuhlmiller & Tolchard, 2015). In addition, this study asked clients to comment not only on the outcome of the experience (satisfaction) but the process, through gaining an understanding of whether clients explicitly could identify IPC activities or instances of teamwork in their care. Results indicated that clients could identify different professions

involved in their care, but clients also observed collaborative teamwork between students and, importantly, understood the role of the clinical educators in their care. While clients are not usually part of this evaluation, previous research has suggested that a community of practice model can be applied to a student-led IPC model and that clients are an integral part of evaluating the model (O'Brien et al., 2015). This study demonstrates how client perspectives can contribute to evaluation of the model, which is an important consideration for future research to ensure that all key stakeholders are part of an iterative evaluation process.

It was clear from the findings that most students enjoyed their experience of working in an interprofessional student-led environment. Clearly linking their placement learning to care delivery has been shown to positively impact on teamwork skills and delivery of care (Coleman et al., 2017). Indeed, an important finding was related to students' growing understanding of the value of teamwork in this environment and their perception that this led to more integrated care for clients. Reeves, Xyrichis and Zwarenstein (2018) suggest that this indicates students are developing shared accountability and clarity regarding shared patient goals. Students' experiences of IPC and working within interprofessional teams contributed to enhanced readiness and confidence, and it was evident that there were changes in their clinical practice, such as a greater focus on holistic care and an appreciation for the negotiation required in a team focused on working for the best interests of the client. This is consistent with previous research indicating IPE can enhance students' holistic understanding of situations to a greater degree than uni-professional placements (Nandan & Scott, 2014). However, it is important to note that while an overall increase in students' perceptions of their ability to work in teams was demonstrated at the UQ Healthy Living clinic, there was significant disparity between results when comparing within disciplines, which was particularly evident in dietetic students when compared to the seven other disciplines combined. This suggests dietetic student respondents were not satisfied with their placement and with the effectiveness of the clinical educators in preparing them for IPC. However, it should be noted that their primary work related to individual activities with clients, predominantly in isolation from other health disciplines and IPC client consultations. This was due to supervisory challenges resulting from accreditation demands and program timetabling. These results suggest the integration of disciplines appears necessary to optimise student satisfaction and simple co-location of disciplines is not sufficient in IPE.

Limitations

Several limitations need to be considered. The small sample size in each participant group limits the ability to make strong inferences from the study results. In particular, survey response rates from student and client surveys were low (27% and 5%, respectively). This has significant impact on the interpretation of the results. However, despite the low client response rate, findings appear to indicate satisfaction with the model and support what is reported elsewhere. The unique service activity and participants of the UQ Healthy

Living clinic may limit the generalisability of the study results to wider IPE settings. This should also be considered in light of the high number of female participants in all groups of the study (students, clients and clinical educators). While there are more female students and clinical educators in the clinic setting, there was an over-representation of female clients responding to the survey. The impact of prior IPE in student programs likely has a significant impact on student knowledge, skills and attitudes prior to their UQ Healthy Living clinic placements, and while this study enquired about prior IPE, a more detailed account would allow for a greater understanding of the results. The reflexivity of the research team should also be considered in the context of the results. While not a direct limitation, all members of the research team are highly invested in supporting students to develop collaborative competencies. Two separate researchers read and coded all transcripts to improve impartiality in coding positive results, however it should be recognised that all members of the research team value the use of IPE in student placements.

Recommendations

In a community-based student-led interprofessional clinical placement, all students should be exposed to and involved in aspects of IPC, even if the predominant nature of their interactions with clients is likely to be uni-professional. IPE activities should be described explicitly to students to enhance their awareness and ensure students are actively engaged with improving their skills and behaviours related to IPC. Clinical educator confidence was demonstrated to be very important and, therefore, should clinical educators without prior experience be involved in IPE and IPC, training in IPE facilitation will be crucial.

Conclusion

The purpose of a student-led IPC experience, such as the UQ Healthy Living clinic, is that students will learn important skills and behaviours that allow them to demonstrate both discipline-specific competencies and interprofessional competencies, such as communication, teamwork, conflict resolution and roles and responsibilities. Clinical educators are the catalyst for this change and operate as the experts for both the clients (as health professionals themselves providing care) and the students (as educators providing feedback and formative and summative assessment). It is hoped that this collaborative model will allow clients to come closer to reaching their goals. From the student perspective, the placement enhanced their capacity to work in teams and improved their understanding of client-centred care, and this was supported by clinical educator reports. While the data did not directly relate student confidence to client outcomes, the high client satisfaction may be due to the strong, effective interactions between all three stakeholders and the focus of the model on client-centred practice that occurs in IPC.

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