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Building great health care teams: enhancing interprofessional work readiness skills, knowledge and values for undergraduate health care students

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Abstract

Collaborative ways of working have become increasingly important as healthcare adopts a more team-based approach to patient care. Interprofessional education (IPE) addresses some of the challenges associated with collaborative working and is increasingly offered to learners pre and post qualification. This article reports on a three-day IPE program designed to enable undergraduate health professional students develop interprofessional (IP) work readiness skills, knowledge and values while undertaking clinical placement in a hospital setting. The curriculum built participant skills in culturally safe IP collaboration (IPC); focused on strategies for providing quality care to indigenous peoples and communities; and overtly linked IP competence to organisational mission and values. It highlighted the patient voice and displayed both the human cost of poor team communication and the comfort family members gained from watching united treating teams working with skill, compassion and kindness. Twenty-four students from seven healthcare disciplines completed the program (N=24). The Work Self-Efficacy Inventory (WS-Ei) and the Interprofessional Socialisation and Valuing Scale (ISVS) assessed participant IP skills, knowledge, beliefs, values, attitudes and confidence before and after program completion. A paired samples t-test showed an increase in mean scores in all responses on both scales.

Results signify that participation in the IPE program resulted in substantial shifts in knowledge, skills, and values as evidenced by changed assumptions and worldviews, enhanced knowledge and skills concerning IPC, improved understanding of other professional roles and increased confidence in managing workplace experiences.

Introduction

Despite an increased focus on interprofessional (IP) learning in health professional education the development and delivery of undergraduate interprofessional education (IPE) remains challenged by timetabling, curriculum, and resource constraints inherent in Australian and international university programs (The Interprofessional Curriculum, Renewal Consortium, Australia, 2013). Shifting the location of IPE to the workplace may address some of the difficulties associated with university based IPE curriculum implementation. Practice based or work integrated learning forms a significant component of undergraduate health professional education and thus provides an opportunity for contextually relevant, responsive, and workplace integrated IPE (Kuipers, Ehrlich, & Brownie, 2014).

This article describes the cross-institutional development, implementation and evaluation of a practice-based three-day IPE program ‘Building Great Healthcare Teams’. The program was designed to enable undergraduate health professional students to develop IP work readiness competencies while undertaking clinical placement in a hospital setting. Students from seven healthcare disciplines and three universities participated in the program; none reported prior experience of IPE. We report on our formal evaluation of the program, as this is essential in

identifying its impact on the development of participant IP skills, knowledge and values and determining program sustainability.

Background

The IPE project was a collaboration between a national Australian Catholic university and a large Australian Catholic public hospital. A university teaching development grant enabled the secondment of a senior hospital based allied health clinical educator to manage the project; a steering committee comprised of hospital and faculty staff provided oversight and support; teachers and workshop facilitators were drawn from both institutions.

Curriculum

The curriculum focused on the development of six competencies necessary for successful IP practice: teamwork, scope of roles, communication, conflict resolution, patient/client centered practice, and collaborative leadership (CIHC, 2010). The belief that collaborative teamwork is essential for high quality, safe, and patient centered care underpinned and traversed the program. The curriculum highlighted the patient voice; built participant skills in culturally safe IP collaboration (IPC); focused on strategies for providing quality care to indigenous peoples and communities; and overtly linked IP competence and capability to organisational mission and core values of compassion, justice, integrity and excellence.

Curriculum content targeted the development of skills and knowledge necessary for effective IPC, collaborative leadership and conflict resolution. Patient voice was central in all learning activities delivered through a variety of modes including lectures, audio, video, small group work, case conferencing, high-fidelity inpatient and outpatient simulation activities, role-plays

and critical reflection. The human cost of teams not communicating well was demonstrated in a patient safety film in which a young mother dies during a routine operation; former patients as actors provided feedback on their experience of simulated team based care; and a bereaved father spoke of how he, and his family, noticed and appreciated the way the hospital treating teams united in skilled and compassionate care of their son and themselves.

On Day 1 students self- selected into “IP healthcare teams”. Each of the three teams comprised eight members from a range of disciplines with all members sharing accountability for time management, task completion, collaborative communication and problem solving. Team based learning activities were facilitated by experienced multidisciplinary university and hospital based educators and clinicians, and were specifically designed to allow students to take responsibility for learning from and about one another. Program attendance met clinical placement learning requirements for most participants.

Methods

A pre-post study design investigated changes in participant perception of their IP skills, knowledge, beliefs, values, attitudes and confidence.

Participants

Site and university based clinical educators informed nursing and allied health hospital based students (n = 35) of the program aims and voluntary opt in processes. 26 students (Social Work n = 5; Occupational Therapy n = 5; Physiotherapy n = 2; Speech Pathology n = 6; Nursing n = 6; Psychology n = 1; Dietetics n = 1) submitted the required expression of interest and provided informed consent: all were accepted into the program. Two participants withdrew before the

completion of the program, one for family reasons and the other due to a health issue leaving n= 24 participants. Approximately 70% of the allied health student participants were in the final year of their qualifying three- or four-year program; all nursing student participants were in the second year of a three-year qualifying degree. N.B. Medical students were unavailable to participate due to examinations.

Data collection

Students voluntarily completed two attitudinal scales administered at the beginning of Day 1 and again at the end of Day 3. A unique identifier enabled the matching of survey responses before and after the program. The Work Self-Efficacy Inventory (WS-Ei) (Raelin 2010) measured seven different subscales across 30 questions related to the domains of learning, problem solving, pressure, role expectations, teamwork, sensitivity, and work politics. Survey items were presented on a 5-item Likert scale and students rated their level of agreement from 1 (corresponding to *Not at all*) through to 5 (corresponding to *Completely*). The WS-Ei was chosen because worker self-efficacy assesses worker confidence in managing work place experiences, especially for new or prospective workers (Raelin 2010). The WS-Ei is highly reliable with Cronbach Alphas in the 0.80 range for both sub scores and overall scores (Raelin 2010). The Interprofessional Socialisation and Valuing Scale (ISVS) (King, Shaw, Orchard & Miller 2010) measured three different subscales across 24 questions related to the following three domains: self-perceived ability to work with others; value in working with others ; comfort in working with others. Survey items were presented on a 7-item Likert scale and students rated their level of agreement from 1 (*Not at all*) through to 7 (*To a very great extent*). The ISVS has been found to be a valid and reliable measure of these domains for health care workers (de Vries et al 2016).

Data analysis

Average scores on day 1 and day 3 were collected for each of the questions in the survey tools. Paired samples t-tests were calculated using SPSS 22 statistical software to examine differences between the two scores across all domains. Domain values were calculated by grouping the questions according to the domain to which it related and then averaging the mean rate of change for that domain. A p value of $p < 0.01$ was used to determine statistical significance. Two of 26 respondents were removed from the data, as they had not completed both before and after surveys. For the WSEI survey, one further respondent missed four items across four domains and another missed a single item. In these cases, the domain mean was taken of the remaining items for each domain.

Ethical considerations

Ethics approval to undertake a formal review of the participant's experience was granted by the respective university and hospital Human Research Ethics Committees.

Results

Twenty-four students completed the WS-Ei and the ISVS on Day 1 and Day 3 of the workshop. A paired samples t-test ($p < 0.01$) showed an increase in mean scores across all domains on both scales. Results presented in Tables 1 and 2 signify an improved understanding of other professional roles and increased confidence in managing workplace experiences.

Table 1

Mean Difference in Pre and Post Workshop Scores, Associated T-test Value and Effect size across the Three Factors of the Interprofessional Socialisation and Valuing Scale (ISVS)

Factor	Items	Before mean (sd)	After mean (sd)	Mean Difference (95% CI)	p¹	Effect size²	Cronbach's alpha	ICC³
Self-Perceived Ability in Working with Others	9	4.79 (0.49)	5.56 (0.48)	0.77 (0.49, 1.05)	<0.0001	1.58	0.88	0.92
Value in Working with Others	8	4.73 (0.37)	5.50 (0.46)	0.77 (0.52, 1.01)	<0.0001	1.84	0.88	0.88
Comfort in Working with Others	7	4.16 (0.58)	5.12 (0.56)	0.96 (0.63 1.29)	<0.0001	1.68	0.89	0.87

1. P-values from two sided two sample t-test. H0: No difference in mean between A and B

2. Cohen's d statistic

3. ICC (3,k) measures reliability of mean aggregate score for fixed raters

Results suggest significant difference in domain scores for all three Factors as a result of participation in the IPE program. The larger shifts associated with Factors 2 and 3 when compared to those associated with Factor 1 may indicate that at this stage of the participants' professional development, the program did more to engender the spirit of IPC than in the provision of skills to achieve this. This is an acceptable outcome given the participants were students still preparing for the workforce.

Table 2

Mean Difference in Pre and Post Workshop Scores, Associated T-test Value and Effect size across the Seven Domains of the Work Self-Efficacy Inventory (WS-Ei)

Domain	Items	Before mean (sd)	After mean (sd)	Mean Difference (95% CI)	p¹	Effect size²
Learning	4	3.85 (0.62)	4.50 (0.45)	0.65 (0.33, 0.96)	0.0002	1.20
Pressure	4	3.27 (0.63)	4.02 (0.58)	0.75 (0.40, 1.10)	<0.0001	1.23
Problem Solving	6	2.78 (0.55)	3.99 (0.58)	1.21 (0.88, 1.54)	<0.0001	2.12
Role Expectations	4	3.84 (0.62)	4.31 (0.60)	0.47 (0.12, 0.83)	0.0101	0.77
Sensitivity	4	3.86 (0.68)	4.47 (0.49)	0.60 (0.26, 0.95)	0.0011	1.02
Team Work	4	3.32 (0.62)	4.41 (0.53)	1.09 (0.75, 1.42)	<0.0001	1.90
Work Politics	4	2.80 (0.62)	3.83 (0.74)	1.04 (0.64, 1.44)	<0.0001	1.52

1. P-values from two sided two sample t-test. H0: No difference in mean between A and B

2. Cohen's d statistic

Results indicate significant difference in domain scores for all seven domains. The relative size of the improvement in the domain of “problem solving” may be a reflection of the program focus on case-based learning coupled with a substantial session on dealing with challenging relational and behavioral issues in teams. Improvements in the domains of “work politics” and “team work” corroborate ISVS results suggesting the strength of the program in teaching the affective aspects of IP practice.

Discussion

Recent reports indicate that better alignment between education and practice and the inclusion of the patient and family experiences could be helpful in impacting person and community centred outcomes (Cox, Cuff, Brandt, Reeves and Zierler, 2017). This IPE program deliberately highlighted the patient voice, and the authentic learning opportunities enabled students from seven healthcare disciplines to apply advanced teamwork skills; appropriate and effective IP communication; patient/client centred practice; and articulate the contribution of IP practice to holistic patient care. The program was underpinned by the belief that optimal health outcomes are enabled by effective IP working relationships with learners, practitioners, patients and families (CIHC, 2010; Gould, Day and Barton, 2017).

Organisational support was enhanced by program co-design and delivery with aboriginal health workers and overtly linking program aims to the hospital's commitment to address the health care needs of Aboriginal and Torres Strait Islander peoples. Yet despite high-level support, we encountered challenges in program implementation similar to university-based undergraduate IPE. Key difficulties included a lack of trained facilitators, resistance among clinicians and academic staff due to increased workload, reluctance to release students from clinical duties, timetabling and room constraints. We hope that earlier planning and the encouragement of broader-based ownership of the program may mitigate some of these challenges in the future.

It is important to acknowledge that findings from this small study may not be readily transferable to participants in settings such as community based mental health services where workers from a variety of disciplines undertake essentially the same tasks. Further, not all health care professions were represented in each of the “IP Healthcare teams” and although none of the participants reported prior experience of IPE, their willingness to “opt in” to the program may have affected study results. Through follow up with participants and program replication, we aim to contribute to strengthening the evidence base for IPE and its impact on sustained collaborative practice and optimal patient outcomes.

In summary, this program appears to have provided students with a contextually relevant IP learning experience grounded in values of social justice, inclusiveness and mutual respect. Although IPE programs like this have the potential to improve the quality of healthcare and patient outcomes, the sustainability and maximum benefit of such initiatives is dependent upon organisational commitment to the development of an IP culture.

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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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