

Student leadership in interprofessional education: benefits, challenges and implications for educators, researchers and policymakers

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CONTEXT Interprofessional collaboration is gaining increasing prominence as a team-based approach to health care delivery that synergistically maximises the strengths of each health professional to enhance patient care, decrease medical errors and optimise efficiency. The often neglected role that student leaders have in preparing their peers, as the health professionals of the future, for collaboration in health care should not be overlooked.

OBJECTIVE This paper offers the foundational arguments supporting the integral role that student leadership in interprofessional education (IPE) can play and its comparative advantages.

METHODS Evidence from previous literature and the National Health Science Students' Association in Canada was reviewed and a questionnaire on student-initiated IPE was administered among Canada's top student leaders in this area.

RESULTS Student leadership is essential to the success of IPE because it enhances students' willingness to collaborate and facilitates the longterm sustainability of IPE efforts. Student-initiated IPE, a subset of student leadership, is particularly important to achieving the aforementioned goals and offers a number of

benefits, comparative advantages and associated challenges.

CONCLUSIONS Successful student leadership in IPE will yield significant benefits for everyone in the years to come. However, it requires the support of educators, researchers and policymakers in fostering an enabling environment that will facilitate the efforts and contributions of student leaders.

KEYWORDS humans; *leadership; students, medical; *interprofessional relations; education, medical, undergraduate/*methods; learning; Canada; curriculum.

Medical Education 2008; **42**: 654–661
doi:10.1111/j.1365-2923.2008.03042.x

INTRODUCTION

It is commonly accepted that students should be involved in directing their own education.^{1,2} However, the direct integration of students in the design, delivery and evaluation of educational initiatives is more contested. Students can be involved in numerous forums related to education, including tutoring, curriculum development, public awareness initiatives, political advocacy, informal learning and socialisation. In contexts where the curriculum aims to enhance student attitudes, values or beliefs in a particular subject, student leadership is especially important. This article will focus on the merit of student involvement in leading interprofessional education (IPE) efforts. Interprofessional education is currently a dynamic area of curricular reform in health professional education. It 'occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care'.³ Many of our arguments and conclusions, however, can be extended beyond IPE to other content domains and contexts.

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Overview

What is already known on this subject

Interprofessional collaboration can enhance patient safety, reduce medical errors and improve employment satisfaction among health professionals. Interprofessional education (IPE) is important in encouraging collaboration, but the involvement of students in leading IPE efforts has often been overlooked.

What this study adds

Student leadership in IPE is essential to the propagation of interprofessional efforts because it enhances students' willingness to collaborate and the sustainability of these efforts. Facilitating student leadership in this area is of crucial importance for educators, researchers and policymakers.

Suggestions for further research

The effectiveness of specific student leadership in curricular reform efforts (especially student-initiated activities) must be further examined, along with its barriers and facilitators.

Interprofessional collaboration is a patient-centred, team-based approach to health care delivery that synergistically maximises the strengths and skills of each contributing health professional to optimise the quality of patient care. It has been highlighted as a way to enhance patient safety, decrease medical errors,^{4–6} improve employment satisfaction among health professionals⁷ and help alleviate challenges in the supply, distribution and mix of health professionals. However, in order to create and sustain successful collaborative practice environments, transformational change must take place in the educational settings in which future health professionals are trained.⁸

This paper will discuss the merits of:

- 1 student leadership in IPE, which includes meaningful involvement in curriculum design, research projects, relevant work groups, steering committees for IPE projects, and the implementation of IPE activities, and

- 2 student-initiated IPE, a subset of student leadership, which occurs when students *lead* the design and delivery of IPE for their peers.

We argue that, rather than being an addendum to the pedagogical environment, student leadership in IPE is a necessary component of a more powerful approach to enhancing interprofessional teamwork among future health care professionals.

Despite an extensive search of the literature, few papers were found that examine the value of student involvement in leading curriculum development and reform efforts. This paper will utilise previously published literature along with data obtained at the Third Annual Conference of the National Health Sciences Students' Association (NaHSSA) in Canada – the first and only national interprofessional student organisation in the world – to emphasise the crucial nature of student leadership in the educational process, with a specific focus on IPE. We will lay down the foundational arguments supporting student leadership in IPE.

STUDENT LEADERSHIP IN IPE ENHANCES PEER WILLINGNESS TO COLLABORATE

The skills to collaborate as part of an interprofessional health care team are only as useful as a health professional's willingness to use them. A recent report released by the Canadian Health Services Research Foundation in 2006 confirmed this notion and identified health professionals' willingness to collaborate as part of a trio of conditions (along with resources and organisational structures) necessary for interprofessional collaboration to be successful.⁹ Although it is widely accepted that IPE should be offered to students at the pre-licensure level^{10,11} before negative attitudes¹² that would adversely affect their willingness to collaborate^{13–15} have taken hold, the idea that student leadership in this field facilitates a greater willingness to collaborate among their peers than traditional methods has never been argued. Evidence exists, however, to suggest that this innovative approach to IPE may offer numerous comparative advantages.

Peer teaching, for example, is one channel that could have an enormous impact on students' attitudes towards the various health professions and collaborative practice. At Stanford University (Palo Alto, CA), a student-initiated reproductive health course showed many positive teaching outcomes and helped highlight the importance of student-initiated

projects.¹⁶ When students teach other students (in either formal or informal settings), attitudes may be more easily enhanced because the dynamic between peers – which differs from that between conventional instructors and students – helps facilitate such changes. Power differentials are more limited (if not totally eliminated) and personal connections can be established between students as they are generally more attuned to the individual experiences of their peers. This often yields more receptive learners, who may unconsciously be influenced to alter the harmful attitudes and beliefs that would otherwise act as barriers against interprofessional collaboration.^{17,18}

Socialisation is another major opportunity for educating health professional students about IPE. In fact, exposing students from different professions to one another in an informal, social setting can help create friendships that effectively extend the IPE experience beyond the classroom. Student leadership is particularly important in these contexts, as student leaders will champion IPE, and through such social gatherings, friendships can be formed and strengthened whereby greater respect for individual health professionals, and their respective professions, can be achieved. In this case, the traditional ‘you don’t have to like me, but you have to respect me’ mantra is reversed to ‘you do like me, so you will respect my profession’, which becomes an effective tool for health professional educators. Both these paradigms, however, would probably be most effective in promoting collaboration when used together. In essence, student leaders can serve as a vehicle for socialisation that can enhance their peers’ willingness to collaborate by the very nature of the informal student-to-student relationship in ways that many formal education programmes cannot.

STUDENT LEADERSHIP IN IPE ENHANCES THE SUSTAINABILITY OF IPE EFFORTS

The longterm sustainability of curricular reform efforts is arguably a common concern among health professional educators. Interprofessional education is no exception. When the importance of students as the health professionals of the future is recognised, student leadership in IPE suddenly becomes especially important as it encourages the nurturing of student champions, which enables a cultural change to take place among the youngest clinicians, who have the longest careers ahead of them. Given the nature of curricular reform, IPE requires strong advocates among current health

professionals and those who will provide health care in the future. Student leadership in IPE can help transform ordinary students into advocates for IPE among their peers. Indeed, the mere act of proactively engaging student leaders to work together to advance and develop IPE initiatives can become a core component of an IPE curriculum. Health professional students practise the same teamwork principles in developing their own IPE initiatives as they will apply in their future health care settings. The students who plan and lead the development of various IPE initiatives will learn the challenges of working across professions and will thus gain the knowledge and skills to enhance their capacity for interprofessional collaboration; the passion of student leaders is also certain to be communicated to their friends and colleagues, which effectively compounds the value of student leadership in this area. Such advocacy and leadership – which themselves are intangible and highly desirable outcomes – require the greater commitment that student leadership in IPE allows and have important benefits for the prospects of sustainability.

This special role for students in the sustainability of IPE efforts was noted at the Canadian Interprofessional Health Collaborative’s Inaugural Meeting during a plenary session on 28 November 2006. In fact, leading members of the Canadian IPE community demonstrated strong support for student leadership by voicing the need for students to lead the IPE movement in the following ways:

- 1 by generating interest in IPE among students, teachers and academic administrators;
- 2 by promoting awareness of interprofessional collaboration among the general public, and
- 3 by advocating the use of interprofessional collaboration as a key aspect of health human resources planning among policymakers, professional associations and special interest groups.

In an era of scarce resources and limited funding, the potential system-wide impact of a single student advocate is enormous when compared with the costs of initiating traditional attitude-enhancing programmes involving faculty and institutional resources. If reduced purely to financial considerations, student leadership in IPE is tremendously practical, efficient and cost-effective, all of which are characteristics that contribute to the sustainability of curricular reform efforts. If students can be recognised as valuable educators and influencers of attitudes, it makes sense to support them in their leading of IPE efforts.

STUDENT-INITIATED IPE: CASE STUDY OF THE NAHSSA

Although various forms of student leadership in IPE have already been identified in this paper, student-initiated IPE is unique in that it occurs when students lead the design and delivery of interprofessional education for their peers. Experiences from the 20 university and college-based chapters of the NaHSSA in Canada – as the only national student network devoted to IPE in the world – highlight many diverse examples in which health professional students have successfully contributed to the interprofessional learning of their peers. [Additional information on the Association's goals, activities and structure can be found at <http://www.nahssa.ca>].

For example, some NaHSSA chapters have had the opportunity to contribute meaningfully to shaping the development of formal IPE curricula (including those at the University of British Columbia, Dalhousie University, McMaster University and the University of Toronto) and many others have worked directly with faculty members to offer complementary interprofessional academic programming. The Association's University of Toronto chapter, for example, hosted a series of social events coinciding with the university's interprofessional 'Pain Week' curriculum, and the Dalhousie University chapter recruited hundreds of health professional students to participate in a breast cancer charity run while learning with, from and about one another. In addition, the Association's University of Alberta chapter has convened three annual province-wide interprofessional academic conferences and the McGill University chapter offers an array of innovative programming that seeks to reinforce community and human sensitivity within the health professions through enhanced interprofessional communication.

Collaborative efforts to support student-initiated IPE activities among education and community stakeholders are particularly important to this paper as they immediately demonstrate their value based on the stakeholders' interest in partnering with student leaders. The Queen's University (Kingston, ON) chapter of the NaHSSA, for example, ran a faculty-wide orientation event in conjunction with the Faculty of Health Sciences to introduce interprofessional concepts to students even before the first day of classes. Additionally, the University of British Columbia's local NaHSSA chapter partnered with its provincial Ministry of Health to co-ordinate

innovative health programming for elementary and high school students.

Although it is clear that student-initiated IPE can effectively engage learners through innovative yet unconventional education methods, the academic rigour of such initiatives need not be compromised. One revealing event was run by the NaHSSA's McMaster University chapter, which designed, delivered and evaluated a mandatory IPE exercise for 161 Year 1 undergraduate students in a general health sciences education programme. The student-designed evaluation framework revealed that the exercise facilitated statistically significant improvements in students' knowledge, beliefs and attitudes of interest, which later led to its adoption as a permanent component of the programme's curriculum.¹⁹

THE EFFECTIVENESS OF STUDENT-INITIATED IPE

Although existing research and case studies of excellence support most of our contentions, the perceived effectiveness of student-initiated IPE was evaluated through quantitative methods to begin establishing an evidence base for this innovative approach. To conduct this evaluation, 37 students, who collectively represent almost the entire cohort of top Canadian student leaders in IPE, were surveyed. The questionnaire, based on the Modified Kirkpatrick's Model of Educational Outcomes for IPE,²⁰ evaluated the perceived impacts, effectiveness and challenges of student-initiated IPE and was administered at the NaHSSA's Third Annual Conference, 3–7 January 2007, in Saskatoon, Saskatchewan.

Table 1 describes the results collected by the questionnaire, which illustrate with statistical significance the positive perceived benefits of student-initiated IPE and its potential effectiveness compared with the current 'gold standard' (i.e. traditional IPE teaching methods which include lectures from a professor). The challenges that student leaders encounter are also shown, ranked according to the percentage of students who saw each item as an obstacle.

EDUCATORS, RESEARCHERS AND POLICYMAKERS CAN FACILITATE AN ENABLING ENVIRONMENT

Although the major impetus for student leadership in IPE must come from students themselves, the evidence put forth in this paper suggests the need for

Table 1 Perceived benefits, effectiveness and challenges of student-initiated interprofessional education

Questionnaire items	% Agree (1–5 versus 6–7)	Mean (1–7)	Standard deviation	Single-sample <i>t</i> -test (value = 4)	
				T	<i>P</i>
Benefits					
Knowledge of health professional roles	92% (<i>n</i> = 34)	6.41	0.725	20.183	< 0.001
Perceptions of the importance of collaborative care	97% (<i>n</i> = 36)	6.49	0.559	27.064	< 0.001
Attitudes related to mutual trust between health professions	81% (<i>n</i> = 29)	6.22	0.760	17.541	< 0.001
Ability to communicate effectively with other health professionals	95% (<i>n</i> = 35)	6.41	0.798	18.338	< 0.001
Willingness to collaborate	84% (<i>n</i> = 31)	6.32	0.818	17.277	< 0.001
Behaviours that allow students to collaborate with other health professionals	92% (<i>n</i> = 34)	6.43	0.647	22.860	< 0.001
Ability to work in teams	78% (<i>n</i> = 29)	6.08	0.795	15.922	< 0.001
Interest in practising in a collaborative setting in students' future clinical work	89% (<i>n</i> = 33)	6.30	0.661	21.140	< 0.001
Effectiveness					
Knowledge of health professional roles	49% (<i>n</i> = 18)	5.41	1.142	7.488	< 0.001
Perceptions of the importance of collaborative care	51% (<i>n</i> = 19)	5.62	1.010	9.769	< 0.001
Attitudes related to mutual trust between health professions	68% (<i>n</i> = 25)	5.84	0.958	11.671	< 0.001
Ability to communicate with other health professionals	68% (<i>n</i> = 25)	5.84	0.958	11.671	< 0.001
Willingness to collaborate	68% (<i>n</i> = 25)	5.84	0.958	11.671	< 0.001
Behaviours that allow students to collaborate	70% (<i>n</i> = 26)	5.89	0.966	11.918	< 0.001
Ability to work in teams	68% (<i>n</i> = 25)	5.84	0.898	12.450	< 0.001
Interest in practising in a collaborative setting in students' future clinical work	62% (<i>n</i> = 23)	5.76	0.895	11.945	< 0.001
Challenges					
Lack of funding	65% (<i>n</i> = 24)	5.68	1.454	–	–
Lack of IPE clinical placements	57% (<i>n</i> = 21)	5.41	1.572	–	–
Lack of opportunities to influence curricula	57% (<i>n</i> = 21)	5.30	1.697	–	–
Lack of institutional and/or administrative support	51% (<i>n</i> = 19)	5.05	1.632	–	–
Lack of student interest in leading IPE activities	49% (<i>n</i> = 18)	5.00	1.886	–	–
Lack of IPE research opportunities	46% (<i>n</i> = 17)	5.11	1.542	–	–
Lack of faculty mentorship and/or guidance	41% (<i>n</i> = 15)	4.92	1.656	–	–
Lack of student interest in participating in IPE	38% (<i>n</i> = 14)	4.84	1.864	–	–
Lack of student leadership opportunities	22% (<i>n</i> = 8)	3.57	1.772	–	–

The questionnaire used a 7-point Likert scale and was analysed by item using single-sample, two-tailed *t*-tests that used 'neither agree nor disagree' (value = 4) as the hypothesised comparative value. The dataset was also dichotomised into 'agree' and 'disagree' variables for summary purposes. Results show that student-initiated IPE may hold comparative advantages in some areas (e.g. attitudes and behaviours) and not others (e.g. knowledge and values). Student responses also point to several ways in which educators, researchers and policymakers can assist students in their efforts. Although funding (65%) and institutional support (51%) both ranked high as challenges, a lack of opportunities to actually experience interprofessional collaboration in the practice setting (57%) and influence its development (57%) are also perceived as obstacles. Fewer leaders identified a lack of student leadership opportunities (22%) or interest in IPE as a barrier (38%). IPE = interprofessional education

educators, researchers and policymakers to facilitate and nurture this level of student involvement. Based on the Canadian experience, it is clear that such structures of support are limited. One notable exception, however, is Queen's University's Inter-professional Patient-centred Education Direction Project, which provides funding each summer for a community of 22 students to conduct independent research projects on IPE.²¹ Other entities, including the Calgary Health Region, the University of Manitoba and the University of New Brunswick, have directly helped to create NaHSSA chapters at their respective locations.

The involvement, support and mentorship of dedicated educators, researchers and policymakers are essential to student leadership in IPE. This is because they validate students' efforts, provide access to knowledge and guidance based on past experiences, and provide the institutional backing and resources necessary for the success of student-initiated IPE projects. In fact, a recent informal analysis of NaHSSA chapters by the Association's Board of Directors revealed that faculty mentorship – not funding or years since creation – is the best predictor of success and explains the Association's ability to make a national network of chapters a reality.

There are many different ways in which educators, researchers and policymakers can support student leadership in IPE. Table 2 suggests only a few of the many practical actions that can be taken in each of the following four priority areas:

- 1 integration of students into larger curricular reform, research and policy initiatives;
- 2 provision of support for the development of student-led IPE organisations;
- 3 establishing of partnerships with student organisations, and
- 4 recognition for students when they make valuable contributions.

ADVANTAGES FOR EDUCATORS, RESEARCHER AND POLICYMAKERS

Although it is clear that student leadership in IPE is enhanced by the support of educators, researchers and policymakers, the opposite is also true. Not only does student leadership in IPE validate their work in this area, but the efforts of educators, researchers and policymakers benefit from the existence of a large cohort of volunteer student

leaders with whom to partner and carry forward their mutual goals. Student leadership in IPE is especially important for educators as students can bring relevance to their work and serve as a lens through which they can become informed about which teaching methods will be most effective and beneficial for today's students. Demonstrated support among students for IPE can also be leveraged by educators, researchers and policymakers for additional support and resources from their respective deans, granting agencies and government ministries.

CRITICISMS

Although integral to IPE, student leadership is no panacea to the challenges faced by educators in this area. In fact, student leadership in isolation from other efforts may elicit a contradictory situation in which students are encouraged to adopt positive attitudes towards teamwork yet lack the opportunity to actually experience it in a clinical setting. Research shows that early experiences with ineffective pseudo-teams may even cause harm if students believe they are practising as part of an interprofessional team when in fact the 'team' is dysfunctional and the activity lacks the potential benefits students have been promised.⁶ Further, student leadership cannot exist in a vacuum and must be strengthened through partnerships with faculty mentors who are trained in team development and group facilitation, and who are able to assist in advancing the creation of collaboration competencies. It is therefore clear that student leadership in IPE is a key element among many others in helping prepare students to practise in collaborative environments.

CONCLUSIONS

Interprofessional collaboration has been shown to enhance patient outcomes and improve health services. Student leadership in IPE is essential to maximise limited resources and optimise efforts in this area, and it offers comparative advantages in that it can foster a willingness to collaborate among future health professionals and help to sustain the long-term vitality of IPE efforts. Evidence from Canada's NaHSSA further demonstrates the particular strengths of student-initiated IPE. Although our evidence draws primarily from Canadian examples, the lessons learned apply to IPE and other curricular reform, research and policy efforts

Table 2 Practical suggestions for educators, researchers and policymakers to encourage student leadership in interprofessional education

Priority areas	Action for educators and researchers	Action for policymakers
1 Integrate students into larger curricular reform, research and policy initiatives	<ul style="list-style-type: none"> Student representation on curriculum planning committees, IPE steering committees and relevant education and research working groups Research assistant opportunities Mentorship opportunities Consultations with students on curriculum design 	<ul style="list-style-type: none"> Student representation on government-led health professional education advisory committees Support for graduate-level training in interprofessional education Requirement for meaningful involvement by students in all government-funded IPE projects
2 Support the development of student-led IPE organisations	<ul style="list-style-type: none"> Encouragement and support for gatherings of students interested in IPE Dedicated faculty time for mentorship of student initiatives Dedicated funding for student-initiated projects Support for community of student researchers in IPE 	<ul style="list-style-type: none"> Financial support for creation of local student-led IPE organisations Financial support for creation of a national network linking local student-led IPE organisations Publicity opportunities Policies encouraging others to support creation of student IPE organisations
3 Partner with student organisations	<ul style="list-style-type: none"> Support for complementary socialisation extracurricular activities Leveraging of student support for institutional action Invitations for student organisations to participate in new initiatives 	<ul style="list-style-type: none"> Support and encouragement for existing student organisations to engage in IPE activities Opportunities for student organisations to participate in decision making
4 Recognise when students make valuable contributions	<ul style="list-style-type: none"> Rewards for student champions Public recognition for student contributions Dissemination opportunities for students Renew commitment to student-initiated IPE projects 	<ul style="list-style-type: none"> Dissemination opportunities for students Opportunities for student champions to participate in policymaking process Incentives for others to recognise when students make valuable contributions Re-investment in student-initiated IPE

IPE = interprofessional education

in an international context. Indeed, the role of today's students in leading IPE must grow substantially worldwide over the coming years, and the facilitation of an enabling environment for student leadership in IPE will yield significant benefits for everyone in the years to come.

Contributors: SJH designed the study, analysed the results and co-wrote the paper. DR contributed to the design of the study and co-wrote the paper. IFO and JHVG supervised the study and facilitated the use of conceptual models on teamwork and interprofessional education. All authors contributed significantly to formulating the original ideas expressed in this paper.

Acknowledgements: we would like to acknowledge the contributions of the National Health Sciences Students' Association's Board of Directors 2006–07 for its ongoing support and assistance in administering the questionnaire, as well as the student leaders from across Canada who participated in our survey. Special thanks must also be extended to Alexandra Harris, Erica Rosenfield and Dennis Sharpe for their early comments and suggestions.

Funding: none.

Conflicts of interest: SJH, DR and JHVG all serve on the National Health Sciences Students' Association's Board of Directors. IFO serves as the faculty mentor for the Association's University of Toronto chapter.

Ethical approval: not required.

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APPENDIX 1. DETAILED QUESTIONNAIRE METHODOLOGY

The perceived effectiveness of student-initiated interprofessional education (IPE) was evaluated through quantitative methods by administering a questionnaire to student leaders from across Canada at the National Health Sciences Students' Association Third Annual Conference (3–7 January 2007; Saskatoon, Saskatchewan). Students were asked to provide their input on leading and participating in student-initiated IPE through a three-part questionnaire using a 7-point Likert scale (strongly disagree = 1, moderately disagree = 2, slightly disagree = 3, neither agree nor disagree = 4, slightly agree = 5, moderately agree = 6, strongly agree = 7). Our questionnaire was based on the Modified Kirkpatrick's Model of Educational Outcomes for IPE²⁰ and was specially designed to evaluate the perceived impacts, effectiveness and challenges of student-initiated IPE.

A total of 37 responses were obtained with nearly universal participation. All statistical testing was conducted using the full range of responses provided by the 7-point Likert scale and the data were also dichotomised into 'agree' (strongly agree and moderately agree = 1) and 'disagree' (slightly agree, neither agree nor disagree, slightly disagree, moderately disagree and strongly disagree = 0) for summary purposes. Data from the questionnaire on the perceived benefits and effectiveness of IPE were analysed by item using one-sample, two-tailed *t*-tests that used 'neither agree nor disagree' (value = 4) as the hypothesised comparative value. Results are displayed in Table 1.

While the instrument's reliance on self-reported items increases the risk of introducing social desirability bias into the findings (particularly those concerning the perceived success of the respondents' own efforts), the impact of such bias must not be overstated as the participating student leaders were rather blunt, for example, about the challenges they did not face. For example, only 22% of student leaders identified a 'lack of student leadership opportunities' as a barrier and an unexpected 35% denied 'funding' to be a challenge (Table 1). Although the survey's small sample size must be noted as a limitation, it should be recognised that the participating students collectively represent almost the entire cohort of top Canadian student leaders in IPE.