



ORIGINAL ARTICLE

Views of the United States healthcare system: Findings from documentary analysis of an interprofessional education course

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ABSTRACT

As the healthcare system of the United States becomes more complex, collaboration among health professionals is becoming an essential aspect in improving the health of individuals and populations. An interprofessional education course entitled “Health Care System and Health Promotion” was developed to allow health profession students to work and learn together about issues related to healthcare delivery, health promotion, and the effect of policy issues on key stakeholders in the system. A qualitative document analysis research design was used to evaluate the effect of this interprofessional course on students’ views of the current healthcare system of the United States. Fifty-nine student articles were analysed using document analysis. Health professions represented in the sample included occupational therapy, physical therapy, athletic training, nursing, and radiation therapy, nuclear medicine technology, and magnetic resonance imaging. Eight themes were identified including: increased personal awareness, the need for a system change, concern for access, affordability of healthcare, vision for future practice role, need for quality care, the value of interprofessional collaboration (IPC), and the importance of disease prevention. The results of the study suggest that healthcare education can benefit from the integration of Interprofessional Education (IPE) courses into their curriculum especially when teaching content common to all healthcare professions such as healthcare systems and health promotion.

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Introduction

Over a decade ago, the Institute of Medicine (IOM) called for a redesign of the healthcare system which included focusing attention on the interactions of health providers in meeting the health needs of the population (Berwick, Nolan, & Whittington, 2008; Frenk et al., 2010; Institute of Medicine [IOM], 2001). The IOM report, *Crossing the Quality Chasm*, introduced six aims essential to achieving improved health outcomes of the population; these aims included safety, patient-centred care, equitable care, efficient care, effective care, and timely care (Institute of Medicine, 2001). Subsequently, Berwick and colleagues further developed these concepts, designed to improve health outcomes, into the “Triple Aim” which included improving the experience of patients, improving the health of the population, and reducing per capita costs (Berwick et al., 2008).

A critical component in redesigning healthcare for improved health outcomes is interprofessional collaboration (IPC) and the need for Interprofessional Education (IPE). It has been argued that IPE is essential in developing the skills and knowledge base for effective teamwork for the next generation of healthcare professionals (Cerra & Brandt, 2011; Institute of Medicine, 2001; Ricketts & Fraher, 2013; World Health Organization, 2010). Health promotion concepts are often taught as a discrete course rather than incorporated throughout health policy courses; this may serve to downplay the importance of health promotion as a critical piece in optimising health outcomes.

The current qualitative literature evaluating IPE identifies important student learning outcomes related to increasing confidence and competence in articulating professional roles (Crawford, Gallagher, Harding, McKinlay, & Pullon, 2016), strengthening of professional identity (Cheng, Bartram, Karimi, & Leggat, 2013), increasing awareness of the range and scope of practice to provide holistic patient care (Mpofu, Daniels, Adonis, & Karuguti, 2014), and improving team performance due to increase the trust of other professions on the healthcare team (Klarare, Hagelin, Furst, & Fossum, 2013). Additionally, Lipton and colleagues found peer-to-peer education, when a profession had specialised knowledge in a particular health policy area, to be helpful and well received by peer health profession students (Lipton, Lai, Cutler, Smith, & Stebbins, 2010).

Assessments of written reflective work in IPE are few, but reveal important findings about use of reflection as a learning activity. These studies use students’ written work from IPE courses and identified outcomes related to the impact of IPE on future career goals (Arenson et al., 2015), insight about interprofessional practice (Leander et al., 2014), and provide opportunities to practice and apply interprofessional teamwork skills (Doll et al., 2013; L’Ecuyer, Pole, & Leander, 2015). These studies indicate through critical reflection, students have the opportunity to step back and process learning experiences through their teams while considering and articulating new and different insights (Clark, 2009).

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The purpose of this article is to describe student learning outcomes related to an interprofessional course on healthcare systems and health promotion using document analysis. This unique course allowed students, from different health professions, to learn together and collaboratively engage in a safe environment. Data were collected from students' final reflection article in which they described changes in their views of the healthcare system.

Background

The IPE programme at this Midwestern, Jesuit University began over 10 years ago as a sequence of coordinated and integrated courses taught across undergraduate health professions programmes (Ruebling & Royeen, 2010). Table 1 lists the courses included in the IPE curriculum. Health professions participating in the IPE programme include: athletic training, biomedical laboratory science, magnetic resonance imaging, medicine, nuclear medicine technology, nursing, nutrition and dietetics, occupational therapy, pharmacy, physical therapy, physician assistant, social work, and radiation therapy.

Five competency domains are recognised in the IPE programme curriculum. These domains include: interprofessional practice, patient-centred care, wellness, patient safety and quality care, and social justice. The IPE programme is also guided by values and beliefs that interprofessional learning occurs when: 1) there is interaction between students and faculty of different professions and 2) the goals and learning experiences lead to achieving skills required for collaborative patient/client-centred teamwork including the understanding of and respect for the roles and unique contributions of the health professions (Interprofessional Education Collaborative Expert Panel, 2011). Over time, further expansion of the IPE curriculum led to the development of both an academic concentration and a minor in interprofessional practice; both are recognised on the student's transcript. Individual IPE courses provide support to the overall goal of the IPE programme. Goals of the programme include 1) preparing students with knowledge, attitudes and skills of interprofessional practice, 2) equipping students with the skills to provide patient/client-centred care in order to achieve optimal patient health outcomes, 3) improving community level (population) health, 4) delivering effective and efficient healthcare services, and 5) advocating for improvement of health and health services. More information about the programme may be found in Breitbach et al. (2013).

Healthcare system and health promotion

The theoretical framework of the course, healthcare system and health promotion, was developed from theories related to the organisation of the content and the structure of the pedagogy. The theories centre on healthcare as a system and interprofessional learning as interactive, experiential, and reflective. Healthcare, as a system, is presented in the context of general systems theory in which the whole is treated as the sum of its parts and cause/effect are viewed as interdependent not linear (Barr, 2013; Suter et al., 2013). In terms of healthcare, the system consists of a set of logically coordinated components designed to achieve common goals (Shi & Singh, 2014). As depicted in Figure 1, patients or populations are the central activity component of the system while health professionals, organisations, public health, payers, vendors, transportation are middle level components (inside the circle). Legislation, regulation, society values, demographics, and technology comprise the external layer which impacts the internal components of system. This creates a complex system due to rapid changes occurring in the healthcare system. Additionally, unpredictable interactions occur between components, frequently affecting the type of care the health professional can provide (Plsek & Greenhalgh, 2001).

Course faculty agrees the desired goal is for all people to have access to a comprehensive range of high quality healthcare services at a reasonable cost. This goal supports aims for achieving high quality healthcare as recommended by the IOM (Institute of Medicine, 2001) and the "Triple Aim" (Berwick et al., 2008). The course provides interactive, experiential, and reflective interprofessional learning while creating a collaborative and transformative learning process. Interaction among the health professions students occurs intentionally thereby creating social exchange, formation of a collaborative team, enhancement of knowledge and respect for the roles of other professionals, and development of effective communication skills (Bridges & Tomkowiak, 2010; Clark, 2006; Hean & Dickinson, 2005; Sargeant, 2009;

Table 1. Interprofessional education (IPE) programme courses.

Programme	Courses	Credit hours
Required courses for: Concentration in Interprofessional Practice	Introduction to Interprofessional Healthcare	1
	Healthcare System and Health Promotion	3
	Applied Decision-Making in Interprofessional Practice	3
	Interprofessional Community-Based Practicum	2
Additional courses for: Academic Minor in Interprofessional Practice	Foundations of Clinical Healthcare Ethics	3
	Interprofessional Health Outcomes Research	2
	Interprofessional Practicum Experience	2

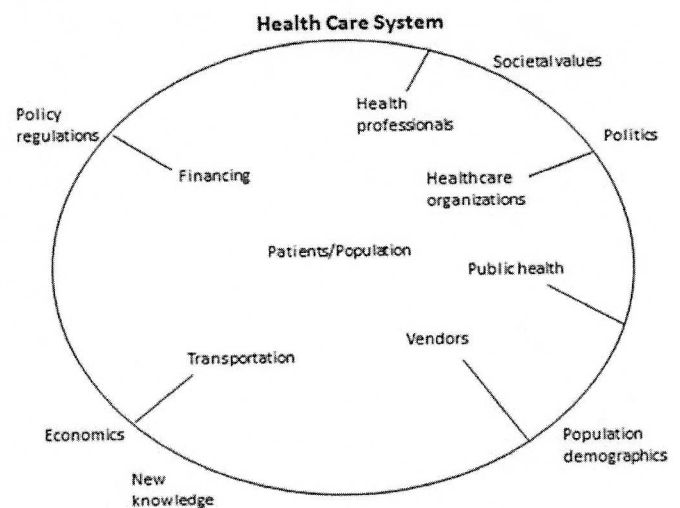


Figure 1. The healthcare system. Note: Depiction of healthcare system with interrelated component parts.

Thistlethwaite, 2012). Subsequently, experiential learning occurs during these planned encounters leading to new insights regarding the provision of healthcare and interprofessional teamwork (Clark, 2006; D'Eon, 2004). Structured reflection also gives students the opportunity to examine individual beliefs and values in the context of newly gained knowledge and perspective allowing them to consider future actions (Clark, 2006; Meizrow, 1997; Sargeant, 2009).

Learning experiences

The course structure allows interprofessional student teams to work together to learn about issues related to healthcare delivery and the effect of policy issues on key stakeholders in the system. Several units comprise the course: Introduction to Healthcare, Costs and Financing of Healthcare, Access to Healthcare, Healthcare Quality, Health Promotion, Global Healthcare and Healthcare Initiatives/Reform. The units were developed and informed by recommendations in the "Triple Aim", "Healthy People 2020", and literature focused on improving personal and population health outcomes using an interprofessional collaborative approach. The course was developed and taught by an interprofessional teaching team comprised of a physical therapist, an athletic trainer, a nuclear medicine technologist and two nurses.

Pedagogical strategies evolved over time based on changes in content, teaching team reflection, and student evaluation feedback. Lectures provide the primary context for the current issues and improvement strategies concerning the healthcare system. Instead of a textbook, peer reviewed journals, reports from foundations and government sources, and web sites including the Kaiser Family Foundation (<http://kff.org>), the

Commonwealth Foundation (<http://www.commonwealthfoundation.org>), the Joint Commission (<http://www.jointcommission.org>), Federal, State and Local government websites and videos on PBS websites (<http://www.pbs.org/wgbh/pages/frontline>) were utilised to provide the most current content and support student learning needs.

Supporting the course objective to demonstrate IPC throughout the course, students sit in IP teams of four students representing two to four professions. Several times during class the students have time to discuss questions posed from readings or lecture concerning issues, possible solutions, and their thoughts on the impact on individuals and communities. They record their thoughts as a Team Report and submit it online at the end of class. Class assignments include out-of-class individual reflection article, an international debate and a final team project for a health promotion initiative. Table 2 details the structure of the course linking course themes, course objectives and representative learning activities.

Methods

Research design

A qualitative document analysis research design similar to that described by Bowen (2009) was used to answer the research question, "what effect does an interprofessional course in healthcare systems and health promotion have on students' views of the current United States healthcare system?" The aim of the project was to summarise the change in students' perceptions of views related to the provision of healthcare services in the United States after participating in the interprofessional course on healthcare systems and health

Table 2. Course themes, learning experiences, and course objectives.

Theme	Learning experience	Course objective
Access	Students read "Crisis of Care" article and reflect on healthcare barriers using patient exemplars.	Discuss relationship of healthcare cost, access, and quality
Quality	Teams watch "Chasing Zero" video and engage in group reflection and discussion with relation to specific actions they may take as a health professional.	Discuss relationship of healthcare cost, access, and quality
Quality	Teams use a Sentinel Event Case Study to complete a "Root Cause Analysis" of the situation.	Discuss relationship of healthcare cost, access, and quality
Cost	Teams analyse the healthcare costs of 4 patients (with rheumatoid arthritis), each a with a different health insurance scenario, and examine how healthcare costs affect personal quality of life and choices made regarding health.	Discuss relationship of healthcare cost, access, and quality
Healthcare policy	Teams use the PubMed database to search a problem of interest related to Medicaid Expansion and appraise abstracts selecting four articles for team discussion and reflection.	Examine public policy for healthcare reform strategies as means for improving the health status of the population
Global health	Students watch PBS FRONTLINE video "Sick Around the World" examining the healthcare system in five countries and how access, quality and cost are addressed. Follow up discussion reflects on the comparison of the US system, lessons for the US from others, and how IP teamwork is supported.	Examine public policy related to access, quality and cost.
Global health	Students volunteer to debate an issue related to healthcare policy with assistance of members of the University's Association for International Debate. Those not actively debating witness the debate, ask questions, and discuss the merits of each side of the debate (with their IP team) selecting who presented the most compelling argument.	(a) Examine the evidence for the significance of health promotion, interprofessional collaboration and teamwork (b) Healthcare reform strategies as means for improving the health status of the population
Health promotion	Teams develop a proposal, to present to a Board of Directors of a charitable foundation, for a health promotion programme focused on a specific developmental level. As part of the project, the team indicates how providers will collaborate in the programme as well as how the team worked together as they developed the proposal.	(a) Apply concepts and principles in developing a strategy for health promotion for specified populations using an IP approach (b) Examine the evidence for the significance of health promotion, interprofessional collaboration and teamwork

promotion. Data were collected from the final exam article assignment students' completed at the end of the course.

Data collection

Study participants were recruited from health professions students enrolled in a dedicated interprofessional course in healthcare systems and health promotion. Students enrolled in the course ($n = 111$) included the following health professions: physical therapy ($n = 28$), nursing ($n = 43$), occupational therapy ($n = 17$), athletic training ($n = 17$), radiation therapy ($n = 4$), and magnetic resonance imaging ($n = 2$). These students were placed in 27 teams comprised of 4–5 students. Each team had a minimum of two and maximum of four different professions and they remained in these same teams for the entire duration of the course. All students were over the age of 18 years. Fourteen teams were randomly selected with a total of 59 participants. There was no bias related to age, gender, or ethnicity and participants were representative of the student population at the University.

Administrative staff (not involved with data analysis) selected a random sample of 14 student teams, which yielded the 59 participants (53%). The decision was made to select participants as teams because each team had representation from 2–4 health professions, which would more likely provide a variety of health profession programmes.

The data used in this study were derived from the final student article for the course; these articles were then de-identified and assigned a code. Codes were placed on a master list with demographic information including the student's health profession. The portion of the article which answered the question, "Reflecting on your views of the provision of healthcare services prior to this course, how have your views changed and what specifically influenced this change?" was extracted and compiled from the coded articles (by the administrative staff) for analysis by the research team. Articles ranged in length from 1–5 pages with responses to the specific question analysed being approximately 1–2 paragraphs in length.

Data analysis

Data were analysed by the four-member research team which included two nurses, one physical therapist, and one athletic trainer; all four were faculty members teaching in the course. Document analysis (Bowen, 2009) was the method employed for analysing and summarising the data. A process of skimming, reading and interpret the documents was used to develop coding as well as to achieve consensus and triangulate data among the research team. See Figure 2 for the data analysis process.

Ethical considerations

Prior to compiling or analysing any data, all students in the course were provided an "Educational Assessment and Research Information Statement" which was approved by the University's Institutional Review Board (IRB). The statement was included in the course syllabus and informed students' that learning outcomes, from the course, may be studied. Additionally, this statement was discussed on the first day of the course.

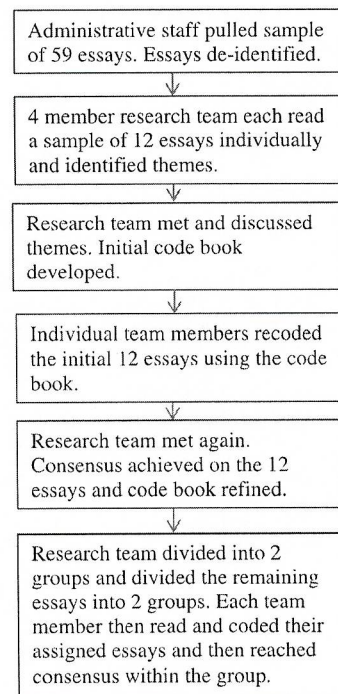


Figure 2. Data analysis process.

Results

Fifty-nine of 111 (53%) student articles were analysed representing a sample of more than half of the students and more than half of the teams. The following health professions were represented in the 59 articles: 23 (39%) from nursing, 14 (24%) from physical therapy, 10 (17%) from occupational therapy, 7 (12%) from athletic training, 3 (5%) from radiation therapy, and 2 (3%) from magnetic resonance imaging.

The research team identified eight themes. The themes included: a lack of prior knowledge or experience with the healthcare system (Personal Awareness), the need for a change in the current system now viewed as inadequate (System Change), access and ability to obtain healthcare (Access), affordability of healthcare (Cost), a vision for the future role of how to practice (Future role), the need for better care (Quality), the value of interprofessional work (IP Collaboration), and the importance of disease prevention (Health Promotion). Each student article included at least one theme and as many as six. The most frequently identified themes where the students' personal views were changed as a result of taking the course included: Personal Awareness ($N = 46$), System Change ($N = 36$), Access ($N = 33$), Cost ($N = 32$), Future Role ($N = 21$), Quality ($N = 17$), and Health Promotion ($N = 12$). The benefits and value of IPC and the impact of the interprofessional nature of the course were also assessed by the research team. Table 3 summarises the results providing exemplar quotes from selected articles.

Several student comments highlighted the impact learning in an interprofessional environment had on their classroom experience. Students valued the opportunity to learn about the healthcare system in conjunction with their future interprofessional team. One student wrote:

Once I realized how important it is that providers of different services work together, I could see that this improves quality and

Table 3. Summary of results with exemplar quotes.

Counts*	Theme	What aspect defines the theme?	Quote/exemplar of theme
46	Personal awareness	Lack of prior knowledge/experience of healthcare system	"I was not that aware was because I had never really bothered to look into what was going on due to the fact that it currently had not affected me. I had only heard some opinions from family members or friends, but their opinions were always skewed to one side so I did not really take much of it to heart."
36	System change (need for)	Flawed US system that is not adequate	"My views have changed in that I no longer believe that the American system of healthcare is built to benefit everyone, I think it is built with cracks in the foundation and that it needs to change."
34	Access	Ability to obtain healthcare	"I was completely unaware of the many factors that influence people acquiring healthcare. Now, I know that many people are unable to receive healthcare because they do not have the transportation to the clinics. Overall, I did not realise how much the great expensive of healthcare affected the economy as a whole, but I know now that decreasing the costs of healthcare and increasing its access is necessary to improve the United States' economy."
32	Cost	Affordability of healthcare	"I did not come close to grasping how many people incur such high medical debt when battling an illness. The most shocking part of this is how many people in this position actually have health insurance. ... class also gave me greater knowledge into how low-income people struggle to access and afford medical care."
21	Future role	Vision of how to practice	"After this course, I became more educated and sensitised to healthcare issues. My mindset changed from merely a consumer in healthcare to a provider. I shifted my thinking from 'Why do I have to do this?' to 'How can I make it better for someone else?'"
17	Quality	Need for better care	"I think it is going to take interprofessional collaboration to help eliminate these errors completely. With these errors, I realised that the quality of care is very poor in the US."
13	IP collaboration	Value of interprofessional work	"I knew it was crucial for the team to work together to make sure the patient got the right care but didn't see how this was affecting the whole US healthcare system. By making sure that the patient receives the right care they need and not excess things that are unnecessary, we are saving time and money as well as making the patient feel welcomed and happy with their overall care experience."
12	Health promotion	Importance of disease prevention	"[This course] has given me the view that preventative care is extremely crucial in order to maintain health. Taking measures to work towards a healthier lifestyle can make all the difference."

*Note: $N = 59$ articles. Articles identified between one and six themes therefore theme counts add to greater than 59.

outcomes as well as cost. I think that specifically what brought this realization to light for me was all of the work we have done in our small groups for this course. While I have learned a lot about health care, models, economics and many other topics it is the "working together" in groups with people from other professions that has made the biggest impact to me. Until some of our group discussions I never gave much thought as to how collaboration or sharing of information should occur. This collaboration doesn't just magically happen and I think that is one of the challenges in our health care system.

Another student expressed much the same view on the interprofessional nature of the course:

Working in small groups has helped to solidify the fact that interprofessional collaboration. We work together to complete assignments by discussing and inputting our different opinions based on our perspectives. This has showed me the importance of gaining different perspectives as well as how much working together just helps. I have come to learn that collaboration just doesn't happen and it needs to be worked at and we need to find a better way to collaborate and share information between health professionals...

The opportunity to learn in an environment with future healthcare professionals was identified as valuable as well as useful to these students.

Discussion

The themes identified from the study provide evidence of the utility and effectiveness of an interprofessional course on healthcare systems and health promotion. As the healthcare environment changes with increased technology, specialisation, social diversity, and chronic conditions, there is a call to change how healthcare providers are educated (Institute of

Medicine, 2001). In order to meet the healthcare needs of individuals in this ever changing healthcare system, provider education must include teaching essential skills such as interprofessional communication, team collaboration, as well as helping students understand the complexity of the healthcare system which they are entering (Cerra & Brandt, 2011; Frenk et al., 2010). The Triple Aim (Berwick et al., 2008) has been described as "a galvanizing force drawing attention to a generalized approach needed to fix the US healthcare system by simultaneously improving patient experiences of care (including quality and satisfaction), improving the health of populations and reducing the per capita cost of health care" (Brandt, Lutfiyya, King, & Chioreso, 2014). The course, Healthcare Systems and Health Promotion, was organised in the context of contributing to the overall goals of the programme for improving health outcomes for individuals and populations by advocating and providing effective and efficient healthcare services. Throughout the course, the students were directed by assignments and guided discussions to consider the struggles of individuals and populations for access, quality, and cost of healthcare and the impact of health promotion related to the aims for optimal health described by The Triple Aim.

Students consistently identified an increase in their own personal awareness of the healthcare system as the most impactful and prevalent theme experienced in the course. The activities and reflective discussions engaged in by the students provided them with realistic examples of the challenges faced by patients. Many students, being traditionally younger and with less world experience, simply did not have a reference point for understanding the impact of access, cost, health promotion, and health policy in the context of not only their profession but the healthcare system as a whole. The

course format empowered students to think of themselves as change agents as they move forward in their professional training and education.

The changing and ever complex healthcare environment now requires students to understand the interrelatedness of cost, access, and quality issues as they develop collaborative plans of care. These plans must be patient centred and include health promotion in order to meet the recommendations for a “re-designed workforce” which is able to meet the triple aim (Ricketts & Fraher, 2013). In working and learning together in interprofessional teams, students were able to discuss, and subsequently learn about, healthcare system issues from a perspective beyond their own profession. As suggested by Sargeant (2009) the learning occurred through collaboration and interaction with others. Team discussions provided students with different perspectives related to professional roles, scope of practice and training. In these teams, students were able to identify gaps in the system as evidenced by the prevalence of the theme “System Change” as the second most identified theme.

Students also identified the need for IPC while engaged in the course. Identification of this essential need is consistent with research recommending early exposure of students to IPE (Anderson & Thorpe, 2008; Horsburgh, Lamdin, & Williamson, 2001). The complexity of the healthcare system and need for integrated services among different health professionals became evident to students. Students also recognised the need for healthcare providers to have trust in each other and the confidence to educate each other on their specialties’ aspects of care related to health policy and reimbursement (Lipton et al., 2010). Students recognised the essentialness of IPC as a way to combine their skills and knowledge in providing comprehensive and mutually beneficial care as similarly described in other studies (Crawford et al., 2016; Doll et al., 2013; L’Ecuyer et al., 2015). As Ricketts and Fraher (2013) pointed out, little attention has been paid to training healthcare providers to adapt to this integrated system and to deliver care in an integrated fashion, and this course provides an avenue to address this deficit. As students build their knowledge base in the healthcare field, this will lead to increased confidence in each other’s abilities as they move into the workforce (Klarer et al., 2013; Leander et al., 2014; Mpofu et al., 2014).

Another unique aspect of this course was the incorporation of the topic of health promotion as an essential aspect of health policy and IPC. Although this was the least identified theme, students did make reference to the importance of health promotion as a mechanism to reduce healthcare costs and encounters. The health promotion content was threaded throughout the course and incorporated into each topic which may have made it more difficult for students to discreetly identify the theme.

IPE has been found to strengthen the professional identity of students (Cheng et al., 2013) and study findings support this as students’ described their future vision for practice. Additionally, identification of changes in the student’s views on access, cost, and the need for quality care were also identified themes. These issues clearly linked with learning objectives in the course, also support the effectiveness of the interprofessional pedagogy as a successful method of teaching and learning the health system content for this population of students.

It should be noted the study was based on a single iteration of one course at one University and therefore may not be generalisable to a larger population. Additionally, the context of the course may have been affected by the instructors’ pedagogical style, the mix of students, and even the political climate of the healthcare system during the term the course was instructed. However, having an experienced and diverse group of health professions faculty serving on the teaching team was helpful. Additionally, the research team used a large sample of student reflections. Future research should involve comparing data from multiple iterations of the course and/or comparisons to courses with similar content at another university.

Concluding comments


The Patient Protection and Affordable Care Act (“Patient Protection and Affordable Care Act,” 2010) requires changes in healthcare design and delivery of services that were called for by the IOM and WHO reports (Institute of Medicine, 2001; World Health Organization, 2010). Healthcare providers can no longer function in silos and must possess the skills necessary to function collaboratively (Cerra & Brandt, 2011; Frenk et al., 2010; Institute of Medicine, 2001). As healthcare has become exceedingly specialised, patients have become much more knowledgeable consumers and reimbursement issues mandate care coordination. In order to achieve these changes, the professional preparation healthcare providers receive must also change. It is essential future healthcare providers understand more than the science of their profession; they must also understand policy issue driving the system in order to function more effectively and efficiently in their role. Healthcare education can benefit from the integration of IPE courses into their curriculum, especially when teaching content common to all healthcare professions such as healthcare systems and health promotion.

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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