EXPERIENCES WITH AN E-LEARNING COURSE ABOUT OLDER ADULT CARE

PREPARING HEALTH PROFESSIONS STUDENTS TO CARE FOR OLDER ADULTS: EXPLORING EXPERIENCES WITH AN E-LEARNING COURSE

By PORTIA KALUN, BSc, MSc

A Thesis Submitted to the School of Graduate Studies in Partial Fulfillment of the Requirements for the Degree Master of Science

MASTER OF SCIENCE (2017)   McMaster University
(Health Science Education)   Hamilton, ON, CANADA

TITLE: Preparing Health Professions Students to
                                  Care for Older Adults: Exploring
                                  Experiences with an E-learning Course

AUTHOR: Portia Kalun, BSc, MSc
                                  (McMaster University)

SUPERVISOR: Dr. Bonny Jung, PhD

SUPERVISORY COMMITTEE: Dr. Colleen McKey, PhD
                                  Dr. Lawrence Grierson, PhD
                                  Dr. Jenn Salfi, PhD

NUMBER OF PAGES: xii, 88

LAY ABSTRACT

As the population of older adults increases, students in health professions programs (medicine, occupational therapy, nursing, etc.) must be prepared to care for older adults. Unfortunately, some students hold negative attitudes towards older adults, which can negatively affect older patients. The purpose of this thesis was to explore students' experiences with an e-learning course that aimed to prepare them for older adult care. The students completed a survey before and after the course to measure their attitudes towards older adults. They were also interviewed about their experiences with the course. Although quantitative findings did not reveal a change in attitudes, the course did increase their knowledge about older adult care. Some of the students integrated this knowledge with other learning experiences. Overall, this course has the potential to improve older adult care by increasing health profession students' knowledge about aging, which might influence how they care for patients in practice.

ABSTRACT

As the population of older adults increases over the next 20 years, students in health professions programs must be equipped with the knowledge, skills, and attitudes required to care for older adults. Unfortunately, some students hold negative attitudes towards older adults, which can negatively affect older patients. In order to prepare students to provide care for older adults, this study piloted an e-learning course that covered communication with older adults, common stereotypes of aging, and information about the typical versus atypical aging processes.

The purpose of this thesis study was to explore the experiences of health professions students with the course with respect to attitudes towards older adults and collaborative care. A mixed methods design was used and participants were students from health professions programs (medicine, occupational therapy, nursing). The initial, quantitative strand sought to determine the influence of the course on attitudes towards older adults, according to a geriatrics attitudes survey. The qualitative strand followed with the intent to add meaning to the quantitative results; it explored participants' experiences with the course and older adult care, and consisted of interviews with the participants.

Although quantitative findings did not reveal a change in attitudes as measured by the geriatric attitudes survey, the participants did report increased knowledge about older adult care after completing the course. The participants' experiences in older adult care were consistent with theories in the literature, such as the informal curriculum in older adult care. The participants also reported integrating knowledge from the course into their

learning, which is encouraging as there is little evidence to show that online interventions result in changes in behaviour and/or patient care. Overall, online interventions, such as the course in this study, have the potential to improve older adult care through increased knowledge about aging and collaborative care, and the translation of this knowledge into practice.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS AND SYMBOLS

CMA: Canadian Medical Association

COU: Council of Ontario Universities

IPE: Interprofessional Education

RCPSC: Royal College of Physicians and Surgeons of Canada

TPB: Theory of Planned Behaviour

CNO: College of Nurses of Ontario

CASN: Canadian Association of Schools of Nursing

OT: Occupational Therapy

ACOTRO: Association of Canadian Occupational Therapy

PA: Physician Assistant

UCLA GAS: University of California in Los Angeles Geriatric Attitudes Survey

DECLARATION OF ACADEMIC ACHIEVEMENT

The work in this thesis was conducted by Portia Kalun (hereafter referred to 'student investigator'), including the study design, data collection, and data analysis. All of this work was done under the supervision of Dr. Jung, with guidance from Dr. McKey and Dr. Salfi. Participant recruitment was conducted with the assistance of Margaret Shkimba in the Faculty of Health Sciences.

Chapter 1: Introduction

Study Background

In 2013, older adults (ages 65 years and over) accounted for approximately 15% of the Canadian population (Bohnert, Chagnon, & Dion, 2015); by 2036, they are expected to comprise 25% of the population (Canadian Medical Association (CMA), 2013). Although there are many healthy older adults, the risk of developing health conditions increases with age. In the youngest age range of older adults, 65 to 74 years, 71% of individuals have at least one chronic condition (Canadian Institute for Health Information (CIHI), 2011). The projected increase in older adults over the next couple of decades will have a major impact on the health care system (CMA, 2013). Therefore, efforts must be made to equip students in health professions programs with the knowledge, skills, and attitudes required to care for older adults (Tam, Chandran, Yu, Nair, & Visvanathan, 2014).

Despite the aging population, negative attitudes towards caring for older adults are common among students in health professions programs. Medical students, for example, experience a mixture of warmth and frustration towards older adults (Higashi, Tillack, Steinman, Harper, & Johnston, 2012). Studies have also documented negative attitudes towards caring for older adults among nursing students (Happell, 2002; Hayes et al., 2006). Duthie & Donaghy (2009) found that, although most fourth-year physiotherapy students had positive attitudes towards older adults, 35% of the students had more negative attitudes. These attitudes negatively impact both health professionals and elderly patients.

Negative attitudes towards older adults result in fewer graduates pursuing careers in geriatrics, which is concerning given the projected increase in the older adult population (CMA, 2013; Eskildsen & Flacker, 2009; Happell, 2002). For nurses who work in geriatrics, morale is lower as their work is not valued by their peers (Happell, 2002). Negative attitudes also lead to marginalization of older adults and poorer patient outcomes (Cozort, 2008; Higgins, Van Der Riet, Slater, & Peek, 2007). When primed with negative images of aging, older adults exhibit poorer memory and show a decreased will to live (Levy, 1996; Levy, Ashman, & Dror, 2000). In order to prevent these detrimental effects and improve attitudes towards older adults, educational interventions aimed at building knowledge or empathy have been implemented into health professions curricula (Koh et al., 2015; Samra, Griffiths, Cox, Conroy, & Knight, 2013). These are often in the form of geriatrics rotations or formal courses in gerontology (Samra et al., 2013).

At one southern Ontario university, an e-learning course was developed as part of a curriculum initiative to prepare health professional students to provide care for older adults. This initiative was prompted by recommendations following the *Better Aging: Ontario Education Summit* in February 2014 (Council of Ontario Universities (COU), 2014). As a result of the Summit, a call was made for health professions curricula to include topics such as communication, dementia (COU, 2014), ageism, and differences between normal and abnormal aging processes (Wilson, 2014). There has also been a call for more interprofessional education in older adult care, including the understanding of roles and the roles of other health professionals (COU, 2014; Ploeg et al., 2014). The

curriculum initiative at this university was supported by funding from an initiative with the aim of building an educational opportunity for health professions students to address some of these recommendations.

The *Building Competence in Older Adult Care* course (hereafter referred to 'the course') is a self-directed, online resource for health professions students comprised of the Interprofessional Approach to Caring for Older Adults curriculum. The course was brought to fruition through the collaboration of experts in geriatrics, leaders in health sciences education, and e-learning specialists. The course covers communication with older adults, debunks common stereotypes of aging, and provides information about the typical versus atypical aging processes. The objectives of this course are to:

- explore best practices in communication with older adults and in the administration of older adult care, at the individual and team levels;

- compare and contrast between the typical and pathological aging processes;

- identify some issues of older adulthood (e.g., falls, dementia); and

- examine assumptions about caring for older adults.

The student investigator was involved in the development of the course and was interested in a way to evaluate the impact that it had on students. Hence, the current study will explore health professions students' experiences with this course. These experiences will focus on attitudes towards older adults as well as the importance of health care at the team level.

Interprofessional, collaborative health care teams are required for older patients who have multiple health issues (Golden, Gammonley, Hunt, Olsen, & Issenberg, 2014).

Efforts have been made to increase knowledge about older adult care and an interprofessional approach among health care teams in Canada, which include physicians, nurses, occupational therapists, and physiotherapists (Ryan et al., 2013). Additionally, educating students to collaborate improves patient outcomes (Reilly et al., 2014) by improving patient safety, outcomes for individuals with chronic diseases, and access to health services (World Health Organization (WHO), 2010). Thus, studies have investigated the impact of geriatric interventions on attitudes of professionals including students in medicine, nursing, and social work (Golden et al., 2014; Gould, Lee, Berkowitz, & Bronstein, 2015).

Purpose Statement

The purpose of this study is to explore students' experiences of the course with respect to attitudes towards older adults and collaborative care. An explanatory sequential mixed methods design will be used to explore their experiences both quantitatively and then qualitatively (Creswell & Plano Clark, 2011). The initial, quantitative phase will determine attitudes towards older adults prior to and following completion of the course to assess whether it influences attitudes of students in health professions programs. The qualitative phase will add meaning and elaborate on the quantitative results (Creswell & Plano Clark, 2011). This phase will explore students' experience with the course, including their attitudes towards older adults, and the interprofessional aspects of the course.

Overarching Research Question

The overarching research question for this study is: What are the experiences of health professions students with the course with respect to attitudes towards older adults and collaborative care?

The question for the quantitative phase is:

- Does the course influence attitudes of students in health professions programs towards caring for older adults?

The questions for the qualitative phase are:

- How do students describe the influences of the course on attitudes about older adults?

- How do the students perceive the interprofessional education component of the course?

This thesis will explore health professions students' experiences with the recently developed *Building Competence in Older Adult Care* course. The results of this study will provide feedback to the course developers with regards to the influence of the course on student attitudes towards caring for older adults. It will also inform developers of the students' perceptions of the interprofessional education component of the course.

Overview of Thesis

This thesis continues with a literature review (Chapter 2) that outlines the literature to date regarding the attitudes of health professions students towards older adult care. It outlines the impact and sources of negative attitudes and educational interventions

aimed at improving attitudes towards older adult care and collaboration among professions.

Chapter 3 details the methodology of this thesis study, which followed an explanatory mixed methods design. The sample and recruitment processes are described, as well as the collection and analysis of the quantitative and qualitative data.

Chapter 4 outlines the results from the quantitative and qualitative strands of this study. While the quantitative strand measured attitudes towards older adults before and after completion of the course, the qualitative strand explored participants' experiences with the course.

Chapter 5 provides a discussion of the findings from this study in light of the literature. Limitations of the study are also considered, as well as potential implications for future research and health professions education.

Chapter 6 is the final chapter and concludes the thesis with a brief summary of each chapter.

Chapter 2: Literature Review

Overview

This literature review will discuss attitudes of health professions students towards older adults, the impacts and sources of negative attitudes, and educational interventions aimed at increasing positive attitudes. Most of the literature about attitudes towards older adult care is generated from medicine and nursing, although some studies investigate attitudes of other health professions including occupational therapists, physiotherapists, physician assistants, and social workers. This review mostly includes literature from North America, but also includes studies from Europe and Asia. Terms including health professional education, attitudes, older adults, geriatrics, interprofessional, and intervention were searched in OVID and PubMed. For studies that were included, the references were also checked for relevant studies. Most studies included were from 2000 and onward, however some studies from 1995-1999 were included when appropriate.

Studies were included regardless of country location to provide a broad overview of attitudes towards older adults. Specifically, sources of negative attitudes may differ depending on societal attitudes towards older adults (Koh et al., 2015). Differences between health care systems were considered when comparing differences in results between studies from different countries.

Attitudes

Attitudes are evaluations about whether the outcome of a particular behaviour is positive or negative (Armitage & Conner, 2001); in other words, they evaluate whether something (a person, policy, event, etc.) is pleasant or unpleasant (Ajzen, 2005).

Attitudes may be determined by beliefs (cognition) or feelings (affect) in varying degrees, depending on the individual (Ajzen, 2001). While attitudes are quite stable, the influence of different beliefs may vary depending on the context (Ajzen, 2001).

Attitudes are hypothetical constructs and therefore not directly observable, so in order to measure attitudes one must measure responses instead (Ajzen, 2005). Responses based on attitudes can be cognitive, affective, or conative, meaning responses can be expressions of individuals' thoughts, feelings, or behavioural intentions on an object, respectively (Ajzen, 2005). Although attitudes themselves cannot predict behaviour, they do help to predict behavioural intentions, and in turn behaviour, according to the Theory of Planned Behaviour (TPB) (Ajzen, 2002). This theory has been noted as the best theory for predicting behaviour of health professionals (Godin, Belanger-Gravel, Eccles, & Grimshaw, 2008). The TPB explains 20% of the variance in measures of observed behaviour (Armitage & Conner, 2001), so there are additional factors that contribute to behaviour that are not accounted for by the TPB.

Attitudes Towards Older Adults

Despite the aging population, negative attitudes towards caring for older adults are common among students in health professions programs (Happell, 2002; Kaempfer, Wellman, & Himburg, 2002). Medical students, for example, experience a mixture of warmth and frustration towards older adults (Higashi et al., 2012). Medical students and residents state that older patients are more needy, resulting in slower interactions that are frustrating for the students (Higashi et al., 2012). It is also less rewarding for physicians-in-training to care for rather than to cure patients (Higashi et al., 2012). These negative

attitudes span different levels of medical training; Kishimoto et al. (2005) found negative attitudes in medical students, internal medicine residents, and geriatric medicine fellows (Kishimoto, Nagoshi, Williams, Masaki, & Blanchette, 2005).

Studies have also documented negative attitudes towards caring for older adults among nursing students (Cozort, 2008; Happell, 2002; Hayes et al., 2006). Nursing students feel that older adult care is basic and are more drawn to technical or acute care rather than older adult care (Alabaster, 2007; Happell, 2002). Along with medical and social work students, some nursing students prefer not to work with older adults, and this is associated with less positive attitudes towards older adults (Hweidi & Al-Obeisat, 2006).

Not all studies have found negative attitudes in health professions students. For example, Golden et al. (2014) found mostly neutral attitudes in medical students, although these attitudes were lower than that of nurse practitioner and social work students. Milutinovic et al. (2015) also found neutral attitudes in medical, nursing, and rehabilitation students (Milutinovic, Simin, Kacavendic, & Turkulov, 2015). Other studies have found slightly positive attitudes towards older adults in nursing, social work, physical therapy, and dietetics students (Cha & Seo, 2009; Erdemir, Kav, Citak, Hanoglu, & Karahan, 2011; Golden et al., 2014). Although not all health professions students have negative attitudes towards older adult care, the impact of these attitudes include fewer students pursuing a career in older adult care (McLafferty & Morrison, 2004; Weiss & Fain, 2009) and negative effects on the health of older patients (Higgins et al., 2007).

Impact of Negative Attitudes

Negative attitudes towards older adults are linked to a lack of interest in pursuing a career that involves older adults in both nursing and medical students (McLafferty & Morrison, 2004; Weiss & Fain, 2009). Hayes et al. (2006) conducted a literature review on nursing students' career preferences, and found that nursing students would prefer not to work with older adults when they graduate, likely due to their view of older adult care as unexciting. There is also a shortage of geriatricians in the United States, which may be due to perceived lack of need or the informal curriculum (Weiss & Fain, 2009).

There are other potential reasons for the shortage of geriatricians in both the United States and Canada. In the United States, it could be linked to insufficient compensation upon completion of a geriatric fellowship when compared to other specialties (Weiss & Fain, 2009). In Canada, individuals specializing in geriatric medicine must complete three years of internal medicine training followed by two and a half years of geriatric-specific training (Royal College of Physicians and Surgeons of Canada (RCPSC), 2015a, 2015b). Therefore, poor compensation and an increased time commitment to specializing in geriatrics may be other deterrents to specializing in geriatrics, regardless of attitudes.

Duthie and Donaghy (2009) explored the attitudes of physiotherapy students towards older adult care since older adults make up the largest group that physiotherapists care for in the United Kingdom. Most of the 175 students that they surveyed stated that they would enjoy working with older adults, while 19 said they would not, and eight said they were dreading it (Duthie & Donaghy, 2009). Although it is

encouraging that most students looked forward to working with older adults, improving the attitudes of those who do not wish to pursue older adult care would be ideal.

These negative attitudes will also affect how older adults are cared for as these attitudes are translated through behaviour (Cozort, 2008). One example is that attitudes towards an older adult can influence how a nurse hands a patient's care over to another nurse, influencing the attitudes of that next nurse as they care for the older adult. Also, if a health care professional believes an older adult is not capable of something, the older adult may start to believe they are not capable; this in turn reinforces the stereotype for the professional (Cozort, 2008).

One powerful way that attitudes can negatively affect older adults is through language. Using stereotypical words about aging could potentially affect the performance of an older adult. One study used stereotypically negative and positive words about aging, e.g. senile and wise, and found that older adults' performance on memory tasks can be influenced by these words (Levy, 1996). Levy et al. (2000) created a questionnaire consisting of scenarios in which participants had life threatening illnesses and the ability to choose potentially life-saving options or not; they did this to measure participants' will to live. They found that priming older participants with negative words about aging can decrease their will to live, suggesting that speech can be very powerful for influencing older adults' health. What is also concerning is that the older adults' views of aging in this study, i.e. more positive or more negative views of aging, did not influence their will to live (Levy et al., 2000). This means that, although an older adult may have positive views of aging, they could still be affected by stereotypical, negative words related to

aging. Despite the lack of psychometric testing of this questionnaire, these findings suggest that using negative language could have a detrimental impact on older adults' lives.

Speech can affect older adults through over-accommodation, a speech pattern in which pitch is increased and speed is decreased, there is overemphasis on using certain words, and terms of endearment are used when speaking to older adults (Brown & Draper, 2003). As speech is an indication of how someone views another's competence, and over-accommodation is also used when speaking to children learning a language, this speech pattern is not appropriate when speaking to older adults (Brown & Draper, 2003). Brown & Draper (2003) conducted a review on patronizing speech in nursing and found that older adults prefer nurses who do not use patronizing speech (Brown & Draper, 2003). Although this study focused on nursing, it can be hypothesized that patronizing speech occurs in other health care professions as well. Nonetheless, negative attitudes can translate to behavioural patterns which can negatively affect older adults, whether they are conscious of it (in the case of patronizing speech) or not (using negative primes).

Sources of Negative Attitudes

The prevalence of negative attitudes towards older adult care has led to the investigation of sources of the development of these attitudes. Some sources include the informal curriculum, prior experience with older adult care, knowledge gaps, and societal views.

Informal Curriculum

One source of negative attitudes is the informal curriculum, in which students witness and learn from interpersonal interactions of health professionals. This differs from the hidden curriculum, which also may influence students, and originates at the organizational and cultural levels of a program (Hafferty, 1998). This means that students witness and learn the attitudes of health professionals, which include negative attitudes towards older adults. During the *Better Aging Summit* held by the COU in 2014, the informal curriculum and ageism were cited as some of the broader challenges in clinical education (COU, 2014).

When nurses explain interactions and situations with older adults, it is clear that older adults are marginalized. Although acute care nurses explain they have a lack of time to care for older patients, this may just be a lack of patience on the nurses' parts (Higgins et al., 2007). Nursing students in one study described nurses delegating certain tasks in older adult care to support workers and citing a lack of time, while the students perceived this as the nurses' lack of interest in doing the tasks themselves (Alabaster, 2007). Medical trainees also perceived geriatric care as work for other professions, such as nursing and social work (Higashi et al., 2012). Furthermore, nursing students at a Canadian institution felt peers and nursing faculty implied their skills and knowledge would be wasted if they worked with older adults (Evers, Ploeg, & Kaasalainen, 2011). Through these clinical experiences and messages, students learn that older adult care is not valued in their profession (Happell, 2002).

Attitudes of practicing health professionals definitely influence the attitudes of students. When medical students notice something that happens at odds with their own beliefs, they tend to question their own beliefs so they can fit in with their future profession (Phillips & Clarke, 2012). In addition, when nursing students provide reasoning for ranking older adult care as low for future career preference, they refer to learning gained from their clinical experiences much more than classroom experiences (Stevens & Crouch, 1998), suggesting that the clinical environment has a large influence on their attitudes towards older adult care and career choice decisions.

The informal curriculum may also be present in the formal curriculum in health professions programs. Both the College of Nurses of Ontario's (CNO) entry-to-practice competencies and the Canadian Association of Schools of Nursing (CASN) Accreditation Program state that new graduates should be prepared to care for patients across the lifespan (Canadian Association of Schools of Nursing (CASN), 2014; College of Nurses of Ontario (CNO), 2014). In a study by McCleary et al. (2014), a program leader stated that the CNO entry-to-practice guidelines focus on acute care, while older adult care is mostly chronic care (McCleary, Boscart, Donahue, & Harvey, 2014). Multiple interviewees in another study by McCleary et al. (2014), consisting of professionals in health and social work, also stated that there is little focus on older adult care in acute care curricula (McCleary, Luinstra-Toohey, Hoogeveen, Boscart, & Donahue, 2014). Caring across the life span is also embedded in the occupational therapy (OT) competencies and the physiotherapy scope of practice (Accreditation Council for Canadian Physiotherapy Academic Programs, Canadian Alliance of Physiotherapy

Regulators, Canadian Physiotherapy Association, & Canadian Council of Physiotherapy University Programs, 2009; Association of Canadian Occupational Therapy Regulatory Organizations (ACOTRO), 2011). Care across the life cycle is also included in the key competencies for a recently developed curriculum for family medicine residents in Canada (Tannenbaum et al., 2011). This curriculum was developed in response to societal needs, tendencies of family physicians to narrow their scope of practice, and a shift towards competency-based medical education (Walsh et al., 2011; Oandasan, 2011). It is entitled the 'Triple C' curriculum, as it is "*comprehensive*, focused on *continuity of education and patient care*, and *centred in family medicine*" (Oandasan 2011, p. 739). Providing comprehensive care results in ongoing doctor-patient relationships and better health outcomes (Walsh et al., 2011). It is encouraging to note that standards/guidelines exist that highlight the importance of caring for patients across the life span within the formal curricula of family medicine and health professions programs.

While the informal curriculum may influence student attitudes, this can lead to influences on behaviour. The TPB states that attitudes, subjective norms, and perceived behavioural control predict behavioural intentions, which are the best predictor of behaviour (Sauls, 2007). Attitudes are based on beliefs about whether the outcome of a particular behaviour is positive or negative, and perceived behavioural control refers how much control an individual believes they have over performance of the behaviour (Sauls, 2007). Subjective norms, which are perceptions of social pressure, also influence behaviour (Armitage & Conner, 2001). These norms are based on normative beliefs (Conner & Armitage, 1998), which are perceptions about how other individuals "with

whom the individual is motivated to comply will approve or disapprove of the behaviour" (Armitage & Conner, 2001, p. 474). Based on the TPB, the informal curriculum may influence the behaviour of health professions students through subjective norms. Students may be concerned with how others, especially practicing health professionals, view their behaviours.

Experience Working with Older Adults

Another source of negative attitudes may be experience caring for older adults outside of formal education. Happell (2002) and Evers et al. (2011) explored the effects of undergraduate nursing students working part-time in nursing homes throughout their nursing degree. Although working with older adults was least preferred at both the beginning and the end of their degrees, one reason for why it was least preferred at the end is that many students had already worked with older adults during their program and wanted experience in other areas (Happell, 2002). Some more extreme responses from these nursing students included statements that this experience working in nursing homes allowed them to learn all they needed to know since the skill level needed to care for older adults is very minimal (Happell, 2002). Students in the study by Evers et al. (2011) actually cited poor experiences with staff and the "chaotic" atmosphere in nursing homes as the reason that they did not enjoy working in long-term care, as opposed to the older adults themselves. This is encouraging as it suggests that working in a nursing home may not be a source of negative attitudes towards older adults themselves, but just towards caring for older adults. If students are provided with a positive experience caring for

older adults as part of their formal training, it might mitigate these negative attitudes towards caring for older adults.

While it is possible that experience caring for older adults outside of a formal curriculum influences students' attitudes towards older adult care, it is possible that positive experiences during formal training in health professions programs can mitigate this. Milutinovic et al. (2015) did not find differences in attitudes towards older adults between medical, nursing, and rehabilitation students who had received formal training with older adults compared to those who had not yet received training. Therefore, it is possible that the types of interactions that students have with older adults influence their attitudes towards caring for them. Cozort (2008) suggests extra care be taken to ensure that clinical experiences in older adult care discourage stereotypes. Clinical experiences should provide positive experiences for students while debunking any stereotypes related to older adult care.

Knowledge Gaps

Another potential source of negative attitudes are knowledge gaps. For example, Tanner et al. (2006) investigated the needs of geriatric education for internists and found that they have knowledge gaps in prescribing medications, in assessing neurologic and behavioural problems, and assessing falls; all of these are important areas for older adult care. Knowledge gaps in older adult care may lead to negative attitudes towards caring for older adults.

McCleary et al. (2014) identified many gaps in competencies of new graduates from health professions and social work programs. Some of the knowledge gaps include

differences between the normal and abnormal aging processes; how to recognize and care for older adults with dementia, delirium, and/or depression; and how to communicate with older adults (McCleary, Luinstra-Toohey, et al., 2014). As internists cited ill-preparedness for older adult care as contributing to their frustration (Tanner et al., 2006), it is important that health professions students are equipped with the knowledge to care for older adults upon graduation.

Societal Attitudes

Finally, a definite source of negative attitudes is negative societal attitudes towards aging. As health professionals are part of society, they are also subject to the influence of these societal attitudes (Cozort, 2008). Western, youth-oriented culture is comprised of common stereotypes of older adults including that they are helpless, unproductive, and immobile (Marshall, 2010); this is opposed to Asian cultures in which older adults are more respected and positively regarded (Sung, 2001). In addition Koh et al. (2015) suggest that Asian patients are very respectful of their physicians, so in turn physicians in Asia may feel more positively towards all of their patients, including older ones.

Evers et al. (2011) found that attitudes of nursing students towards older adults were influenced greatly by their experiences with older family members. Students described their experiences learning from older adults in and/or close to their family, and these experiences positively influenced the students' attitudes towards older adults (Evers et al., 2011). Through these experiences, the students emphasized the contributions of older adults, which is in contrast to the stereotype in Western culture that older adults are

unproductive (Marshall, 2010). Experiences with older family members may influence how students perceive older adult care, which is interesting given that attitudes towards caring for older family members differ among cultures. Filial piety, which includes showing respect and caring for aging parents, is practiced by Asian cultures including the Korean, Chinese, and Japanese cultures (Sung, 2001). In Western countries, caring for an older family member is considered voluntary and usually does not occur until they are in poor health (Little et al., 2013). Thus, the cultural norms of who is responsible for taking care of older adults may influence attitudes towards caring for them in a health care setting.

Interventions: Older Adult Care

Due to the prevalence of negative attitudes of health professionals towards older adults, many educational interventions have been held with the aim of alleviating these attitudes. The type, length, and focus of these interventions are varied. Curricular interventions about older adults may be in the form of a lecture (Adelman et al., 2007; Diachun, Dumbrell, Byrne, & Esbaugh, 2006) or contact, experiential education (Alford, Miles, Palmer, & Espino, 2001). Although some interventions showed positive increases in attitudes towards older adults (Adelman et al., 2007; Tam et al., 2014; Tufan et al., 2015), more positive attitudes may not result in graduates pursuing careers in older adult care. For example, first-year medical students interviewed older adults and were surveyed about their attitudes towards older adult care and interest in pursuing geriatrics (Alford et al., 2001). Although the students were more comfortable with older adults following the intervention, their desire to pursue geriatrics did not change (Alford et al., 2001).

However, more positive attitudes may result in behavioural changes from those that negatively impact older adults, as discussed earlier in this review. Therefore, these interventions are definitely worth exploring.

Samra and colleagues (2013) conducted a systematic review of 27 studies of interventions for medical students and physicians that quantitatively measured attitudes changes. Most of the studies were from the United States, with three from Canada, two from the United Kingdom, one from Israel, and one from New Zealand. Factors that did not affect attitudes included the type of intervention (i.e. course, rotation, or mentoring) and duration. They did find that empathy-building interventions, rather than knowledge-building, increased positive attitudes (Samra et al., 2013). Although the concept of empathy is ambiguous, it is similar to attitudes in that it has cognitive and affective components (Hojat et al., 2009). In patient care, health professionals aim to understand patients concerns, which emphasizes the cognitive component of empathy. Thus, empathy can be developed through education that enhances this understanding (Hojat et al., 2009). Empathy components in educational interventions included having students relate or share experiences with older adults and have contact with healthy older adults (Samra et al., 2013). One type of intervention that may increase empathy is learning about older adults' lives through story telling. Having nursing home staff learn about residents helps them better understand the needs and behaviours of residents; it also allows them to view these older adults as more autonomous (Clarke, Hanson, & Ross, 2003).

Building empathy in curricular interventions aimed at improving attitudes towards older adult care is important as there is a large decline in empathy after medical students in the United States obtain clinical experience (Hojat et al., 2009). Hojat et al. (2009) measured the empathy levels of two cohorts of medical students (n=456) at the beginning and end of first year, as well as at the end of years two to five. They measured it using the validated Jefferson Scale of Physician Empathy and found a decline in empathy at the end of third year, which is the first year of clinical training. This decline is potentially due to students being taught to be emotionally detached from their patients, but then completely disengaging from interpersonal connections with patients (Hojat et al., 2009). It would be interesting to determine if empathy-building interventions about older adult care could alleviate this decrease in empathy.

This decline in empathy may just hold for American students, however. Studies in Korea and Japan found an increase in empathy in medical students from when they started medical school to when they completed it (Hong et al., 2012; Kataoka, Koide, Ochi, Hojat, & Gonnella, 2009). As societal views of aging may differ in North America and Asia, this difference in empathy changes could be related to the different cultures that students are immersed in while in medical school.

Interventions: Interprofessional Education

Due to the importance of interprofessional, collaborative care for older adults, there are also curricular interventions that incorporate older adult care and interprofessional education (IPE). One intervention was delivered by an interprofessional team to medical students and included lectures and clinical rotations. Although attitudes

towards older adults improved, they also improved for the control group, who did not experience the new curriculum. The authors concluded that something other than the curriculum itself must have improved attitudes (Koh et al., 2015).

Other studies include health professions students from different programs interacting with each other and older adults. When medical and social work students completed geriatric assessments in patients' homes, they recognized the benefits of a collaborative and holistic approach to older adult care (Gould et al., 2015). Another intervention included third-year medical and fourth-year nursing students in a workshop with standardized patients, after which students understood the value of teamwork and communication in older adult care (Balogun, Rose, Thomas, Owen, & Brashers, 2015). All three of these professions (medicine, nursing, social work) were included in the study by Golden et al. (2014), who measured attitudes towards aging and opinions on the leaders of health care teams. They found that profession did influence attitudes towards older adults (Golden et al., 2014); this ability to compare attitudes between students from different professions is one of the benefits of having interventions with interprofessional groups of students. Golden et al. (2014) also found that professions differed on who should lead the health care team, which could potentially impact how health professionals care for older adults in a team-based manner (Golden et al., 2014). Therefore, IPE is important when educating students to be health professionals.

Some studies contained multiple health professions students. Segal-Gidan et al. (2014) focused on physician assistant (PA) students, but these students attended meetings with older adults and medical, physical therapy, OT, and pharmacy students (Segal-

Gidan, Walsh, Lie, Fung, & Lohenry, 2014). Although scores on the validated *Readiness for Interprofessional Learning Survey* (Parsell & Bligh, 1999) decreased after the intervention, the students' knowledge of team-based care increased (Segal-Gidan et al., 2014). The authors commented that this was a longitudinal geriatric curriculum since it spanned eight months, however the intervention by Koh et al. (2015) was much longer spanning a four-year curriculum. The length of the longitudinal interventions may have been why Samra et al. (2013) did not find a significant effect on student attitudes towards older adults.

Reilly et al. (2014) included dentistry, medical, OT, pharmacy, physical therapy, PA, and social work students in their study. The three-part intervention comprised of a didactic session, interprofessional teams meeting with an older adult three times, and finally a workshop. The authors suggested that, when implementing an IPE curriculum, students should be at a similar level in their training, since they found that dentists were least likely to believe that IPE would improve their communication with older adults, but they also had the most clinical experience out of the health professions students (Reilly et al., 2014). The authors also commented that, although they measured knowledge and attitude changes, they were not able to measure behaviour changes (Reilly et al., 2014). This relates to the study by Alford et al. (2001), in which the students had improved attitudes yet had no intentions of entering older adult care.

Summary

Negative or neutral attitudes towards older adult care have been found in some medicine (Higashi et al., 2012), nursing (Happell, 2002), and rehabilitation students

(Milutinovic et al., 2015). These attitudes are linked to a lack of interest in pursuing a career in older adult care (McLafferty & Morrison, 2004) and can be linked to negative behaviour towards older adults (Cozort, 2008). Some of the sources of negative attitudes include the informal curriculum (Hafferty, 1998), experience working with older adults outside of formal education (Evers et al., 2011), knowledge gaps (Tanner et al., 2006), and societal attitudes (Cozort, 2008). Curricular interventions aimed at improving attitudes towards older adults are especially effective when an empathy-building component is included (Samra et al., 2013).

Based on the proceedings and accompanying documents from the *Better Aging: Ontario Education Summit* in 2014, these sources of negative attitudes were cited as some of the broader challenges in health professions entry-to-practice education (COU, 2014). In particular, several gaps in knowledge related to older adult care must be addressed to prepare health professions students for working with older adults (McCleary, Luinstra-Toohey, et al., 2014). Interventions aimed at improving collaboration among health professionals in older adult care are successful in helping students understand the value of team-based care (Balogun et al., 2015; Segal-Gidan et al., 2014).

Thus, interventions that address these knowledge gaps and improve collaboration in older adult care are needed, but the influence on attitudes should also be measured. Although interventions containing an empathy-building component are most effective in improving attitudes, there are knowledge gaps that must be addressed as well.

Chapter 3: Methodology

Study Design

An explanatory sequential mixed methods design was chosen to address the overarching research question of this study: What are the experiences of health professions students with the *Building Competence in Older Adult Care* course with respect to attitudes towards older adults and collaborative care? The initial, quantitative strand sought to determine the influence of the course on attitudes towards older adults. The qualitative strand followed with the intent to add meaning to the quantitative results (Creswell, 2014). This design was chosen to determine *if* and *how* the course influenced attitudes. These results could then be used to refine the content and educational delivery in the course as necessary.

Instead of determining *if* the course influenced attitudes and *how* it did so in separate studies, the mixed methods design allowed for these strands to be integrated. The quantitative and qualitative strands were integrated at both the sampling and interpretation levels (Creswell, 2014). At the sampling level, only those who completed the course were interviewed about their views on caring for older adults so that these results could be related back to the course's influence on attitudes. The two strands were also integrated at the interpretation level so that, once again, the participants' experiences with the course could help with interpreting the influence on attitudes.

Ethical Considerations

Approval from the Hamilton Integrated Research Ethics Board was received before the study commenced (Appendix I). Participants provided separate consent to

participate in the quantitative and qualitative strands. In both strands, consent was provided electronically. For the quantitative strand, consent was provided after reading the letter of information and consent before proceeding to complete the pre-survey. For the qualitative strand, the letter of information and consent was sent to the participants via email, who signed the forms and sent them back via email to the student investigator. The letter of information identified that the participants could withdraw from the study at any time and that their data would be removed should they choose to withdraw from the study. If they completed the course, but withdrew from the study, they would still be granted a credit for the course.

To protect participant identifiable information, the surveys (quantitative strand) were de-identified with the participants entering a unique identification number (first three letters each of their mother's name, the month they were born, and the city where they were born); this allowed the student investigator to connect the pre- and post-survey results with the respective participants. Demographic information (age, program, year of study) was collected in the pre-survey, but due to the small sample size, age of the participants was not reported in the quantitative results. For the interviews (qualitative strand), names were not recorded and numbers were assigned (i.e. medicine 1 (M1), occupational therapy 1 (OT1), nursing 1 (N1), etc.). The one identifier that was recorded and kept in the transcripts and results was the program of each participant, which was of relevance to the study to compare responses of participants from different educational programs.

All data were kept on the student investigator's password protected computer. The data were also backed up by a password protected, encrypted external hard drive and will be permanently deleted five years following commencement of the study. The thesis supervisor accessed two interview transcripts, while the student investigator alone accessed the rest of the qualitative and quantitative data.

Recruitment and Sample

Participants were recruited from a Canadian university in southern Ontario, which has a Faculty of Health Sciences encompassing undergraduate (medicine, nursing, midwifery) and graduate (nursing, OT, physiotherapy, and PA) health professions programs. Students were recruited through an interprofessional education program spanning all health professions programs at the university. This program encourages interprofessionalism and collaboration among students from the Faculty of Health Sciences, as well as from students from the Faculty of Social Sciences. It offers interprofessional education activities at three levels: Exposure (knowledge-based activities); Immersion (more interactive activities); and Mastery (clinical, team-based experiences) (University of British Columbia (UBC), 2016).

In March 2016, a recruitment poster was sent to students from the nursing, medicine, PA, OT, physiotherapy, and social work programs (Appendix II) via an on-line platform system, where students register for health science interprofessional events. Emails were also sent out to the IPE Program Faculty Leads and the Interprofessional Student Collaborative Co-Chairs so that they could share information about the project through their respective networks (Appendix III). The course was introduced as a pilot

test, and student participation was voluntary. There were no exclusion criteria specified during recruitment. Once students registered through the on-line platform, their names and email addresses were forwarded to the student investigator. Those who participated in the survey and interviewed received a $10 gift card for their participation.

The aim was to recruit 30 students. The average effect size for educational interventions is 0.45 (Norman & Eva, 2010); therefore, in order to achieve 80% power with an effect size of 0.5, the study would require 65 participants (Creswell, 2012). However, since this was a pilot study, a smaller sample size was sufficed. A sample size of 20 to 25 is sufficient when evaluating an intervention (Hertzog, 2008). Additionally, 30 participants was an estimate of how many participants would enroll based on past enrollment in health science interprofessional education activities.

There were six and 10 participants in the quantitative and qualitative strands, respectively, which was less than the anticipated sample size. A potential reason for the smaller sample size is that the study ran through to early June, during which most nursing students are off for the summer (there was only one nursing student participant). Additionally, the OT students had just completed an older adults unit, so they may have felt that doing the course would be redundant. To alleviate attrition, once participants had been recruited, they were reminded twice to complete the course prior to sending out the post-questionnaire link and some participants were provided with an extra week to complete the course. When inviting participants for interviews, a reminder email was sent to schedule an interview if the participants had agreed to be interviewed.

Data Collection and Analysis

Following an explanatory mixed methods design, data collection and analysis for the quantitative strand was conducted first, followed by the qualitative strand (Figure 1).
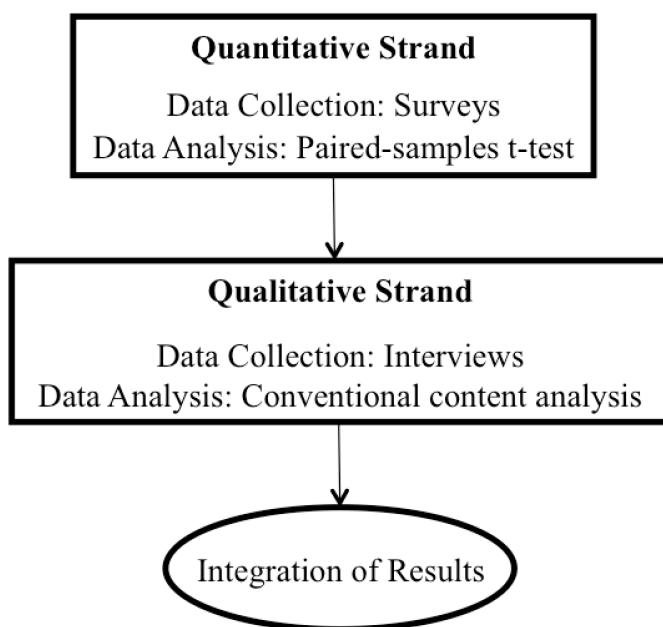
```
┌─────────────────────────────────────┐
│        Quantitative Strand          │
│                                     │
│     Data Collection: Surveys        │
│  Data Analysis: Paired-samples t-test │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│        Qualitative Strand           │
│                                     │
│     Data Collection: Interviews     │
│ Data Analysis: Conventional content analysis │
└─────────────────────────────────────┘
                  │
                  ▼
          ╭───────────────────╮
         (  Integration of Results  )
          ╰───────────────────╯
```

Figure 1. Model of the explanatory mixed methods design used for this study; adapted from Creswell (2014).

Quantitative Strand

Methodological Approach

The quantitative strand used a single-group, pre-test post-test design (Norman & Eva, 2010) to compare attitudes prior to and following completion of the course. Due to the anticipated small sample size, having a control group was not deemed feasible.

Data Collection

The University of California in Los Angeles (UCLA) Geriatrics Attitudes Survey (GAS) was used to collect quantitative data (Reuben et al., 1998). This survey is a 14-

item, 5-point Likert scale that ranges from strongly agree (5) to strongly disagree (1) (Kishimoto et al., 2005; Lee, Reuben, & Ferrell, 2005). It is comprised of five positive and nine negative statements about older adults (Eskildsen & Flacker, 2009). The scores for the negative statements were reversed and added to the scores of the positive statements to produce a mean score (Eskildsen & Flacker, 2009). Thus, a higher mean score indicates more positive attitudes towards caring for older adults (Golden et al., 2014).

Samra et al. (2013) conducted a systematic review on twenty-seven studies measuring changes in attitudes towards older adults following interventions for medical students and physicians. Out of the scales used, the UCLA GAS, was the only scale validated with health care professionals (Samra et al., 2013). Other scales used were not validated, were validated in the general population rather than health care professionals, or were locally developed with no validity information reported (Samra et al., 2013).

The UCLA GAS scale assesses the following four sub-scales of attitudes: social value, medical care, compassion, and resources distribution (Lee et al., 2005; Samra et al., 2013). It has been used in studies investigating attitude changes following interprofessional geriatrics interventions (Golden et al., 2014; Koh et al., 2015) and geriatric course interventions for medical students (Diachun et al., 2006; Eskildsen & Flacker, 2009). In these studies, one limitation was that participation was voluntary, so the sample may have been biased positively towards older adults. However, within-individuals differences were being measured, which may still have changed regardless of initial attitudes.

Since fewer participants were recruited than anticipated, all students who were interested in participating in the study were included. The student investigator sent the participants a link to the information and consent form (Appendix IV), and the pre- and post- surveys (Appendix V), through LimeSurvey (LimeSurvey, 2016). Upon agreement of the participant information and consent, the participants were directed to the pre-survey. This survey was recorded as anonymous, however participants provided a unique identification code (as described above) so that the pre- and post- surveys could be matched. In addition to the UCLA GAS, the survey collected demographic data (age, program, and year of study) and participants were asked short-answer questions about their experience with older adults before their program and during their program, and their interest in a career in geriatrics. Based on a review of the literature, it was hypothesized attitudes towards caring for older adults may be influenced by age (Hweidi & Al-Obeisat, 2006), program (Liu, While, Norman, & Ye, 2012), year of study (Kishimoto et al., 2005), and prior experience with older adults (Happell, 2002). Participants were asked about their interest in a career in geriatrics in order to subjectively determine whether the sample was positively biased towards older adults or not. Therefore, these data were collected to allow for comparisons of student attitudes based on these characteristics.

The students had four weeks to complete the pre-test and course at their own pace. It was anticipated that the course would take three to five hours to complete. Therefore, four weeks was judged as sufficient time for students to complete the course.

Once the links to the post-test survey were distributed, the participants had two weeks for completion.

Data Analysis

After matching the pre- and post-test surveys, a paired-samples t-test was performed to compare attitudes prior to and following the intervention (Eskildsen & Flacker, 2009). The analysis was conducted with IBM SPSS Statistics, with $P < 0.05$ considered significant (Norman & Eva, 2010).

Reliability & Validity

In line with quantitative research, which focuses on objectivity, a standardized measurement tool was used (Golafshani, 2003). The attitudes scale used in this study is reliable (Reuben et al., 1998) and been validated with health care professionals. It has also been used in studies to measure the attitudes of students in health care professions programs (Hobbs, Dean, Higgs, & Adamson, 2006; Tam et al., 2014), as in this pilot study.

Qualitative Strand

Methodological Approach

Qualitative description was the approach chosen for the qualitative strand (Sandelowski, 2000). One of the purposes of the study was to explore participants' experiences with the course and the reported results would be a summary of the data. In other words, the description of the data would be close to the interview data itself, which is in line with qualitative description (Sandelowski, 2000). This approach was also used

instead of other qualitative approaches as no one theoretical framework guided the study (Sandelowski, 2000).

Data Collection

During the post-survey, potential dates for focus group sessions were included so participants could sign up for a session. Due to lack of response to the focus group session dates, the student investigator followed up with participants to schedule individual in-person or telephone interviews. All participants who agreed to an interview were included; thus, convenience sampling was used (Kitto, Chesters, & Grbich, 2008). Interviews were conducted during the first three weeks of May 2016 and each participant provided written consent via email. While emailing the participants, the student investigator facilitated rapport building with the participants by responding promptly to emails and answering any questions that the participants had.

A semi-structured interview approach was used, which included open-ended questions in a pre-determined sequence (Patton, 2002). Students were asked about their experience with the course and if it contributed to their attitudes about older adults. They were also probed about their experiences of caring for older adults in their educational program, in both academic and clinical settings (Appendix VI). The student investigator was not affiliated with a particular health profession and this may have helped participants be more open in sharing their experiences within their own profession and with other health professions.

Although field notes were not collected and data analysis did not begin until all of the interviews were conducted, the student investigator reflected upon the answers of

participants as she conducted the interviews. This led her to probing participants on certain similarities to or differences from other participants. When key points were raised, the student investigator summarized participants' answers to clarify the meaning of their comments. Each interview was digitally recorded and then transcribed by the student investigator in order to prepare the data for analysis (Creswell, 2012). Transcribing the interviews provided the student investigator with further opportunity for reflection.

The student investigator listened to the interview recordings multiple times during data analysis. She made mental notes of non-verbal cues that participants made, such as laughter (nervous or not) and pauses in speech. These were used as an indication of the participant's comfort level with sharing certain information, and if it was possible that they were not sharing all of their thoughts on a particular topic.

Data Analysis

In line with a qualitative descriptive study, qualitative content analysis was the approach chosen to analyze the interview data (Sandelowski, 2000). Specifically, a conventional content analysis approach was used, meaning the student investigator sought to understand the students' experiences with the course through coding and theme identification of the interview data (Hsieh & Shannon, 2005). Since the codes were generated from the data, the result is a summary of the data (Sandelowski, 2000). Conventional content analysis focuses on what the data 'says' (Hsieh & Shannon, 2005), which was in line with the purpose of the research to explore experiences with the course based on what the participants revealed in the interviews.

When the interviews were completed and transcribed, the thesis supervisor and student investigator independently analyzed two interviews. They each assigned codes to each interview, then met to consult about and refine the codes. The student investigator collapsed and revised some of the codes and then used the resultant list of codes for the analysis of the remaining interview data. The codes and themes generated from the data were discussed with the thesis supervisory committee to help validate the sub-themes. Subsequently some of the sub-themes were modified.

The student investigator was a graduate student during data collection and did not have any prior personal or professional relationships with any of the participants. While scheduling an interview, the student investigator and one of the participants realized that they were volunteering at the same event later that month. They met briefly at the beginning of the event, and at the end of the day the student investigator interviewed the participant. They did not have any further professional encounters.

Trustworthiness

In qualitative research, it is important to demonstrate trustworthiness, meaning that the "findings are an authentic reflection of the personal or lived experiences of the phenomenon under investigation" (Curtin & Fossey, 2007, p. 88). Throughout this study, the student investigator aimed to fulfill the criteria for trustworthiness, which include credibility, dependability and confirmability, and transferability (Houghton, Casey, Shaw, & Murphy, 2013). These steps are summarized in Figure 2.
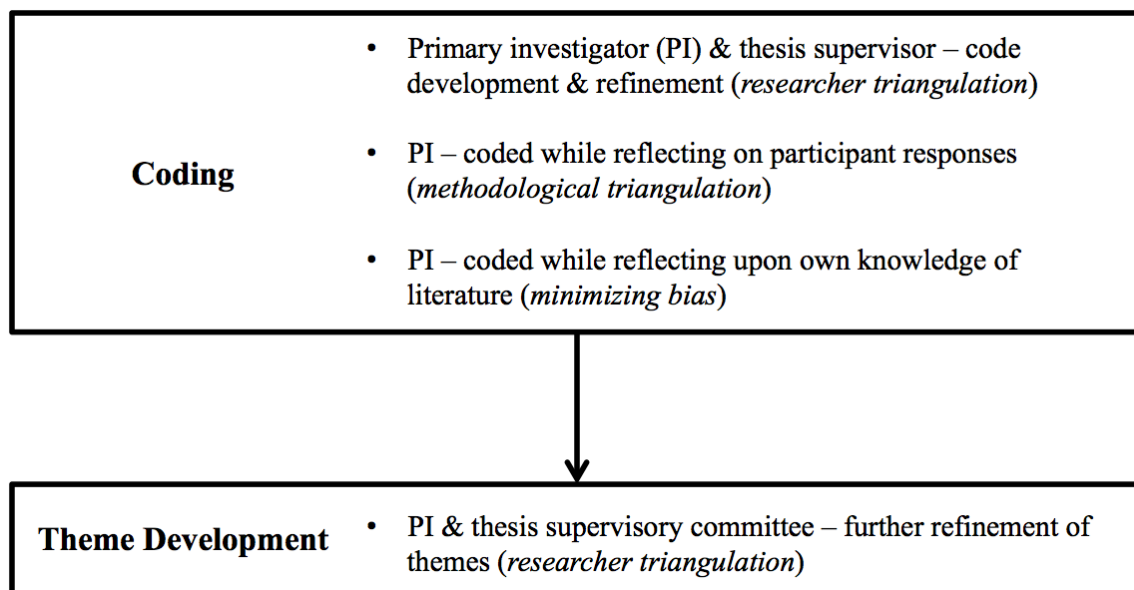
Figure 2: Steps in qualitative data analysis.

Credibility

Credibility refers to "how well data and processes of analysis address the intended focus" (Graneheim & Lundman, 2004, p. 109) and can be established through triangulation and peer debriefing (Houghton et al., 2013; Hsieh & Shannon, 2005). Triangulation allows for a more holistic view of the phenomenon and it can include: researcher triangulation, in which more than one researcher analyses the data; and methodological triangulation, in which more than one methodology is used to study the phenomenon (Curtin & Fossey, 2007). In this study, the student investigator applied researcher triangulation by consulting with the thesis supervisory committee while developing the themes from the interview data. She used methodological triangulation by triangulating the participants' responses from the interviews with her impressions of their

responses. The student investigator also triangulated data from quantitative and qualitative methods to better understand participant experiences with the course.

Dependability and Confirmability

Dependability and confirmability are demonstrated by stability and accuracy of the data (Houghton et al., 2013). Specifically, dependability refers to how the "data change over…the analysis process" (Graneheim & Lundman, 2004, p. 110). Strategies to establish dependability and confirmability include an audit trail (e.g. a diary) and reflexivity (Houghton et al., 2013). The student researcher did not keep a diary during data collection or analysis, but did reflect on her influence on the research process (Curtin & Fossey, 2007). While listening to the interviews and coding the transcripts, the student investigator reflected upon her biases and how they may affect the data analysis. Although she was aware that many health professions students have negative attitudes towards older adult care, she tried to minimize this bias while creating the codes.

Summary

This chapter explained the design and rationale underlying the decision to use an explanatory sequential mixed methods design for this study. Ethical considerations were outlined, which were followed by descriptions of the quantitative and qualitative strands. The quantitative strand involved pre- and post-surveys to assess attitudes before and after completion of the course, and the data were analyzed with a paired-samples t-test. The qualitative strand consisted of interviewing the participants to explore their experiences with the course. The student researcher also aimed to demonstrate trustworthiness by establishing credibility and dependability.

Chapter 4: Results

Overview

This chapter presents the results of the study, which outlines the experiences of health professions students with the course, with respect to attitudes towards older adults and collaborative care. This study utilized an explanatory sequential mixed methods design. The results of the quantitative strand, which included pre- and post-surveys to assess attitudes of the participants, will be presented first. A description of the qualitative findings from the interviews exploring participants' experiences with the course will follow.

Participants

Once the study was advertised on the online platform system, 14 students expressed interest in participating, 13 completed the pre-questionnaire, 10 completed the course, and nine completed the post-questionnaire. Overall, five medicine and one OT student completed the pre-questionnaire, course, and post-questionnaire (n=6) (Table 1), which comprised the population for the quantitative strand. All individuals who completed the course, even if they did not complete the pre- or post-questionnaires, shared their experiences via semi-structured questions in an interview; this comprised the population for the qualitative strand. This qualitative sample included six medical students, three occupational therapy students, and one nursing student (n=10) (Table 1).

Table 1. Number of participants and respective programs for the quantitative and qualitative strands.

Participant Demographics		Quantitative Strand	Qualitative Strand
Total Number of Participants		6	10
Program	Medicine	5	6
	Nursing	0	1
	OT	1	3

Quantitative Results

For the quantitative strand, there were six participants. Five of the participants were in their first or second year in their programs, with one participant not specified (Table 2). The mean ages of those in medicine and OT were 24.4 and 22.0 years old, respectively.

Table 2. Quantitative strand demographics.

Quantitative Demographics		Medicine	OT
Number of Participants		5	1
Mean age (years, +/- SD)		24.4 ($\pm$1.8)	22 ($\pm$0.0)
Year of Program (n participants)	Year 1	2	1
	Year 2	2	0
	Not specified	1	0

The mean UCLA GAS scores prior to and following the course were 3.75 ($\pm$0.32) and 3.94 ($\pm$0.32) out of 5, respectively (Figure 3). A paired-samples t-test did not show a significant difference between the mean scores ($t(5) = 1.37$, $p = 0.228$).
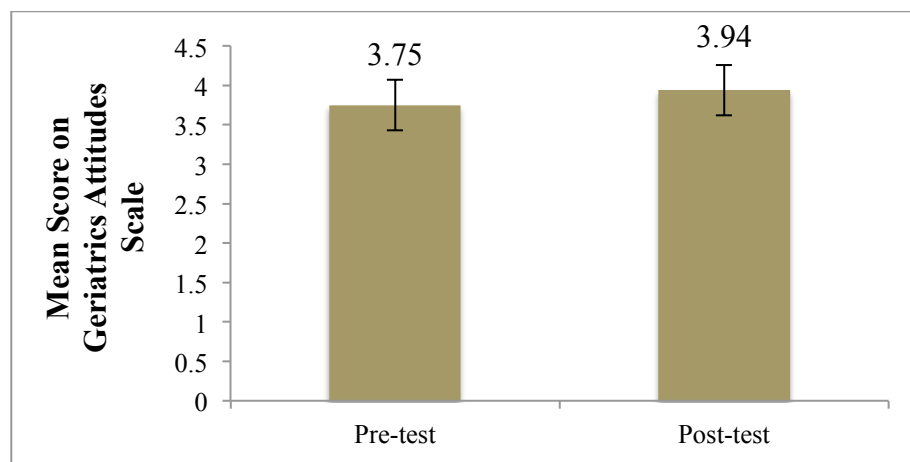
Figure 3. Mean GAS scores pre- and post- course completion (n=6).

Qualitative Results

For the qualitative strand, there were 10 participants in total. Six of the participants were in the first year of their program, one was in their second year, and three did not specify their year of study (Table 3).

Table 3. Qualitative strand demographics.

Qualitative Demographics		Medicine	OT	Nursing
Number of Participants		6	3	1
Year of Program (n participants)	Year 1	4	2	0
	Year 2	1	0	0
	Not specified	1	1	1

The main themes revealed from the participant interviews related to: 1) their experiences with the course, and 2) their experiences with older adult care. These themes were determined by assigning codes to the data and then organizing the codes into themes. The themes were collapsed and re-organized in an iterative fashion until the themes accurately reflected the data. Participants' programs (medicine [M], occupational therapy [OT], nursing [N]) and participant number follow each quote.

Experiences with the Course

Content

Overall, the participants found that the course was a good refresher or review. One participant remarked that the course "was reaffirming in terms of…non-stigmatizing attitudes and beliefs" (*M2*). Another participant said that the course content was helpful because a lot of the information was straightforward, but perhaps easily forgotten. A third participant commented that their attitudes were not influenced by the course, but that you need clinical experiences to learn some of the content (e.g. communication with older adults).

Participants also commented that the course was comprehensive and informative. Most participants remarked that learning about the typical versus atypical aging processes was valuable and some participants enjoyed learning myths and facts about aging, with one participant noting that they "liked the myths and facts sheet a lot" (*M2*). Participants also found the tips on language and communication for older adults useful. One participant felt that one activity, where they needed to research mandatory reporting for older adults, was not applicable to all professions.

There were mixed feelings about the videos, as two participants liked the videos and two participants found they were over exaggerated but 'made the point'. The video included in the course only showed the negative interaction from a longer video showing examples of negative and positive interactions. However, some participants commented that they would have liked to see both the positive and negative scenarios.

Participants also reported mixed opinions on the strategies provided by the course. One participant found it helpful that the course provided rationale rather than concrete strategies. However, some participants wanted more strategies that they could take into practice. Despite this opinion, participants did make comments about integrating the course content into their own learning.

"It tells you why something is important and how to do it, rather than just telling you what to do." (OT2)

"I felt like…with it being titled toolkit I maybe would've thought there would be more like practical tips." (M3)

One participant reported that the course would be helpful for individuals to realize which stereotypes about aging they hold themselves. The information about communication was also reported as helpful for those who have not learned this formally in their program or do not have direct experience with older adults. Participants commented that this course would be good for a first exposure to older adult care in health professions education. One participant commented that it could be helpful for individuals at all levels of experience, as long as they are open to learning about the content.

Integration into Learning

Although most participants stated that the course did not influence their attitudes toward older adults and the information was a review, some participants did report that they applied information from the course into their own educational practice. Participants stated that they were able to integrate knowledge from the course into what they learned in class, while one participant remarked that she could translate this into her future

professional practice with clients. One participant stated that she was able to apply the learning fairly immediately when she worked with older patients as part of her part-time job over the next few days.

"I would think about things that I had read about on there, on the course…I think [it's] really valuable." (N1)

Some participants also stated that they could bring what they learned from the course into their clinical placement. Another participant stated that they were able to transfer the strategies to different populations (e.g. pediatrics).

While one participant felt that the course integrated information about other health care professions well, two participants felt that the course needed more interprofessional content. In addition to a better description of the roles, another participant noted it would be helpful for the professionals in the video to be identified.

"I liked the video, [however] it did feel very caricatured but I understand that that's probably part of emphasizing the extremes of different allied health approaches to kind of stereotyping older persons…" (M2)

"I think one more possibility is… a little more in-depth breakdown of interdisciplinary roles in the care of older persons." (M2)

Ease of Use & Structure

Most participants found that the course was easy to navigate, was organized, and flowed well. One participant remarked that the course "was really easy to read and understand" (*OT2*). Other participants enjoyed that the course was interactive and found that watching the videos was engaging; however, one participant wanted less or shorter videos. Some participants also commented that they were unsure of how to go through

the course modules or find certain resources at first, but were eventually able to access everything.

Some participants did not like certain structural aspects of the course. A couple of participants did not like filling out the workbook accompanying the course, and one participant felt the interface for the 'True or False' quiz could be simplified. One participant commented that the videos took a lot of time because they could not speed through them, suggesting that they sped through the rest of the course.

"I thought that the toolkit was very well organized and had a lot of useful information for any student who would've participated in it." (M6)

"…You had to click every question and then hit back and stuff and I know it sounds very lazy but I feel like there's probably a nicer way to do [the True or False quiz]…" (M1)

Experiences with Older Adult Care

While reflecting on their experiences in older adult care, participants referred to their experiences with professionals in their own health profession, as well as with others from other professional groups. The participants described observations of health professionals working in older adult care and their perceived attitudes of health professionals towards older adult care.

The participants commented that attitudes are not "profession to profession, [but] …professional to professional" (*OT2*). Participants made these comments when describing attitudes within their own profession as well as in other professions.

Participants reported different perceptions of attitudes towards older adult care ranging between positive and negative attitudes. Some participants remarked that their profession was generally respectful and committed to older adult care. However, they

also stated that there are certain stereotypical behaviours exhibited by individuals within their own profession, such as speaking louder and slower, patronizing speech, infantilizing of older adults, and attributing patient behaviour to disease (e.g. attributing frustration of older adults to dementia).

Although participants noted that attitudes within their profession were not entirely negative, they did acknowledge the room for improvement in their behaviour. One participant noted that although attitudes are not negative within her profession, she could "think of situations when education around working with older persons" (*M2*), e.g. the impact of socioeconomic strain on their life satisfaction, would be beneficial. This comment suggests that the participant witnessed health professionals being ignorant of older adult issues despite the health professionals having neutral attitudes towards older adults. Thus, although some participants may have remarked that attitudes are positive within their profession, they recognized that some behaviours were not appropriate.

"I think generally people have a good attitude because you're in the field of caring."
(N1)

"I don't think there's any sort of negative attitudes towards [older populations] but there also isn't a lot of enthusiasm either." (M5)

"I think there's lots of room for improvement with the way…[health professionals] treat elderly people." (N1)

"I feel like sometimes people either aren't as good at explaining to them [patients] or kind of simplifying things down to…bare details because they just assume like the elderly patient won't understand." (M1)

Participants described their experiences with older adult care, which included what they learned and observed in the clinical and academic curriculum. One participant

noted that the stereotype of poor health being part of normal aging is reinforced in the clinical setting, as the older adults that are being cared for are those whom are in poor health and have cognitive disabilities. This participant witnessed a health professional becoming frustrated with older patients when they forgot to bring a list of their medications to an appointment, had a hearing problem, and/or had a cognitive impairment. This participant also mentioned that it takes a lot of time and patience to work with older adults. The participant stated, "those biases or assumptions would not have affected my ability to interact with older populations anyways" *(M5)*. However, he or she also stated that they are deterred from caring for older adults since the care is complicated, and they are just managing chronic diseases instead of curing them. Another participant commented that they were planning to go into older adult care, but acknowledged that others felt older patients were more medically complex, and potentially more challenging to communicate with.

> *"We generally train with a mindset to…not have assumptions about people regardless of age or gender, but then at the end of the day everyone still has biases and assumptions regardless…and a lot of that is milled around in just clinical experience." (M5)*

> *"Often the response that I get [when I say I want to work with older adults] is like, "Oh well that's so great, that's such a need [sic], but like I could never do that." (M3)*

Some participants witnessed professionals stereotyping and discouraging autonomy of older patients. One example raised was when a participant witnessed health professionals discussing the Do Not Resuscitate status of older patients when they were admitted into the hospital, regardless of apparent health status. Another participant observed one health professional being dismissive of certain issues for a patient, while

the students wanted to address all of the problems. During both of these instances, the participants observed approaches to older adult care that they did not particularly agree with.

A couple of participants discussed that older adult care is under-addressed in their formal curriculum. One participant stated that there was a group for students interested in learning more about older adult care outside of the curriculum, but it was optional to join this group. It seemed to the student investigator that there was expressed need for more educational time dedicated to learning about older adult care as evidenced in this participant's comment.

> *"The lecture we did receive was in context of de-stigmatizing aging…but that's hard to…de-program with only one lecture." (M2)*

In summary, most participants perceived professionals in their own profession as having positive or neutral attitudes towards older adult care. However, they also described observations of negative stereotyping. The participants mentioned these observations in the context of attitudes within their profession, suggesting that they are attributing these negative behaviours to negative attitudes. Additionally, they recognized differences between what was taught in their formal curriculum and what they observed in their clinical learning experiences.

Summary

In summary, data were collected from six participants for the quantitative strand and 10 participants for the qualitative strand. For the quantitative strand, although there was an increase in the mean UCLA GAS scores for the participants before and after they completed the course, this difference was not significant. Attitudes may not have

increased significantly following completion of the course due to a small sample size, slightly positive attitudes on the pre-test, and the course being a review of information for the participants and reaffirming their attitudes. For the qualitative strand, the main themes that emerged from the interviews were participants' experiences with the course and experiences in older adult care.

The course was generally well received with regards to relevance of the content and ease of use. Participants remarked that they integrated what they learned in the course into what they were learning in their programs. Participants also described their perceptions of attitudes towards older adult care within their own profession, which ranged from positive to negative. They described behaviours of the health professionals in their own profession, with some observations of negative behaviours in older adult care. Participants also had varying perceptions of attitudes towards older adult care from their experiences with other health professions..

Chapter 5: Discussion

Overview

The previous chapter presented the findings from the pilot study, which aimed to answer the overall research question: What are the experiences of health professions students with the course with respect to attitudes towards older adults and collaborative care? The question guiding the quantitative component was:

- Does the course influence attitudes of students in health professions programs towards caring for older adults?

The questions guiding the qualitative component were:

- How do students describe the influences of the course on attitudes about older adults?

- How do the students perceive the IPE component of the course?

This chapter will discuss the findings from this pilot study, including participants' experiences with older adult care and the course, considering the literature. The findings are discussed with reference to the Theory of Planned Behaviour (TPB), the informal curriculum, online learning, and IPE. Limitations of the study will also be considered, as well as potential implications of the findings for health professions education and practice.

Theory of Planned Behaviour

While describing attitudes of health professionals, participants noted that attitudes are not different from profession-to-profession, but vary depending on the individual. This contrasts with some research that has revealed differences in attitudes towards older

adult care between students and different professions (Erdemir et al., 2011; Golden et al., 2014). When asked about the attitudes of health professionals towards older adult care, participants described behaviours of health professionals, implying that attitudes underlie behaviour. This is supported in the TPB, which states that attitudes predict behaviours (Conner & Armitage, 1998). A participant commented that although they do not like caring for older adults, it would not affect how they treat older adults. However, there may be multiple attitudes underlying particular behaviours (Grol, Bosch, Hulscher, Eccles, & Wensing, 2007; Sauls, 2007). Thus, there are likely other attitudes, such as professional responsibility, which influence this participant's behaviour towards older adults.

Informal Curriculum

Although not explicitly stated, the observations that participants had of health professionals' behaviour seemed to influence their own attitudes, which seem to reflect learning through an informal curriculum. The informal curriculum is comprised of interpersonal interactions of health professionals that students witness and learn from, and may contrast with what students are formally taught (Hafferty, 1998). Students often recognize the informal curricula during their clinical experiences (Alabaster, 2007; Evers et al., 2011), and this was demonstrated in the current study. One participant stated that in older adult care, students see a lot of older adults in poor health, reinforcing negative stereotypes that all older adults are in poor health.

One participant in the current study, during their placement, observed a health professional focusing on only one issue presented by a patient and dismissing all others.

However, the students wanted to address all the patient's problems. Students have reported nurses excusing dismissive behaviour for lack of time (Higgins et al., 2007), while students suspect negative attitudes actually underlie this behaviour (Alabaster, 2007). Although they may not agree with the behaviour, students may question their own beliefs when observing something at odds with their own beliefs (Phillips & Clarke, 2012). The interaction in the current study informally taught the students that they should focus on fixing or curing a specific issue, rather than addressing all the patients' needs, which may have influenced the students' own beliefs. The health professional in the current study was also exhibiting the 'cure versus care' mentality, which also may have influenced the students' beliefs; this mentality has been described as part of the informal curriculum in medicine (Higashi et al., 2012). One participant in the current study shared this 'care versus cure' mentality, by stating that health professionals are simply maintaining health rather than curing patients in older adult care. It is unclear whether this particular participant came into his or her program with this mentality, or if it was learned from the informal curriculum.

One participant commented that although he or she had a lecture about older adult care in the first year of his or her program, it is hard to de-stigmatize attitudes with one lecture. While the participant is implying that the students had negative attitudes before the lecture, he or she did not specify the source of these attitudes. Since first year students have had limited exposure to their curricula, it is unlikely that the students' attitudes were influenced by the informal curriculum around older adult care. The participant may have believed that students enter their programs with pre-existing negative attitudes towards

older adults. This is consistent with the literature, as health professionals' attitudes are influenced by societal attitudes (Cozort, 2008) and their personal experiences with older adults (Evers et al., 2011).

Despite the descriptions of negative attitudes and behaviours towards older adults, some participants in the current study also described positive attitudes and behaviour within and outside of their own professions. The participants also reported that the course reaffirmed their beliefs, suggesting they believe they have positive attitudes despite what they are witnessing in their formal and informal curricula.

Online Interventions

Integration into Learning

Some of the participants reported integrating the information from the course with what they were learning in their academic and clinical curricula. Several studies have investigated whether knowledge gained through online interventions translates into practice changes (Bearman, Cesnik, & Liddell, 2001; Cook et al., 2008, 2010). For health professions students, it is unclear whether online interventions affect behaviour and/or patient care due to variations between studies (Cook et al., 2010). Abu-Rish et al. (2012) reviewed IPE interventions and found that behaviour changes and effects on patients were uncommon outcomes. Furthermore, most of the online interventions they reviewed were short-term and implemented too recently to measure practice changes. They concluded that there is little evidence of strategies to include in online interventions that will elicit practice changes in students (Abu-Rish et al., 2012). Thus, although

participants in the current study integrated the course information into their learning, methods of measuring this and strategies to ensure integration into practice are unclear.

Knowledge gained through *experiential* IPE interventions may aid in transfer to different contexts, such as the clinical setting (Luke et al., 2009). To enhance transfer, Luke et al. (2009) suggest that online activities be integrated with in-person professional development activities so students can practice what they learned online. Thus, allowing participants in the current study to practice what they learned in the course may have helped them to integrate this knowledge into practice.

Participants commented that the course would be helpful for all levels of experience, if individuals are open to learning about the content. In other words, if an individual is aware they may have gaps in their knowledge around older adult care, they would find the course helpful regardless of how much experience they have working with older adults. Some participants in continuing education have noted practice changes following an online intervention (Curran & Fleet, 2005; McEwen, Szurek, Polatajko, & Rappolt, 2005), so it is possible that the course would be helpful regardless of the health professional's experience.

Several participants also noted that the myths and facts component was helpful; although this may have reinforced what they already knew, the participants may also have learned new information in this component. This information may have been lacking in their formal curricula, or they may not have reached that area in their curricula yet, as most participants were in the first or second year of their programs. A couple of participants did comment that the video was exaggerated; it may be beneficial to include

more subtle 'red flags' in older adult care so that participants can better relate the video to their clinical experiences. When presented with more realistic situations, health professionals are more motivated to learn the material as it relates to what they might encounter in the practice setting (Owens, Padula, & Hume, 2002).

One participant noted that because older adult care is under-addressed in the formal curriculum, students took the initiative to form an interest group in older adult care to address the learning gaps. This participant was in the first year of his or her program, and will be learning more about older adult care as he or she moves through the program. However, the formation of this interest group reveals there are opportunities for students to engage in self-directed learning around older adult care. Thus, the reported need for geriatric content in health professions programs (COU, 2014) may be supported through the formal curriculum, self-directed learning initiatives, and online educational opportunities such as the course in the current study.

Empathy-Building Components

One characteristic of the course itself, and one potential reason why attitudes were not significantly influenced by it, is that it was not designed as an empathy-inducing intervention (Samra et al., 2013). Both attitudes and empathy have an affective component (Ajzen, 2001; Hojat et al., 2009) that may not have been addressed by the course. It is possible that predominantly knowledge-based interventions are most helpful for those who are earlier in their program, as the participants did make comments about gaining knowledge from the course. However, the course was developed with the intent

to cover specific topics in older adult care, so it may have been more appropriate to measure the influence of the course on knowledge rather than on attitudes.

Regardless of the intended design of the course, an empathy-building component would have been beneficial to improve attitudes towards older adult care. Examples of empathy-building components include a mentorship program, informal contact with older adults, an aging simulation (Samra et al., 2013), and storytelling (Clarke et al., 2003). One participant in the current study commented that the only older adults he or she is exposed to in the clinical setting are those who are in poor health. To combat this, some studies have included mentoring programs, such as healthy, active older adults acting as educators on aging rather than as patients (Shue, McNeley, & Arnold, 2005). While these mentorship components are mostly in-person interactions (Samra et al., 2013), they could potentially be incorporated into online interventions as well. To integrate an empathy-building component into an online intervention, health professions students could be paired up with older adults in the community and communicate via email or Skype. To incorporate storytelling, a pre-recorded session could be presented online. Furthermore, the course could incorporate videos or stories from healthy older adults.

Interprofessional Education

Since the course had an IPE component, and interprofessionalism is important in older adult care, the student investigator anticipated that collaborative care would be a prominent theme in the interviews. However, the participants were not asked directly about interprofessionalism in older adult care, so most participants did not mention collaborative care. Furthermore, since there were multiple activities for participants to

complete, they may have glossed over the IPE activity to finish the course more quickly. One participant did comment that they involve and refer to other professions a lot more with older patients compared to working with other populations, suggesting that they recognize the importance of collaboration with other health professions in older adult care.

The IPE activity was designed to expose participants to the roles of other health professions in older adult care. Since most of the participants were in the first or second year in their programs, the student investigator hypothesized that participants would gravitate towards professions they were already familiar with. It is possible that an IPE intervention would be more useful for upper-year students as they have a better understanding of their own professional roles (Reilly et al., 2014). For more advanced learners, the course should prompt students to explore the roles of professions they are less familiar with.

Interprofessional education components of interventions range from a curriculum delivered by an interprofessional team (Koh et al., 2015), to students from other health professions programs speaking to older adults together (Balogun et al., 2015; Gould et al., 2015); these interventions help students recognize the importance of a collaborative approach to older adult care (Balogun et al., 2015; Gould et al., 2015). The course was an individual, self-directed learning module and as such did not structure participants to collaborate with students from other health professions programs on the online platform. However, collaboration could be incorporated into future iterations of the course. For

example, participants could be matched with other participants while working on the IPE activity in the course.

Limitations

A limitation of the current study was the small sample size. With a larger sample size, a significant difference in attitudes may have been detected before and after completion of the course. However, there may have been other reasons for a lack of change in attitudes including slightly positive attitudes on the pre-test. The qualitative findings also revealed that the course was a review of information and reaffirmed participants' attitudes about older adults, hence there may have been other factors in addition to the small sample size that resulted in a lack of significant difference in attitudes.

If a larger sample size was acquired, there could also have been a control group, with participants only completing the pre- and post- attitudes surveys; this would ensure it was the course, and not completion of the surveys, which changed participants' attitudes. There were also limitations with regards to the generalizability of the study results. Since this is a pilot study and the course was voluntary, the sample may have been positively biased. Future recruitment strategies could include advertising the course for a longer period, or including an entire cohort from a health profession program.

Future Implications

Future Research

Based on the findings from this pilot study, recommendations may be made for future research in older adult care and IPE. Based on the lack of support in the literature

around educational interventions eliciting changes in behaviour or patient care in health professions students, future research should investigate the characteristics of interventions that do influence behaviour. Some of the variables may include the length of the intervention, whether it influences attitudes (which contribute to behaviour), and the format of the activities within the intervention. Furthermore, when piloting a predominantly knowledge-based intervention, its effectiveness may be evaluated by measuring changes in knowledge as well as attitudes. Studies evaluating the effectiveness of interventions may also be based on the tenets of the TPB, i.e. by exploring attitudes, social norms, and perceived behavioural control in older adult care.

Recommendations for Education

Participants reported increased knowledge about older care after completing the *Building Competence in Older Adult Care* course. If changes to curriculum are to be developed with the intent to influence attitudes, an empathy-building component should be included. Additionally, it may take a longer-term intervention to elicit behaviour or practice changes (Hansen, Rosenblatt, Gjerde, & Crowe, 2007).

The IPE component of this course was intended to expose participants to other professionals' roles in older adult care, which may be useful for participants in the early years of their programs. However, a more robust IPE component could be integrated into the course if it were to be taken by upper-year health professions students. Luke et al. (2009) suggest that one of the goals of IPE is to create communities of practice in order to improve collaboration between health professionals. Communities of practice in health care are groups of health professionals that have unique "knowledge repertoires,

attitudes, skills, and communication frameworks" (Posel et al., 2008, p. 112). The knowledge and skills that students learn in online interventions must transfer to the clinical setting to enhance the development of these communities (Luke et al., 2009). This transfer of learning can be encouraged by having students interact with each other online, for example through discussion forums and/or peer assessment. In order to encourage translation of knowledge gained from interventions into practice, experiential learning activities, such as problem-based or case-based learning, can be used (Luke et al., 2009).

Due to the pervasiveness of the informal curriculum around older adult care, there may be a need for continuing education for health care professionals around educating students about older adult care. Health professionals should be made aware of the impact of their behaviour on students' perceptions of older adult care, which could ultimately influence the students' behaviour towards older adults.

Summary

Although the quantitative findings did not reveal a change in participant attitudes as measured by the course's University of California in Los Angeles (UCLA) Geriatrics Attitudes Scale (GAS) (Reuben et al., 1998), the qualitative data did reveal some relevant and important themes regarding participants' experiences with the course and with older adult care. The participants' experiences in older adult care were consistent with the literature including the TPB and the informal curriculum in health professions education. The course was also integrated into some of the participants' learning, which is encouraging as there is little evidence to show that online interventions result in changes

in behaviour and/or patient care. Participants found the content of the course to be helpful, suggesting it was successful as a knowledge-based intervention. Future research in this area may include measuring changes in knowledge and factors that influence behavioural intentions. Interprofessional education interventions may also take a more gradual approach, with lower-year students exploring their own roles in older adult care, and upper-year students exploring the roles of other professionals.

Chapter 6: Conclusion

With the increasing older adult population, there is a need to prepare health professions students to provide care for older adults. The *Building Competence in Older Adult Care* course was developed in response to recommendations on topics that should be included in health professions curricula, including communication, issues in older adulthood, and collaborative care. This study set out to determine the experiences of health professions students with this course with respect to attitudes towards older adults and collaborative care. A mixed methods design, including an attitudes survey and interviews, was used to collect data on student experiences with the course.

A literature review was conducted to explore the attitudes of health professions students towards older adults, the impacts and sources of negative attitudes, and educational interventions aimed at increasing awareness and positive attitudes. The literature supports that negative attitudes can lead to negative behaviour towards older adults, which is concerning given the potential for multiple sources of negative attitudes; these include the informal curriculum, experience working with older adults outside of health professions programs, and societal attitudes. Many interventions have been developed with the aim of shifting and improving attitudes of health professions students towards both older adult care and collaborative care. The course in the current study was online and self-directed; it covered communication with older adults, myths and facts about aging, and prompted health professions students to explore the roles of other health professions in older adult care.

The findings from this study revealed participants' experiences with the course and with older adult care. The course itself did not significantly influence attitudes, potentially due to the course being a review of information for participants. However, some participants did report integration of the information from the course into their learning. This is promising given that the literature is unclear on whether knowledge gained through online interventions translates into practice changes. Further research is needed to determine how online educational interventions should be developed to ensure that knowledge learned in these interventions transfers to practice. The discussion of these findings revealed great potential for integrating empathy-building components, to improve attitudes, and IPE activities into online interventions for health professions students.

Overall, participants reported increased knowledge about older adult care after completing the course in this pilot study. As strategies for increasing the transfer of knowledge from online interventions to changes in practice are discovered, online interventions will continue to be an important resource in health professions education. Furthermore, educational interventions may include empathy-building interventions to improve attitudes of health professions students. Ultimately, online interventions such as the course in this study have the potential to improve older adult care by improving knowledge and attitudes about aging and collaborative care, and the translation of this into practice.

References

Abu-Rish, E., Kim, S., Choe, L., Varpio, L., Malik, E., White, A., … Zierler, B. (2012). Current trends in interprofessional education of health sciences students: A literature review. *Journal of Interprofessional Care*, *26*, 444–451.

Accreditation Council for Canadian Physiotherapy Academic Programs, Canadian Alliance of Physiotherapy Regulators, Canadian Physiotherapy Association, & Canadian Council of Physiotherapy University Programs. (2009). *Essential competency profile for physiotherapists in Canada*. Toronto, ON: Accreditation Council for Canadian Physiotherapy Academic Programs, Canadian Alliance of Physiotherapy Regulators, Canadian Physiotherapy Association, Canadian Council of Physiotherapy University Programs.

Adelman, R. D., Capello, C. F., LoFaso, V., Greene, M. G., Konopasek, L., & Marzuk, P. M. (2007). Introduction to the older patient: A "first exposure" to geriatrics for medical students. *Journal of the American Geriatrics Society*, *55*(9), 1445–1450.

Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology*, *52*, 27-58.

Ajzen, I. (2002). Perceived behavioural control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, *32*, 665-683.

Ajzen, I. (2005). *Attitudes, Personality, and Behaviour* (2nd ed.). New York, NY: McGraw-Hill Education.

Alabaster, E. (2007). Involving students in the challenges of caring for older people. *Nursing Older People*, *9*(6), 23–28.

Alford, C. L., Miles, T., Palmer, R., & Espino, D. (2001). An introduction to geriatrics for first-year medical students. *Journal of the American Geriatrics Society*, *49*(6), 782–787.

Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A meta-analytic review. *British Journal of Social Psychology*, *40*, 471–499.

Association of Canadian Occupational Therapy Regulatory Organizations (ACOTRO). (2011). *Essential competencies of practice for occupational therapists in Canada* (No. 3rd ed). Association of Canadian Occupational Therapy Regulatory Organizations.

Balogun, S. A., Rose, K., Thomas, S., Owen, J., & Brashers, V. (2015). Innovative interprofessional geriatric education for medical and nursing students: Focus on transitions in care. *QJM: An International Journal of Medicine*, *108*(6), 465–471.

Bearman, M., Cesnik, B., & Liddell, M. (2001). Random comparison of "virtual patient" models in the context of teaching clinical communication skills. *Medical Education*, *35*, 824–832.

Bohnert, N., Chagnon, J., & Dion, P. (2015). *Population projections for Canada (2013-2063), provinces and territories (2013 to 2038)*. Statistics Canada.

Brown, A., & Draper, P. (2003). Accommodative speech and terms of endearment: Elements of a language mode often experienced by older adults. *Journal of Advanced Nursing*, *41*(1), 15–21.

Canadian Association of Schools of Nursing (CASN). (2014). *CASN accreditation program standards*. Ottawa, ON: Canadian Association of Schools of Nursing.

Canadian Institute for Health Information (CIHI). (2011). Seniors and the health care system: What is the impact of multiple chronic conditions? Retrieved from https://secure.cihi.ca/free_products/air-chronic_disease_aib_en.pdf

Canadian Medical Association (CMA). (2013). Health and health care for an aging population. Retrieved from https://www.cma.ca/Assets/assets-library/document/en/advocacy/policy-research/CMA_Policy_Health_and_Health_Care_for_an_Aging-Population_PD14-03-e.pdf

Cha, M., & Seo, S. (2009). A cross-country exploration: Dietetic students' knowledge, attitudes, and intentions to provide services to the elderly. *Educational Gerontology*, *35*, 801–817.

Clarke, A., Hanson, E. J., & Ross, H. (2003). Seeing the person behind the patient: Enhancing the care of older people using a biographical approach. *Journal of Clinical Nursing*, *12*, 697–706.

College of Nurses of Ontario (CNO). (2014). *Competencies for entry-level Registered Nurse practice*. Toronto, ON: College of Nurses of Ontario.

Conner, M., & Armitage, C. (1998). Extending the theory of planned behaviour: A review and avenues for further research. *Journal of Applied Social Psychology*, *28*(15), 1429–1464.

Cook, D. A., Levinson, A. J., Garside, S., Dupras, D., Erwin, P., & Montori, V. (2008). Internet-based learning in the health professions. *Journal of the American Medical Association*, *300*(10), 1181–1196.

Cook, D. A., Levinson, A. J., Garside, S., Dupras, D., Erwin, P., & Montori, V. (2010). Instructional design variations in internet-based learning for health professions education: A systematic review and meta-analysis. *Academic Medicine*, *85*, 909– 922.

Council of Ontario Universities (COU). (2014). *Proceedings report for the Better Aging: Ontario Education Summit*. Toronto, ON: Council of Ontario Universities.

Cozort, R. W. (2008). Student nurses' attitudes regarding older adults: Strategies for fostering improvement through academia. *Teaching and Learning in Nursing*, *3*, 21–25.

Creswell, J. (2012). *Education Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (4th ed.). Boston, MA: Pearson Education.

Creswell, J. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). Washington, D.C.: Sage.

Creswell, J., & Plano Clark, V. (2011). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

Curran, V., & Fleet, L. (2005). A review of evaluation outcomes of web-based continuing medical education. *Medical Education*, *39*, 561–567.

Curtin, M., & Fossey, E. (2007). Appraising the trustworthiness of qualitative studies: Guidelines for occupational therapists. *Australian Occupational Therapy Journal*, *54*, 88–94.

Diachun, L. L., Dumbrell, A. C., Byrne, K., & Esbaugh, J. (2006). . . . But does it stick? Evaluating the durability of improved knowledge following an undergraduate

experiential geriatrics learning session. *Journal of the American Geriatrics Society*, *54*(4), 696–701.

Duthie, J., & Donaghy, M. (2009). The beliefs and attitudes of physiotherapy students in Scotland toward older people. *Physical and Occupational Therapy in Geriatrics*, *27*, 245–266.

Erdemir, F., Kav, S., Citak, E. A., Hanoglu, Z., & Karahan, A. (2011). A Turkish version of Kogan's attitude toward older people (KAOP) scale: Reliability and validity assessment. *Archives of Gerontology and Geriatrics*, *52*, e162–e165.

Eskildsen, M. A., & Flacker, J. (2009). A multimodal aging and dying course for first-year medical students improves knowledge and attitudes. *Journal of the American Geriatrics Society*, *57*(8), 1492–1497.

Evers, C., Ploeg, J., & Kaasalainen, S. (2011). Case study of the attitudes and values of nursing students toward caring for older adults. *Journal of Nursing Education*, *50*(7), 404–409.

Godin, G., Belanger-Gravel, A., Eccles, M., & Grimshaw, J. (2008). Healthcare professionals' intentions and behaviours: a systematic review of studies based on social cognitive theories. *Implementation Science*, *3*, 1–12.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, *8*(4), 597–607.

Golden, A. G., Gammonley, D., Hunt, D., Olsen, E., & Issenberg, S. B. (2014). The attitudes of graduate healthcare students toward older adults, personal aging,

health care reform, and interprofessional collaboration. *Journal of Interprofessional Care*, *28*(1), 40–44.

Gould, P. R., Lee, Y., Berkowitz, S., & Bronstein, L. (2015). Impact of a collaborative interprofessional learning experience upon medical and social work students in geriatric health care. *Journal of Interprofessional Care*, *29*(4), 372–373.

Graneheim, U., & Lundman, B. (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, *24*, 105–112.

Grol, R., Bosch, M., Hulscher, M., Eccles, M., & Wensing, M. (2007). Planning and studying improvement in patient care: the use of theoretical perspectives. *The Milbank Memorial Fund*, *85*, 93–138.

Hafferty, F. W. (1998). Beyond curriculum reform: Confronting medicine's hidden curriculum. *Academic Medicine*, *73*(4), 403–407.

Hansen, K., Rosenblatt, E., Gjerde, C., & Crowe, M. (2007). Can an online osteoporosis lecture increase physician knowledge and improve patient care? *Journal of Clinical Densitometry*, *10*(1), 10–20.

Happell, B. (2002). Nursing home employment for nursing students: Valuable experience or a harsh deterrent? *Journal of Advanced Nursing*, *39*(6), 529–536.

Hayes, L., Orchard, C., McGillis Hall, L., Nincic, V., O'Brien-Pallas, L., & Andrews, G. (2006). Career intentions of nursing students and new nurse graduates: A review of the literature. *International Journal of Nursing Education Scholarship*, *3*(1). https://doi.org/10.2202/1548-923X.1281

Hertzog, M. (2008). Considerations in determining sample size for pilot studies. *Journal of Aging Studies*, *31*, 180–191.

Higashi, R. T., Tillack, A. A., Steinman, M., Harper, M., & Johnston, C. B. (2012). Elder care as "frustrating" and "boring": Understanding the persistence of negative attitudes toward older patients among physicians-in-training. *Journal of Aging Studies*, *26*(4), 476–483.

Higgins, I., Van Der Riet, P., Slater, L., & Peek, C. (2007). The negative attitudes of nurses towards older patients in the acute hospital setting: A qualitative descriptive study. *Contemporary Nurse*, *26*, 225–237.

Hobbs, C., Dean, C., Higgs, J., & Adamson, B. (2006). Physiotherapy students' attitudes towards knowledge of older people. *Australian Journal of Physiotherapy*, *52*, 115–119.

Hojat, M., Vergare, M. J., Maxwell, K., Brainard, G., Herrine, S. K., Isenberg, G. A., … Gonnella, J. S. (2009). The devil is in the third year: A longitudinal study of erosion of empathy in medical school. *Academic Medicine*, *84*(9), 1182–1191.

Hong, M., Lee, W. H., Park, J. H., Yoon, T. Y., Moon, D. S., Lee, S. M., & Bahn, G. H. (2012). Changes of empathy in medical college and medical school students: 1-year follow up study. *BMC Medical Education*, *12*, 122.

Houghton, C., Casey, D., Shaw, D., & Murphy, K. (2013). Rigour in qualitative case-study research. *Nurse Researcher*, *20*, 12–17.

Hsieh, H., & Shannon, S. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*, 1277–1288.

Hweidi, I., & Al-Obeisat, S. (2006). Jordanian nursing students' attitudes toward the elderly. *Nurse Education Today*, *26*, 23–30.

Kaempfer, D., Wellman, N. S., & Himburg, S. P. (2002). Dietetics students' low knowledge, attitudes, and work preferences toward older adults indicate need for improved education about aging. *Journal of the American Dietetic Association*, *102*, 197–202.

Kataoka, H. U., Koide, N., Ochi, K., Hojat, M., & Gonnella, J. S. (2009). Measurement of empathy among Japanese medical students: Psychometrics and score differences by gender and level of medical education. *Academic Medicine*, *84*(9), 1192–1197.

Kishimoto, M., Nagoshi, M., Williams, S., Masaki, K. H., & Blanchette, P. L. (2005). Knowledge and attitudes about geriatrics of medical students, internal medicine residents, and geriatric medicine fellows. *Journal of the American Geriatrics Society*, *53*, 99–102.

Kitto, S., Chesters, J., & Grbich, C. (2008). Quality in qualitative research. *Medical Journal of Australia*, *188*(4), 243–246.

Koh, G. C. H., Ling, C. L. H., Ma, B. H. M., Chen, C., Lim, W. S., Scherer, S. C., … Merchant, R. A. (2015). Effect of a new longitudinal interprofessional geriatric medicine educational track on knowledge and attitude of medical students: A controlled cohort study. *Journal of the American Geriatrics Society*, *63*(3), 558–564.

Lee, M., Reuben, D. B., & Ferrell, B. A. (2005). Multidimensional attitudes of medical residents and geriatrics fellows toward older people. *Journal of the American Geriatrics Society*, *53*, 489–494.

Levy, B. (1996). Improving memory in old age through implicit self-stereotyping. *Journal of Personality and Social Psychology*, *71*(6), 1092–1107.

Levy, B., Ashman, O., & Dror, I. (2000). To be or not to be: The effects of aging stereotypes on the will to live. *OMEGA*, *40*(3), 409–420.

LimeSurvey. (2016). McMaster Online Surveys. Retrieved from https://surveys.mcmaster.ca/limesurvey/index.php/admin/index

Little, W., Vyain, S., Scaramuzzo, G., Cody-Rydzewski, S., Griffiths, H., Strayer, E., … McGivern, R. (2013). *Introduction to Sociology* (1st ed.). Houston, TX: Rice University.

Liu, Y. E., While, A. E., Norman, I. J., & Ye, W. (2012). Health professionals' attitudes toward older people and older patients: A systematic review. *Journal of Interprofessional Care*, *26*, 397–409.

Luke, R., Solomon, P., Baptiste, S., Hall, P., Orchard, C., Rukholm, E., & Carter, L. (2009). Online interprofessional health sciences education: From theory to practice. *Journal of Continuing Education in the Health Professions*, *29*(3), 161–167.

Marshall, L. C. (2010). Student's corner: Potential implications of registered nurse attitudes towards caring for older people. *Contemporary Nurse*, *35*(1), 95–99.

McCleary, L., Boscart, V., Donahue, P., & Harvey, K. (2014). *Core curricula for entry-to-practice health and social care worker education in Ontario*. St. Catherines, ON: Brock University.

McCleary, L., Luinstra-Toohey, L., Hoogeveen, K., Boscart, V., & Donahue, P. (2014). *Perceptions of practitioners and practioner organizations about gaps and required competencies for seniors' care among health and social care graduates and workers*. St. Catherines, ON: Brock University.

McEwen, S., Szurek, K., Polatajko, H., & Rappolt, S. (2005). Rehabilitation Education Program for Stroke (REPS): Learning and practice outcomes. *The Journal of Continuing Education in the Health Professions*, *25*, 105–115.

McLafferty, I., & Morrison, F. (2004). Attitudes towards hospitalized older adults. *Journal of Advanced Nursing*, *47*(4), 446–453.

Milutinovic, D., Simin, D., Kacavendic, J., & Turkulov, V. (2015). Knowledge and attitudes of health care science students toward older people. *Medicinski Pregled*, *LXVIII*(11–12), 382–386.

Norman, G., & Eva, K. (2010). *Understanding Medical Education: Evidence, Theory and Practice*. Oxford: Blackwell Publishing.

Oandasan, I. (2011). Advancing Canada's family medicine curriculum: Triple C. *Canadian Family Physician*, *57*, 739-740.

Owens, N., Padula, C., & Hume, A. (2002). Developing and using interdisciplinary case studies in teaching geriatrics to practicing health care professionals. *Educational Gerontology*, *28*, 473–489.

Parsell, G., & Bligh, J. (1999). The development of a questionnaire to assess the readiness for health care students for interprofessional learning (RIPLS). *Medical Education*, *33*, 95–100.

Patton, M. (2002). *Qualitative Research and Evaluation Methods*. Thousand Oaks, CA: Sage.

Phillips, S. P., & Clarke, M. (2012). More than an education: The hidden curriculum, professional attitudes and career choice. *Medical Education*, *46*(9), 887–893.

Ploeg, J., Markle-Reid, M., Fisher, A., Morsy, M., Dufour, S., Reimer, H., … Bookey-Bassett, S. (2014). *Interprofessional education and interprofessional collaboration: In home and community care of older adults and their families*. Hamilton, ON: Aging, Community and Health Research Unit.

Posel, N., Fleiszer, D., Wiseman, J., Birlean, C., Margison, J., Faremo, S., … Bateman, D. (2008). Using electronic cases to teach healthcare professionals and students about interprofessionalism. *Journal of Interprofessional Care*, *22*(1), 111–114.

Reilly, J. M., Aranda, M. P., Segal-Gidan, F., Halle, A., Han, P. P., Harris, P., … Cousineau, M. R. (2014). Assessment of student interprofessional education (IPE) training for team-based geriatric home care: Does IPE training change students' knowledge and attitudes? *Home Health Care Services Quarterly*, *33*, 177–193.

Reuben, D. B., Lee, M., Davis, J. W., Eslami, M. S., Osterweil, D. G., Melchiore, S., & Weintraub, N. T. (1998). Development and validation of a geriatrics attitudes scale for primary care residents. *Journal of the American Geriatrics Society*, *46*(11), 1425–1430.

Royal College of Physicians and Surgeons of Canada (RCPSC). (2015a). *Specialty training requirements in Internal Medicine*. Royal College of Physicians and Surgeons of Canada.

Royal College of Physicians and Surgeons of Canada (RCPSC). (2015b). *Subspecialty training requirements in Geriatric Medicine*. Royal College of Physicians and Surgeons of Canada.

Ryan, D., Barnett, R., Cott, C., Dalziel, W., Gutmanis, I., Jewell, D., … Puxty, J. (2013). Geriatrics, interprofessional practice, and interorganizational collaboration: A knowledge-to-practice intervention for primary care teams. *Journal of Continuing Education in the Health Professions*, *33*, 180–189.

Samra, R., Griffiths, G., Cox, C., Conroy, C., & Knight, A. (2013). Changes in medical student and doctor attitudes toward older adults after an intervention: A systematic review. *Journal of the American Geriatrics Society*, *61*, 1188–1196.

Sandelowski, M. (2000). Focus on research methods: Whatever happened to qualitative description? *Research in Nursing & Health*, *23*, 334–340.

Sauls, D. (2007). Nurses' attitudes toward provision of care and related health outcomes. *Nursing Research*, *56*, 117–123.

Segal-Gidan, F., Walsh, A., Lie, D., Fung, C. C., & Lohenry, K. (2014). Knowledge and attitude change in physician assistant students after an interprofessional geriatric care experience: A mixed methods study. *The Journal of Physician Assistant Education*, *25*(2), 25–30.

Shue, C., McNeley, K., & Arnold, L. (2005). Changing medical students' attitudes about older adults and future older patients. *Academic Medicine*, *80*, S6–S9.

Stevens, J., & Crouch, M. (1998). Frankenstein's nurse! What are schools of nursing creating? *Collegian: The Australian Journal of Nursing Practice, Scholarship and Research*, *5*(1), 10–15.

Sung, K. (2001). Family support for the elderly in Korea: Continuity, change, future directions, and cross-cultural concerns. *Journal of Aging & Social Policy*, *12*(4), 65–79.

Tam, K. L., Chandran, K., Yu, S., Nair, S., & Visvanathan, R. (2014). Geriatric medicine course to senior undergraduate medical students improves attitude and self-perceived competency scores. *Australasian Journal on Ageing*, *33*(4), E6–E11.

Tannenbaum, D., Kerr, J., Konkin, J., Organek, A., Parsons, E., Saucier, D., Shaw, L., Walsh, A. (2011). Triple C competency-based curriculum: Report on the working group on postgraduate curriculum review – part 1. Mississauga, ON: College of Family Physicians of Canada.

Tanner, C. E., Eckstrom, E., Desai, S. S., Joseph, C. L., Ririe, M. R., & Bowen, J. L. (2006). Uncovering frustrations: A qualitative needs assessment of academic general internists as geriatric care providers and teachers. *Journal of General Internal Medicine*, *21*(1), 51–55.

Tufan, F., Yuruyen, M., Kizilarslanoglu, M. C., Akpinar, T., Emiksiye, S., Yesil, Y., … Karan, M. A. (2015). Geriatrics education is associated with positive attitudes

toward older people in internal medicine residents: A multicenter study. *Archives of Gerontology and Geriatrics*, *60*, 307–310.

University of British Columbia (UBC). (2016). Interprofessional education passport. Retrieved from https://passport.health.ubc.ca

Walsh, A. E., Konkin, J., Tannenbaum, D., Kerr, J., Organek, A. J., Parsons, E., Saucier, D., Shaw, E., & Oandasan, I. (2011). Comprehensive care and education. *Canadian Family Physicians*, *57*, 1475-1476.

Weiss, B. D., & Fain, M. J. (2009). Geriatric education for the physicians of tomorrow. *Archives of Gerontology and Geriatrics*, *49*, S17–S20.

Wilson, K. (2014). *Patient and caregiver perspectives on learning needs*. Council of Ontario Universities.

World Health Organization (WHO). (2010). *Framework for action on interprofessional education & collaborative practice*. Geneva, Switzerland: World Health Organization. Retrieved from http://whqlibdoc.who.int/hq/2010/WHO_HRH_ HPN_ 10.3 _eng.pdf

Appendix I: Ethics Approval

HiREB

Hamilton Integrated Research Ethics Board

4 March 2016

Project Number: 1446

Project Title: Evaluating the effect of an interprofessional e-toolkit on the attitudes of health professions and social work students towards caring for older adults: a pilot study

Student Principal Investigator: Ms. Portia Kalun

Local Principal Investigator: Dr. Bonny Jung

We have completed our review of your study and are please to issue our final approval. You may now begin your study.

The following documents have been approved on both ethical and scientific grounds:

Document Name	Document Date	Document Version
Focus Group Guide	01/Mar/2016	1
Focus Group Session Consent	01/Mar/2016	1
Letter to IPE Leads & MISC	25/Jan/2016	1
Participant Information & Consent - 2	01/Mar/2016	2
Poster Template (02.01.16)	01/Mar/2016	2
Pre- & Post- Questionnaires - 2	01/Mar/2016	2
Preamble Statement	01/Mar/2016	1
Study Budget	25/Jan/2016	1
Study Protocol - 2	01/Mar/2016	2

Any changes to this study must be submitted with an Amendment Request Form before they can be implemented.

This approval is effective for 12 months from the date of this letter. Upon completion of your study please submit a **Study Completion Form**.
If you require more time to complete your study, you must request an extension in writing before this approval expires. Please submit an **Annual Review Form** with your request.

PLEASE QUOTE THE ABOVE REFERENCED PROJECT NUMBER ON ALL FUTURE CORRESPONDENCE

Good luck with your research,

Kristina Trim, PhD, RSW
Chair, HiREB Student Research Committee
Health Research Services, HSC 3H9, McMaster University

The Hamilton Integrated Research Ethics Board operates in compliance with and is constituted in accordance with the requirements of: The Tri-Council Policy Statement on Ethical Conduct of Research Involving Humans; The International Conference on Harmonization of Good Clinical Practices; Part C Division 5 of the Food and Drug Regulations of Health Canada, and the provisions of the Ontario Personal Health Information Protection Act 2004 and its applicable Regulations;for studies conducted at St. Joseph's Hospital, HIREB complies with the health ethics guide of the Catholic Alliance of Canada

Appendix II: Participant Recruitment Poster

Feeling unsure about how to communicate with older adults? Curious about what is considered normal and abnormal in aging? Learn about this and more in a self-directed, online resource!

Building Competence in Older Adult Care: An E-Toolkit

For MD, OT, PT, PA, Nursing, and Social Work students

The e-toolkit includes modules on:
- Myth busters about older adults
- Typical and atypical aging processes
- Issues and challenges in older adulthood
- …And more!

This pilot study is being offered as an IPE learning experience through PIPER. You will earn an Exposure level credit when you participate.

Participation in this study will include:
- Short surveys before and after you complete the e-toolkit (45 min.)
- **Completion of a self-directed, online activity over three weeks in March** (3-5 hours)
- Participation in a focus group with students from different programs (30-45 min.)

Participation in the focus groups will give you a chance to discuss your experience with the e-toolkit…and there will be pizza!

THIS EVENT IS ENDORSED BY:

McMaster University HEALTH SCIENCES

Labarge *Optimal Aging* INITIATIVE

PIPER
Program for Interprofessional Practice, Education and Research

EXPOSURE CREDIT
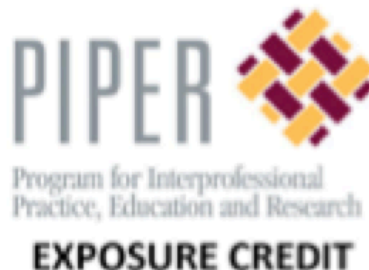
Appendix III: Email Script

Hello,

I am a graduate student at McMaster University studying under the advisement of Dr. Bonny Jung. My thesis project will be evaluating an online toolkit that was developed at McMaster to prepare health professions students to care for older adults. The toolkit also contains an interprofessional component through which the study participants will explore the roles that different health professionals have in older adult care.

The e-toolkit will be offered as an Exposure level credit through PIPER and students from the nursing, medicine, occupational therapy, physiotherapy, physician assistant, and social work programs will be recruited. I am writing to you with the request that you could share this information through your network. I have attached a recruitment poster for your perusal, which is available on IPE Manager.

Please let me know if you have any questions about the project. I look forward to hearing from you.

Best,

Portia Kalun
M.Sc. Student
Health Science Education
McMaster University

Appendix IV: Letter of Information and Consent

Evaluating the effect of an interprofessional e-toolkit on the attitudes of health professions and social work students towards caring for older adults: a pilot study

Local Principal Investigator:
Bonny Jung, OT, PhD
Department of Rehabilitation Science
McMaster University
Hamilton, ON, Canada
905-525-9140 ext. 27807
E-mail: jungb@mcmaster.ca

Student Investigator:
Portia Kalun
Department of Health Science Education
McMaster University
Hamilton, ON, Canada
705-772-3168
E-mail: kalunp@mcmaster.ca

You are invited to take part in this study that is evaluating an online toolkit developed to prepare health professions students to care for older adults. I (Portia Kalun) am doing this project as one of the requirements for a thesis-based masters program.

What is the purpose of this study?

The purpose of this study is to assess what students learn about older adult care through the Building Competence in Older Adult Care E-Toolkit.

Why is this research being done?

Older adults (aged 65 years and older) will make up a larger part of the Canadian population in the next 20 years. As the risk of developing health conditions increases with age, this increase in older adults will have a major impact on the health care system. Students in health professions programs (e.g. medicine, nursing, occupational therapy, physiotherapy, physician assistant) and social work programs will need the knowledge and attitudes to care for older adults. Unfortunately, some students do not enjoy caring for older adults, which can have negative effects on older patients. In order to care for older adults, who may have more than one health condition, different professionals must work together.

What will my responsibilities be if I take part in the study?

If you agree to participate in this study, your participation will involve these steps:
1. You will be asked to complete three demographic questions and a brief questionnaire, before and after you complete the e-toolkit. You will be directed to the pre-questionnaire immediately after providing consent to the study. The pre-questionnaire will be available until mid-March. At the end of the pre-questionnaire, you will receive instructions on how to access the e-toolkit. You will then have three weeks to complete the e-toolkit, which should take 3 to 5 hours in total. The post-questionnaire will be available for two weeks after this at the beginning of May.
2. In the post-questionnaire, you will be asked to provide your availability in May to participate in a focus group session over lunch. If you are unable to attend an in-person focus group session, you will be asked about your availability to attend a telephone

interview or online focus group. You will be notified of the exact date, time, and location of your session via email.

What are the possible risks to doing this study?

There are no known risks to you if you decide to participate in this study.
All information is confidential and will not impact your academic standing in any way. You can withdraw at any time. If you choose to withdraw, you have the option of removing your data from the study.

What are the possible benefits to doing this study?

By agreeing to participate in this project, you will be assisting in the evaluation of a new e-toolkit developed at McMaster University. It is important to evaluate the effectiveness of this e-toolkit as well as student experiences with the e-toolkit.

What information will be kept private?

The questionnaires will be anonymous and assigned an ID number to assist with matching of pre and post questionnaires.
During the focus group discussion, you will be identified by a number and asked to refer to it every time you contribute a response in order to help the transcriptionist distinguish between voices on the audiotape.
When the results of the study are published or presented, your name will not be used and there will be no way that you can be identified. All data will be stored on a password-protected computer and backed up on an encrypted external hard drive, which the Student Investigator has access to.
All information collected during the study will be retained for 5 years after the study has concluded. After that, all research data will be permanently deleted.

Will I be paid to participate in this study?

As a token of appreciation, a small gift will be given to those students who participate in the focus group sessions. A pizza lunch will also be provided during the in-person focus group sessions. Participation in this study will not involve any costs to you.

Following completion of the e-toolkit, you will receive an Exposure level credit through PIPER (Program for Interprofessional Practice, Education and Research).

If I have any questions or problems, whom can I call?

If you have questions or need more information about the study itself, please contact the Student Investigator, Portia Kalun, by email at kalunp@mcmaster.ca or by telephone at 705-772-3168. You may also contact the Local Principal Investigator, Dr. Bonny Jung, by email at jungb@mcmaster.ca.

This study has been reviewed by the Hamilton Integrated Research Ethics Board (HiREB). The HiREB is responsible for ensuring that participants are informed of the risks associated with the research, and that participants are free to decide if participation is right for them. If you have any questions about your rights as a research participant, please call the Office of the Chair, HiREB, at 905-521-2100 ext. 42013.

Appendix V: Pre- and Post-Surveys

Pre-Survey

Instructions for participant ID: first three letters of your mother's name, first three letters of the month you were born, first three letters of the city you were born in
Example: mother's name is Sarah, born in November in Hamilton → ID is sarnovham
Participant ID:
Age:
Gender:
Professional Program & Year of Study:

Did you have any experience working with older adults before commencing your program? If yes, please explain briefly.

Have you had experience working with older adults while enrolled in your program? If yes, please explain briefly.

Are you interested in a career that involves caring for older adults? Why or why not?

UCLA Geriatrics Attitudes Scale (GAS)

The following statements are about your perceptions toward older adults. Please show how far you *agree* or *disagree* with each statement by **choosing one number** against each item.

	Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	In general, old people act too slow for modern society.	○	○	○	○	○
2	Old persons don't contribute their fair share toward paying for their health care.	○	○	○	○	○
3	Taking a medical history from elderly patients is frequently an ordeal.	○	○	○	○	○
4	As people grow older, they become less organized and more confused.	○	○	○	○	○

5	If I have the choice, I would rather see younger patients than elderly ones.	○	○	○	○	○
6	Treatment of chronically ill old patients is hopeless.	○	○	○	○	○
7	Elderly patients tend to be more appreciative of the medical care I provide than are younger patients.	○	○	○	○	○
8	I tend to pay more attention and have more sympathy toward my elderly patients than my younger patients.	○	○	○	○	○
9	Most old people are pleasant to be with.	○	○	○	○	○
10	It is interesting listening to old people's accounts of their past experiences.	○	○	○	○	○
11	The federal government should reallocate money from Medicare to research on acquired immunodeficiency syndrome or pediatric diseases.	○	○	○	○	○
12	It is society's responsibility to provide care for its elderly persons.	○	○	○	○	○
13	Medical care for old people uses up too many human and material resources.	○	○	○	○	○
14	Old people in general do not contribute much to society.	○	○	○	○	○

Lee, M., Reuben, D., & Ferrell, B. (2005). Multidimensional Attitudes of Medical Residents and Geriatrics. *Journal of the American Geriatrics Society*, *53*, 489–494.

Reuben, D. B., Lee, M., Davis, J. W., Eslami, M. S., Osterweil, D. G., Melchiore, S., & Weintraub, N. T. (1998). Development and validation of a geriatrics attitudes scale for primary care residents. *Journal of the American Geriatrics Society*, *46*(11), 1425-1430.

Post-Survey

Participant ID (first three letters of your mother's name, first three letters of the month you were born, first three letters of the city you were born in):

UCLA Geriatrics Attitudes Scale (GAS)

The following statements are about your perceptions toward older adults. Please show how far you *agree* or *disagree* with each statement by **choosing one number** against each item.

	Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	In general, old people act too slow for modern society.	○	○	○	○	○
2	Old persons don't contribute their fair share toward paying for their health care.	○	○	○	○	○
3	Taking a medical history from elderly patients is frequently an ordeal.	○	○	○	○	○
4	As people grow older, they become less organized and more confused.	○	○	○	○	○
5	If I have the choice, I would rather see younger patients than elderly ones.	○	○	○	○	○

6	Treatment of chronically ill old patients is hopeless.	○	○	○	○	○
7	Elderly patients tend to be more appreciative of the medical care I provide than are younger patients.	○	○	○	○	○
8	I tend to pay more attention and have more sympathy toward my elderly patients than my younger patients.	○	○	○	○	○
9	Most old people are pleasant to be with.	○	○	○	○	○
10	It is interesting listening to old people's accounts of their past experiences.	○	○	○	○	○
11	The federal government should reallocate money from Medicare to research on acquired immunodeficiency syndrome or pediatric diseases.	○	○	○	○	○
12	It is society's responsibility to provide care for its elderly persons.	○	○	○	○	○
13	Medical care for old people uses up too many human and material resources.	○	○	○	○	○
14	Old people in general do not contribute much to society.	○	○	○	○	○

Lee, M., Reuben, D., & Ferrell, B. (2005). Multidimensional Attitudes of Medical Residents and Geriatrics. *Journal of the American Geriatrics Society*, *53*, 489–494.

Reuben, D. B., Lee, M., Davis, J. W., Eslami, M. S., Osterweil, D. G., Melchiore, S., & Weintraub, N. T. (1998). Development and validation of a geriatrics attitudes scale for primary care residents. *Journal of the American Geriatrics Society*, *46*(11), 1425-1430.

Review of Information
You may review the letter of information prior to signing up for a focus group session.

Focus Group Sessions

Below are potential dates for focus group sessions. Please select all of the dates that you would be available to attend. Each session will be held from 12:00-1:00 pm and a pizza lunch will be included.

Monday, April 18th ○	Tuesday, April 19th ○	Wednesday, April 20th ○	Thursday, April 21st ○	Friday, April 22nd ○
Monday, April 25th ○	Tuesday, April 26th ○	Wednesday, April 27th ○	Thursday, April 28st ○	Friday, April 29th ○

Please feel free to contact the principal investigator (Portia Kalun, kalunp@mcmaster.ca) with any questions or comments. Please notify of any dietary restrictions or preferences.

You will be notified of the final date, time, and location of the focus group session via your McMaster email address.
If you would rather be contacted by another method that is NOT your McMaster email address, please enter the information below:
Alternate email address:
Phone number:

Appendix VI: Interview Guide

Below are four main questions for the semi-structured interviews. Below each question are potential prompts.

1. Tell me a bit about your impressions of the e-toolkit.
   - What was your favorite part?
   - What was your least favorite part?
   - Do you have any suggestions/feedback for improving the experience with the e-toolkit?

2. Has the e-toolkit influenced your attitudes about caring for older adults?
   - If so, how has it influenced your attitudes?
   - If not, why do you think the e-toolkit did not influence your attitudes?
   - What was the most important thing you learned from this e-toolkit?

3. How would you describe attitudes towards caring for older adults within your profession?
   - How do professionals in your program talk about older adults?
   - Have you witnessed any examples of either positive or negative attitudes towards older adults?
   - Think about both professionals and students in your program.

4. How would you describe attitudes towards caring for older adults in other professions?
   - Are they the same or different than your profession?
   - Can you think of any experiences/observations that support your response?