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Non-acute Care Clinical for BSN Students
Chronic Illness Care and Diabetes Self-management Support

Systems Change Project
Submitted in Partial Fulfillment
of the Requirements of the Degree of
Doctor of Nursing Practice

St. Catherine University
St. Paul, Minnesota

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December 2013

ST. CATHERINE UNIVERSITY
ST. PAUL, MINNESOTA

This is to certify that I have examined this
Doctor of Nursing Practice systems change project
written by

Kathleen Jean Tilton

And have found that it is complete and satisfactory in all respects,
and that any and all revisions required by
the final examining committee have been made.

Graduate Program Faculty

Emily Nowak

Date

DEPARTMENT OF NURSING

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Executive Summary

Baccalaureate nursing (BSN) programs work toward ensuring that curricula are current and relevant for the existing and evolving health care environment, health and illness trends, and care delivery systems. To this end this Systems Change Project (SCP) addresses an identified curricular gap between the traditional clinical experience of BSN students related to care of individuals with chronic illness and the predominant environment in which chronic illness care occurs. A non-acute care clinical experience was integrated into the junior year adult and chronicity clinical course of the Bethel University nursing program. The clinical experience was delivered through virtual simulation and focused on the registered nurse (RN) role in chronic illness self-management support with an emphasis on diabetes. Confirmation of the need for this and motivation to implement this SCP was provided through *The future of nursing: Leading change, advancing health* (IOM, 2011) coupled with the lack of documentation in the literature regarding of this type of learning experience in BSN programs. The SCP was supported through a dual theoretical framework of adult learning theory and adaption theory while being further bolstered by standards of care in self-management support and simulation development. Project evaluation data reveal the effectiveness of the simulation and provide recommendations for future practice and scholarship.

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Chapter 1

Background

Formal education to enter the profession of nursing has continually evolved as the needs of society, advancement in disease treatment and management, and health care systems have changed. Consequently, the process of preparing baccalaureate nursing students to enter professional practice as registered nurses (RNs) requires that nurse educators maintain a forward thinking curriculum that addresses priority health care concerns. One prominent concern is chronic illness. Common chronic illnesses include hypertension, heart disease, diabetes, arthritis, and cancer (CDC, 2009; CDC, 2010). The effect of chronic illness is experienced at multiple levels including the individual level by persons and families living with chronic illness, and the national level through economic impact on the health care system. According to the Centers for Disease Control and Prevention (CDC) (2010), approximately 70% of deaths annually are attributable to chronic illness. This is of particular concern as the Baby Boom generation begins to reach ages at which chronic illness development is more common.

Although there are aspects of the evolving health care environment that are uncertain, one aspect is clear – nurses will be increasingly called upon to provide care for individuals with chronic illness. Moreover, this care will require that nurses competently provide care in community and ambulatory care settings, practicing to full scope of professional education and licensure (IOM, 2011). The potential impact on individuals, families, and society associated with increased incidence of chronic illness warrants Nursing's attention (Howden & Meyer, 2011).

The economic impact of chronic illness is significant. The latest figures estimate that 50% of adults in the US have at least one chronic illness (CDC, 2010). According to Zubialde, Mold, and Eubank (2009), approximately 75% of all health care resources spent in the US “go

toward caring for the chronically ill” (p. 193). Specifically, the health care costs for individuals with diabetes are more than double those of individuals without diabetes. The American Diabetes Association (2013) estimates the annual cost of diabetes care in the US to be \$245 billion. Indirect costs of diabetes, such as lost work time, approach \$58 billion (CDC, 2011). Optimal management of chronic illness can aid in controlling these costs as long term complications are averted or delayed (Lorenzi, Delahanty, Kramer, & White, 2002).

An important aspect of managing these complex illnesses is nursing care that supports patients’ self-care and self-management efforts. The “Future of Nursing”, a revolutionary report by the Institute of Medicine (IOM) (2011), calls nurses to competently provide self-management support (SMS) for this population through community based care as integral members of the patient care team. To provide this type of care, nurses must be competently prepared with a non-acute care approach to chronic illness management (Carter & Dunn, 2002; IOM, 2011). However, baccalaureate nursing (BSN) education is not geared towards meeting the challenges of complex care outside of the acute care setting, and lack clinical experiences in primary care community clinics (Carter & Dunn, 2002; IOM, 2011). This systems change project (SCP) approaches this curricular gap with an innovative clinical experience described below.

Problem Statement

Baccalaureate nursing students receive insufficient clinical experience in the role of the professional nurse in non-acute care environments. A non-acute clinical experience is important for student nurses to begin to develop the skills that are essential for providing ongoing care and SMS for the socio-economically and ethnically diverse population of individuals with chronic illness, including those at risk for health disparities (CDC, 2012).

Responding to the Challenge

It is necessary to redesign nursing education to bridge the gap of caring for patients with chronic illness in a non-acute care community setting (IOM, 2011). In contemplating alternative clinical placements in primary care settings, it is necessary to acknowledge the shortage of clinical sites (Doyle & Leighton, 2010). Since the emphasis on acute care clinical experience has been predominant in nursing education, identifying and securing non-acute care clinical sites requires additional effort and coordination. Consideration of ensuring consistent, meaningful learning experiences with chronically ill patients presents several challenges. This includes providing clinical experiences that expose students to diverse patient interactions and nurses that positively role model the responsibilities of an ambulatory care nurse. Without these components nursing graduates are not likely to be prepared for the realities of practice in the non-acute setting (Doyle & Leighton, 2010).

To address these challenges, this systems change project (SCP) integrates an innovative clinical experience, focused on the role of the RN in chronic illness SMS, within the curricula of a traditional baccalaureate nursing program. Rather than a live clinical setting this SCP utilizes simulated clinical scenarios within a virtual setting to provide a consistent learning experience for all students. Clinical simulation, a contemporary model of clinical education in nursing, is used to provide safe, pre-determined, clinical scenarios from which to learn core nursing concepts and skills (Kaddoura, 2010; Nehring, 2010). Simulation can vary from role play and case studies to interaction with computerized mannequins and computer based virtual environments of care while providing students with active learning in a consistent patient care setting for all students, a concept not possible in traditional clinical settings (Aebersold, Tschannen, Stephens, Anderson, & Lei, 2011; Nehring, 2010; Tanner, 2006a; Tanner 2006b).

Congruence with Organizational Goals

This SCP takes place at Bethel University (BU), a Christian liberal arts college that “educates and energizes men and women for leadership, scholarship, and service” (Bethel University [BU], n.d.a, para. 1). Within BU the Nursing Department offers pre-licensure baccalaureate, degree completion, and master’s levels of nursing education. Aligned with the purpose of the university, the BU Nursing Department “emphasizes caring, service, integrity, excellence, and the inherent worth of all life” (BU, n.d.b, para. 4). Integral in both positions is the emphasis on service. Therefore, an attitude of service to the university, the nursing department, the students, and ultimately the patients who will receive care from the nurses that graduate from the BU nursing program is maintained throughout all aspects of the SCP curriculum change.

With the emphasis on serving individuals with chronic illness through providing holistic care and SMS, integration of virtual non-acute care clinical simulation aligns well with the organizational culture at the department and university level. Situated within a clinical course that emphasizes nursing care of individuals with chronic illness, the non-acute care clinical simulation augments the current curriculum through a patient centered focus emphasizing the RN role in providing SMS (Larsen, 2013a). This clinical simulation also begins to prepare students to meet the changing delivery of healthcare through models such as the Chronic Care Model and the Health Care Home in which care is received in non-acute settings (NACNEP, 2010). This integration clearly supports the university’s goals as it fosters excellence in nursing practice.

Social Justice Motivation for SCP

The concept of social justice has been active in nursing since the days of Florence Nightingale who saw a vulnerable population and intervened to make a difference in outcomes. Based on human rights and equal treatment, social justice calls upon the advocate role of the

nurse to do what is best at the time for the individual patient (Beuttner-Schmidt & Lobo, 2011; Pacquiao, 2008). Integration of a non-acute care clinical experience focused on individualized chronic illness SMS clearly and strongly supports the ideals of social justice by guiding students to a greater understanding of the vulnerable state of individuals with chronic illness. The challenges of living with chronic illness are more clearly understood in a non-acute care setting in which ongoing follow-up care is received over long periods, perhaps years. It is in this setting that nurses identify social, economic, cultural, emotional, and health care system related barriers to self-care and advocate breaking down those barriers.

Project Objectives

Focused on the lack of non-acute care clinical experience and minimal attention to chronic illness SMS, the following objectives for this SCP include:

1. Provide a non-acute care alternative clinical experience that facilitates students' fundamental knowledge of essential components of ongoing chronic illness care.
2. Provide BSN students with exposure to a multidisciplinary care environment in which chronic illness is managed well, minimizing acute exacerbation.
3. Increase student awareness of the challenges of chronic illness self-management in diverse populations, including those at risk for health disparities.
4. Provide students the opportunity to practice skills utilized in providing chronic illness self-management support.
5. Provide an alternative clinical experience through virtual simulation.

Summary

The purpose of this SCP is to address the gap in nursing curricula pertaining to care of individuals with chronic illnesses in the non-acute care setting. By meeting the objectives of this

SCP, student will be able to: 1) Implement basic chronic illness SMS skills with particular focus on maintaining health within chronic illness rather than stabilization of acute exacerbation of chronic illness in an acute care setting, and; 2) Perform the role of the RN in the non-acute care setting. In the following chapter a review of literature supports the need for this curricular change and summarizes evidence of learning utilizing simulation as a platform.

Chapter 2

Baccalaureate nursing curriculum should reflect the current need of the healthcare system and environments of care into which the students will enter RN practice. When the environment or setting in which care is received changes, the nursing students' clinical experience should reflect adaptation to the changes. Existing evidence demonstrates the need for congruency between current environments of patient care and nursing curriculum to prepare nurses that are able to function competently (Jackson, 2006). This includes providing nursing care at all levels across the environment of care continuum taking into account the increasing population of individuals with chronic illness in the non-acute care setting. This chapter provides an overview of the theoretical framework that supports this SCP as well as a detailed review of the literature on the changing healthcare environment, the importance of chronic illness self-management in a non-acute care setting, and use of simulation in nursing education.

Theoretical Framework

Adult Learning Theory

The key concepts or assumptions of Adult Learning Theory (ALT) are particularly well suited to this SCP. Promoted and popularized by Malcolm Knowles, ALT's concepts include the need to know, readiness to learn, experience, orientation to learning, and motivation. Among these concepts the need to know forms the foundation in which the learner is the focus rather than the teacher (Broussard, McEwen, & Wills, 2007). For learning to be optimally meaningful for both adult nursing students and adult patients the reason for needing to know the information or skill that is being communicated is vitally important. Prior to presentation of content a thorough discussion of the usefulness or applicability of the information is offered to the learner.

Nursing students comprehend the need to know as faculty positively frame the RN role in the specific patient care situation or learning activity. Each aspect of learning must be meaningful to the learner at some level to promote learning.

Additionally, the adult learner is commonly more motivated to learn if the value of the learning for solving immediate problems or challenges is easily perceived and if the individual is ready to learn (Brussard et al., 2007; Vandever & Norton, 2005). Although these two concepts might seem more applicable to the art of patient education, they are likewise essential components to the planning and implementation of learning experiences for nursing students. If students are unable to perceive the value of a particular learning experience, there is little motivation to actively participate yielding little readiness to learn. Therefore, a clear link to the nursing care problems that students have identified or will encounter is essential.

In ALT the orientation to learning is one of immediate application, indicating that the adult learner will benefit from learning activities which apply the knowledge into a concordant situation (Brussard et al., 2007; Vandever & Norton, 2005). In traditional nursing clinical experiences nursing students apply learning into an actual patient care setting such as a hospital. However, live clinical settings are not equally accessible for all environments of care. In such cases the concept of immediate application has been accomplished with increasing frequency through various types of simulation, including computer-based virtual reality (Ahern & Wink, 2010).

Each adult learner brings prior personal experience to the current learning situation. Today's pre-licensure baccalaureate nursing students are adults from diverse backgrounds, including varying ages and life experiences (Wilkinson, 2004). This prior experience is frequently used as a frame of reference for current learning which can impact learning positively

or negatively (Brussard et al., 2007; Vandever & Norton, 2005). Additionally, in each new patient care experience students build upon previous learning and patient care encounters, further integrating theory into practice (Wilkinson, 2004). Introduction of a non-traditional clinical environment, such as in this SCP, can challenge the student's comfort level due to lack of previous exposure to providing nursing care in a diverse settings. Nursing faculty must validate the student's previous clinical experience as a valuable base upon which to build new skills in a variety of environments of care, as well as to instill confidence in the student's ability to adapt (Brussard et al., 2007).

Adaptation Theory

Adaptation Theory (AT) also provides a sound theoretical framework students can use as they focus the patient care encounter on chronic illness self-management support (SMS). Developed by Sister Callista Roy and known as the Roy Adaptation Model (RAM), RAM is considered a Grand Nursing Theory that distinctly "outlines the purpose of nursing" (Hood & Leddy, 2006, p. 115). The theory emphasizes both physiologic adaptation and psychosocial adaptation (Wills, 2007), both of which are essential for successful adaptation to daily management of a chronic illness. Applied to chronic illness care and SMS, the goal of nursing care and SMS delivered through the perspective of AT is to promote effective adaptation to the changed circumstances of health status (Hood & Leddy, 2006).

Although RAM is complex, each component of the nursing metaparadigm is directly addressed, with the patient being seen primarily as an adaptive system whose behavior is affected by the internal and external environment (Hood & Leddy, 2006). The nurse applying RAM sees "people and groups as adaptive systems" (Roy, 2009, p. 57). Nursing promotes adaptation through care that influences or manipulates the stimuli through nursing care and

interventions to optimize health, which is understood as the state of being and in the process of becoming whole (Roy & Andrews, as cited by Hood & Leddy, 2006, p. 17).

Four adaptive modes form the framework of the theory. According to RAM the goal of nursing is “the promotion of adaptation in each of the four modes” (Roy, 2009, p. 49). When considered individually and then together the adaptive modes can be clearly comprehended by nursing students as integral to adaptation to living with chronic illness. The physiologic mode considers physical and chemical processes, with wholeness being achieved through adaptation. The self-concept/group identity mode addresses psychological and spiritual integrity through which the person develops a sense of meaning and purpose. The role function mode refers to the adaptation that is necessary to maintain wholeness when the environment challenges the stability of one’s identified roles. The interdependence mode focuses on the individual’s close relationships with others and the purpose of those relationships. The goal of successful adaptation of relationships necessitates acknowledging challenges, both internal and external, that have caused stress (Wills, 2007). Nursing interventions can be focused on one or all modes leading to a variety of unique simulated clinical experiences. This subsequently allows the student to perceive the situation holistically as well as specifically based upon individual patient need.

Review of Literature

Diabetes is one of the most prevalent chronic illnesses in adults in the US (CDC, 2009). The CDC (2011) reports that 8.3% of the population age 20 and above have diagnosed or undiagnosed diabetes, increasing to 26.9% of the population 65 years and older. Worldwide the prevalence of diabetes is also increasing (Wild, Roglic, Green, Sicree, & King, 2010). As a chronic illness that has the potential for serious long term complications, diabetes requires

significant daily self-care or self-management to optimize control, minimize complications, and avoid exacerbation or acute illness that might lead to hospitalization. Core self-management skills for individuals with diabetes include healthy eating, physical activity, self-monitoring of blood glucose, and for some taking medications. In addition healthy coping, problem solving, and reducing risk of complications are multifaceted skills that require learning and behavior change (AADE, n.d.a; AADE, 2010; ADA, 2013). Learning and behavior change for optimal self-management can be reinforced by all members of the health care team (Hertz, 2013; Larsen 2013).

Assistance for individuals with diabetes in their daily self-management efforts is known as diabetes self-management support (DSMS). The focus of DSMS can range from clinical to psychosocial, all with an emphasis on patient self-care efforts and behaviors (Hass et al., 2012). Numerous independent nursing interventions can be implemented in DSMS including but not limited performing foot exams, identifying individuals at risk for complications of diabetes, providing ongoing education and evaluation of learning, assisting in behavior change goal setting, determining need for interdisciplinary referral, assessment of support systems and barriers to self-care, and linking to community resources (American Association of Diabetes Educators (AADE), n.d.b). Evidence indicates that RNs in primary care are capable of providing DSMS, patient education, and independent nursing interventions which can lead to improved self-care adherence and clinical outcomes for patients with diabetes (Gallegos, et al., 2006; Siminerio, 2010). Although the role of the primary care RN is identified as essential in DSMS, there is a gap in the literature that addresses how to prepare nursing students for this professional role. This gap suggests that a curriculum change to include theory and clinical relative to the

non-acute care of a chronic illness is astute and could be beneficial in preparing students for future practice roles.

This SCP attempts to bridge this gap by integrating non-acute care theory and clinical into a baccalaureate nursing program. Utilizing simulation as an alternative to traditional clinical placements, simulation is expected to produce equal knowledge acquisition compared to a traditional clinical setting (Schlairet et al., 2010). In addition simulation can positively impact student learning of communication skills without feeling awkward with actual patients and thus increase self-confidence to perform in an actual clinical setting (Pike & O'Donnell, 2009). Moreover, research supports virtual reality simulation as an effective clinical simulation environment that can provide clinical experiences (McCallum et al., 2011). However, it must be acknowledged that the setting and simulation types discussed in the research are only moderately comparable to the simulation and setting used in this SCP (Schlairet & Pollock, 2010). The lack of research that addresses non-acute ambulatory care clinical experiences set within a virtual clinical simulation in baccalaureate nursing students is an aim of this systems change project. The following discussion addresses each of these topics independently.

Literature Search

Databases.

The search for evidence to support the need for a non-acute care clinical learning experience involved three foci: 1) non-acute care clinical experience in nursing education; 2) the nursing role in diabetes self-management support; and, 3) clinical simulation in nursing education. Parameters for all searches included the 2002 through 2012 range for year of publication, peer reviewed journals, and English or Spanish language. Searches occurred in CINAHL, PubMed, and the *Diabetes Educator* journal databases.

Using the search term combination of simulation [AND] nursing education [AND] baccalaureate, 84 articles resulted, of which two research articles were selected, one quantitative and one qualitative. The search terms virtual simulation [AND] Second Life produced 16 articles, and then narrowed by [AND] nursing students, producing one qualitative research article. Diabetes self-management support [AND] nurse primary/ambulatory care resulted in three quantitative research articles.

Key words used for searching curricular change topics included primary care, ambulatory care, community clinic, chronic care, nursing students, undergraduate, baccalaureate, nursing education, nursing curriculum, clinical, and clinical experience. Twenty combinations of search terms produced between zero and one result each, with a total of 15 articles from which one quantitative and one qualitative research article was chosen as applicable.

Clinical practice guidelines.

Practice guidelines for chronic illness self-management support and clinical simulation in nursing education were retrieved. The National Guidelines Clearinghouse and Cochrane Protocols databases were used to search for guidelines associated with diabetes mellitus. The search was further narrowed by using the terms primary care, nursing, and self-management. Two applicable guidelines were found: 1) “AADE guidelines for the practice of diabetes self-management education and training (DSME/T)” (AADE, 2010); and 2) “Strategies to support self-management in chronic conditions: collaboration with clients” (Registered Nurses’ Association of Ontario (RNAO), 2010). One simulation guideline was found, focusing on the development of evidence-based scenarios which is seen as useful for developing the virtual simulation scenarios for this SCP (Waxman, 2010).

Systematic reviews.

Cochrane database, CINAHL, and the Diabetes Educator Journal archives were accessed to locate systematic reviews applicable to the SCP. Search terms used included diabetes, primary care, nursing, clinical education, and simulation. Five systematic reviews were considered for applicability. One focused broadly on interventions with multi-level professional staff to improve diabetes management in primary care (Renders et al., 2009) while another focused on the health care professional's role in diabetes self-management problem solving (Hill-Briggs & Gemmell, 2007). Three reviews focused on clinical simulation. Of these, two focused on undergraduate nursing students and emphasized the use of manikins (Cant & Cooper, 2009; Harder, 2010; Lapkin, Levett-Jones, Bellchambers & Fernandez, 2009)

Literature Discussion

RN self-care interventions.

Two quasi-experimental studies considered the impact of nursing interventions on diabetes self-management. This design was appropriate for the questions considered in the studies. However, results of the one group pretest-posttest design used by Moran, Burson, Critchett, and Olla (2011), are not as broadly applicable due to lack of comparison group, as was used by Gallegos, Ovalle-Berumen, and Gomez-Meza (2006). Both studies maintained ethical practices through IRB approval and informed consent of participants in the convenience samples. The samples represent individuals with type 1 and type 2 diabetes of varied economic conditions, including low to middle class primary care urban dwelling patients (Gallegos, Ovalle-Berumen, & Gomez-Meza, 2006) and suburban primary care medical home clinic patients with diabetes (Moran, Burson, Critchett, & Olla, 2011). The variety in the samples represents the population of patients in the SCP. Neither study mentioned method for determination of effective sample size. Both studies had small convenience samples: Gallegos et al. (2006) intervention, $n=25$ and

comparison, $n=20$; Moran et al. (2011) $n = 34$, which could result in lesser external validity (Polit & Beck, 2010). However, Gallegos et al. (2006) determined the control and intervention groups to be homogenous by genetic testing. Interventions in both studies are based upon self-management support standards and guidelines, which supports integration of the interventions in the RN scope of practice represented in this SCP.

Using tools with established validity and reliability strengthens applicability of the similar outcomes in both studies. Specifically, Gallegos et al. (2006) determined validity for all tools using Cronbach alpha, with scores ranging from .71 to .79, providing confidence that the improved results are related to the intervention. The score of .63 for “The Specialized Self-care Capabilities Scale (Gallegos, Cárdenas, & Salas, 1999)” (Gallegos et al., 2006, p. 346) was acknowledged as a cause for caution.

In both studies clearly presented outcome data and appropriate statistical analysis support consideration of the interventions for the SCP. A one way ANOVA was used for determination of A1c (a blood test that reflects the two to three month average blood glucose [ADA, 2013]) in experimental and control groups (Gallegos, et al., 2006). A multivariate testing score Wilks-Lambda of .676 ($p .003$) indicated significant difference between the two groups in the second, fourth, and fifth measurements (Gallegos et al., 2006). This indicates that the progression of the intervention over time resulted in sustained improvement. Moran et al. (2011) verified statistically significant post-intervention clinical measures improvement using paired t-tests, with p value of .000 for A1c and .002 for fasting glucose. Acknowledgement of limitations of both studies is clear and further supports the need for this SCP (Gallegos et al., 2006; Moran et al., 2011).

RN role in diabetes self-management support.

With the goal of improving diabetes care the multi-dimensional, international Diabetes Attitudes Wishes and Needs (DAWN) study was implemented to determine patient and care provider attitudes, wishes, and needs to target improvement efforts. The purpose of one particular portion of the DAWN study was to examine the perceptions of nurses and physicians regarding the role of generalist and specialist nurses in diabetes care in the US. Human subjects' issues were addressed by obtaining ethical approval from the Maryland Loyola College Institutional Review Board and informed consent of participants. A sample of 101 nurses (51 generalists and 50 specialists) and 216 physicians (166 generalists and 50 specialists) were surveyed by structured interview. The authors developed the six point Likert scale survey tool based on patient and provider interview data and a review of other diabetes surveys (Siminerio, Funnell, Peyrot, & Rubin, 2007). While authors listed survey questions with results in table format, no mention of validity or reliability of the tool is included. This omission threatens the strength of conclusions. Although the researchers used χ^2 or F test to detect variances between groups, those results are not provided for specific items (Siminerio et al., 2007).

Study findings identified that more nurses, both generalist and specialist, are needed to provide diabetes care and DSMS. Physicians and nurses both agreed that the role of the nurse in diabetes care should expand (Siminerio et al., 2007). Additionally, generalist nurses, such as those in primary care settings, are ideally positioned to provide self-management support "because of their ongoing contact with patients" (Siminerio et al., 2007, p. 160). This supports the IOM (2011) assertion that baccalaureate prepared nurses are equipped to work with complex patients with chronic illness in care coordination and management. Of particular note is that the majority of both specialist and generalist nurses report ability to "manage routine checks without supervision" (Siminerio et al., 2007, p. 156), which speaks to the autonomy and independent

interventions of RN practice that is presented throughout baccalaureate curriculum. Although these findings emphasize the actual and potential role of the primary care nurse in DSMS, one must consider the question of validity of the interview tool and proceed with moderate caution in broad generalization of applicability.

Evidence based clinical guidelines add to the support for this SCP. The “AADE guidelines for the practice of diabetes self-management education and training (DSME/T)” were developed by a group of experts in the field of diabetes education and are intended to be used by various levels of health care professionals that provide care and services for individuals with diabetes. Supportive evidence was rated by members of the AADE Research Committee and the guidelines were reviewed by a diverse group of intended users (AADE, 2010). Additionally, the guidelines are congruent with “Competencies for diabetes educators” which includes expected clinical abilities of persons who provide DSME/T and DSMS (AADE, n.d.b). The specific focus of self-care behaviors and skills augment the usefulness and applicability of the guidelines (AADE, 2010).

The “Strategies to support self-management in chronic conditions: Collaboration with clients” (RNAO, 2010) is recommended for use by registered nurses providing self-management support for adult patients with chronic illness, primarily in the ambulatory care setting. The developers represented the population of nurses for whom the guideline is intended, being of a broad range of educational levels and practice settings in which chronic illness care is a focus. Level of evidence is provided for each of the 26 practice recommendations, with strong representation of systematic reviews and randomized controlled trials. Internal and external peer review was used for validation of the guideline. In further support of applicability with patients

involved in self-management of chronic illness, patients and families also reviewed the guideline and particular attention to patient preference is evident throughout the guideline (RNAO, 2010).

The literature on the impact of nursing interventions focused on chronic illness SMS and DSMS strongly supports positive patient outcomes. Additionally, evidence suggests a variety of independent and enhanced nursing interventions that are primarily implemented in ambulatory care (Gallegos et al., 2006; Hill-Briggs & Gemmel, 2007; Moran et al., 2011; Renders et al., 2009; Siminerio et al., 2007). Moreover, evidence-based clinical practice guidelines, specific to chronic illness SMS and DSMS, are readily available to guide nursing practice and individualized intervention implementation in this aspect of care (AADE, 2010; RNAO, 2007; RNAO, 2010). Integration of the primary care role of the RN in chronic illness SMS into nursing curricula is essential, particularly in light of the current and growing prevalence of chronic illness in the US (CDC, 2010).

Non-acute care clinical experience.

Changes in the overall health care environment drive baccalaureate nursing curriculum change, both in content and in types of clinical experiences. Two studies were identified that approach the topic differently. In a non-experimental, descriptive, comparative historical study Jackson (2006) focused on the impact of managed care on curriculum, focusing on the population of baccalaureate nursing programs ($n=89$). Using a survey that had been pilot tested for construct validity Jackson included eight elements of a nursing curriculum framework to reflect the current curriculum and the curriculum 15 years prior. Statistical analysis was completed using chi-square for the comparison of the two data sets, for each of the eight elements individually. Results indicated that changes in the health care environment influence

baccalaureate nursing curricula to integrate managed care concepts such as case management and care coordination into learning experiences (Jackson, 2006).

In a qualitative exploratory study Kenyon and Peckover (2008) investigated the issues related to clinical placements in community settings. Data was collected through semi-structured audio-recorded interviews with a sample of 28 nurses that precept students in community based non-acute care clinical experience in the Primary Care Trust (PCT) in the United Kingdom. Analysis of indexed transcripts revealed these primary themes: 1) working with the students takes time; 2) it is necessary to balance the needs of the clients and the students; 3) unplanned interruptions in learning required student flexibility; and 4) there were limited resources such as work space for students. Although no mention of data saturation or triangulation is noted, researchers looked for alternative explanations to assure rigor for the themes that emerged (Kenyon & Peckover, 2008).

While Jackson (2006) demonstrates that baccalaureate nursing curricula integrate managed care concepts through a variety of learning experiences, Kenyon and Peckover (2008) find that clinical placement in these settings presents challenges for students and agencies. Integrating the conclusions of both Jackson (2006) and Kenyon and Peckover (2008) suggest that although the clinical experience is beneficial to student learning, certain organizational challenges might exist that would render clinical placement difficult and perhaps impossible for some programs. Since preparing nursing students to enter practice with the ability to address the challenges of the future health care environment related to individuals with chronic illness is an essential component of nursing curriculum (IOM, 2011), consideration of the presented evidence regarding potential impact on and integration into curriculum change must be considered.

Clinical simulation.

Three applicable studies address aspects of simulation in nursing education: 1) validating the effectiveness of simulation compared to traditional clinical (Schlairet & Pollok, 2010); 2) the impact of virtual simulation on decision making skills (McCallum, Ness, & Price, 2011); and 3) self-efficacy of students to perform in similar situations as a result of the simulation experience (Pike & O'Donnell, 2009). Present in all three studies was a convenience sample of the target population of pre-licensure undergraduate nursing students and protection of participants through IRB approval and informed consent.

Simulation is demonstrated to be an effective alternative clinical environment with equal knowledge acquisition compared to traditional clinical through a 2x2 cross over between subjects study. Although the sample size of 74 is considered modest, confidence in the results is determined by power analysis to be likely to produce a medium effect. A broad demographic was represented and the possibility of demographic differences impacting results was determined to be insignificant by chi square (Schlairet & Pollock, 2010). These aspects of the study support external validity. Additionally, statistically significant improvement in knowledge test scores between simulation and traditional clinical was demonstrated with a difference of 0.49 with a 95% confidence interval, using a tool with acceptable internal consistency reliability (Schlairet & Pollock, 2010). This supports simulation as a clinical equivalent compared to traditional clinical learning experience.

Two qualitative studies focused on student performance and experience in simulation and identifying two themes. Pike and O'Donnell (2009) reported that simulation was perceived by students as a good place to practice communication skills in which students expressed low self-efficacy. However, some students found interaction with a manikin unrealistic. McCallum et al. (2011) reported that virtual simulation was a valuable approach for improving student ability to

link clinical decision making to classroom theory and practice. These themes of student perception are appropriate to consider for virtual simulation clinical experience that involves clinical decision making. Researchers maintained rigor of data analysis which supports integration of findings. Pike and O'Donnell (2009) each independently analyzed data for themes. McCallum et al. (2011) utilized computer based qualitative data analysis for transcribed interviews. Convenience samples, $n=5$ (McCullum et al., 2011) and $n=9$ (Pike et al., 2009), and the extraneous variables of possible differences between students that volunteered to participate and those that did not, including having stronger opinions, might weaken study findings.

Perhaps of greatest importance is addressing student learning outcomes in simulated clinical experiences. Since nursing faculty plan specific learning activities and implement teaching strategies that will foster student attainment of learning outcomes, selection of appropriate activities and strategies that move students toward outcome attainment is vital (Jeffries & Norton, 2005). Lapkin et al. (2009) looked for evidence of improved clinical reasoning as a result of simulation. They found evidence that simulation improves “knowledge acquisition, critical thinking, and the ability to identify deteriorating patients,” essential elements of clinical reasoning (Lapkin et al. 2009, p. e220). However, no studies included in the review specifically focused on clinical reasoning. Cant and Cooper (2009) focused on the effectiveness of simulation compared to other teaching and learning strategies. They reported that existing evidence indicates that effective teaching and learning occurs in medium to high fidelity simulation, particularly using manikins and simulation guidelines. Additionally, simulation might be a preferred method of clinical teaching and learning for some content.

Focusing on the effect of simulation on learning Harder's (2010) review of the literature looked broadly at clinical simulation across health care disciplines from studies between 2003

and 2007. Both quantitative and qualitative studies were included. The quality of the studies was determined by evaluating effect size, although this was only possible for “39% of the studies ($n=9$)” (Harder, 2010, p. 25). No other quality indicators, such as for the measurement tools used, were stated, which might be considered a weakness in the review. However, for the studies that measured student assessment and clinical skills performance ability p values were provided. Since the studies included in the review were not homogeneous, it is necessary to consider the quantitative and qualitative studies separately for demonstration of similar results. The qualitative studies demonstrated increase in self-confidence and competence. The quantitative studies did not demonstrate a statistically significant increase in clinical skills performance (Harder, 2010).

Although educational guidelines are considered uniquely different compared to clinical practice guidelines, the professional practice of nursing education should be equally as intentional toward optimal outcomes. Waxman (2010) presents evidence-based guidelines for the clinical simulation scenario development, comprised of the following six elements: 1) ensure that learning objectives are defined; 2) identify level of fidelity; 3) define level of problem solving complexity; 4) use evidence based references; 5) incorporate instructor cues; and 6) allow adequate debriefing and reflection time. The guideline is the result of the work of a task force of clinical educators and nursing faculty of the Bay Area Simulation Collaborative and is broadly applicable in nursing education. Fundamental to and preceding the guideline is a proposed scenario development template that includes these key elements: learning objectives, assessment plan, evidence-based objectives, pre-scenario learning activities, peer validation of the scenario, debriefing, and testing of the scenario (Waxman, 2010). Further exploration of the

various components of successful clinical simulation scenarios continues to be a priority in nursing education research (National League for Nursing, n.d.).

Chapter Summary

Clinical simulation in nursing education has been demonstrated to increase student self-confidence in assessment, decision making, and skills performance (Harder, 2010; McCallum et al., 2011; Lampkin, 2010; Pike & O'Donnell, 2009). Additionally, clinical simulation has been shown to be equally as effective in knowledge acquisition as traditional clinical (Schlairet & Pollock, 2010). Moreover, virtual simulation has been demonstrated to be an effective environment for nursing students to practice communication skills (McCallum, 2010). This evidence supports the need for curricular change at the baccalaureate level. However, a gap in the literature exists pertaining to the use of simulation with undergraduate nursing students in a non-acute ambulatory care setting, particularly when addressing virtual clinical. The need for this SCP is strengthened by a theoretical framework that addresses today's learners and an evolving healthcare environment. The moral and ethical obligation of nurse educators to best prepare students for nursing practice in the current and evolving health care environment calls upon creative thinking, planning, and implementation of teaching strategies that will optimize student readiness for professional practice. Therefore, the use of virtual simulation in this SCP to address the need for a non-acute ambulatory care clinical experience is considered innovative and has the potential to contribute significantly to nursing literature and future trends in nursing curricula.

Chapter 3

Project Design and Methodology

This SCP attempts to bridge a gap in baccalaureate nursing education by addressing the role of the RN in assisting patients with self-management of chronic illnesses in the non-acute care setting. This clinical experience was provided through virtual simulation. This chapter discusses the details of this project and the methodology used to implement it within a small liberal arts college.

University Support

Although initially concerned about the logistics of the implementation of non-acute ambulatory care clinical experience within the existing contracted clinical facilities, the BU nursing department curriculum committee was not fundamentally opposed to offering such a clinical experience to students. Therefore, the use of virtual simulation as an alternative environment for the experience was well received by the curriculum committee, the department chairperson, and the corresponding course faculty team. The non-acute care experience was integrated into a clinical course that emphasizes adult health, chronicity, and mental health. Support from the university and the department of nursing included assuring availability of laptop computers, technical support for laptop updates and problem solving assistance, and accessibility of the physical space required for implementation.

Preparing the Virtual Simulation

The development of a virtual primary care community clinic for this SCP occurred in November 2011. South Street Clinic (Appendix A) was constructed in the virtual world of Nightingale Isle and was equipped to see patients by December 2012. Nightingale Isle is part of

the virtual world of Second Life™ and was created to provide a versatile, collaborative learning environment for nursing students. Second Life™ is a three-dimensional multi-user virtual environment that has been used with increasing frequency for clinical simulation in nursing education (Baker & Brusco, 2011; McCallum, Ness, & Price, 2010). Students navigate through the virtual environment as avatars, each student creating an individual avatar and name. Avatars in the environment simultaneously can be viewed and engaged in communication by all others present, so students can collaborate or work individually. In addition to the clinic, Nightingale Isle contains a hospital, an acute care simulation center, classrooms, a neighborhood, and a library (Jones Tiffany, personal communication). South Street Clinic is equipped with patient care and health care team work areas, including a conference room and computers that link to the web based EHR.

Individual South Street Clinic patient scenarios were created specifically to meet student learning objectives. Four patient profiles and health records were developed by the primary investigator. The patients are diverse in ethnicity, gender, age, and socioeconomic status. Each patient has type 1 or type 2 diabetes, in varying levels of clinical control, and a mental health component ranging from mild anxiety to depression. Additionally, one patient has chronic heart failure. The patients represent a broad range of chronic illness self-management knowledge and ability to expose students to a broad range of patient self-care ability and SMS needs. A general summary of these patients is presented in Table 1 (p. 32) and a detailed description of each patient scenario is presented in Appendix B.

Several key individuals contributed their expertise and resources in developing and preparing this clinical experience. The SCP site mentor served as a consultant for the development of the virtual simulation experience and environment. Experienced technology

experts completed the building and programming of the virtual clinic and avatar patients. The patient avatar programmer provided ongoing technical support regarding avatar function. Nursing department administrative staff assisted in scheduling space for the computer based elements of the simulation, a secluded room for students to individually participate in the real time conversation with one of the virtual patients, and a room for group post simulation debriefing.

Table 1

Ambulatory Care Clinical Simulation Patient – General Overview

Patient	Medical Diagnoses	Self-care Ability	Learning focus
Angela Hansen Age 33	Type 1 diabetes Mild anxiety	Proficient in all self-care activities	The patient who self-manages well. Requires little SMS.
Anthony Martino Age 60	Type 2 diabetes Hypertension Anxiety	Anxiety interrupts self-care activities, obsesses about some aspects of self-care and disregards others.	The patient who has varied ability of self-care skills and requires SMS in specific areas.
Isaac Benjamin Age 35	Depression Type 2 diabetes	Depression impedes self-care ability.	The patient who refuses to participate in most self-care. Requires in depth and gentle SMS.
Emma Olson Age 67	Hypertension Chronic heart failure Type 2 diabetes Mild situational anxiety	Recent exacerbation of heart failure has complicated diabetes control and self-care.	The complex patient with more than one chronic illness that requires SMS

Resources for students were also needed. Either a personal or nursing lab laptop computer with ample graphics programming for current Second Life™ compatibility was required. Additionally, the clinic EHR is web-based and accessible only through linking to the

internet through the virtual computers in the South Street Clinic consultation rooms or through a separate browser window. Thus the availability of nursing lab laptop computers for students not able to use a personal laptop computer is necessary to facilitate positive learning experience for all students.

Clinical Simulation Learning Experience

Facilitation of each simulation was performed by the primary investigator or a graduate student completing a master's in nursing education. In preparation the graduate student was oriented to the concepts of ambulatory care, chronic illness SMS, the virtual learning environment, and the process of debriefing. Each facilitator functioned independently with the groups of four to five students on separate days of the week throughout the semester.

The spring semester of 2013 marked the beginning of student participation in the simulation at South Street Clinic. A course faculty team leader scheduled four to five students to participate in one of each of the 18 occurrences of the simulation. In order to function as primary care RN in South Street Clinic students are required to create an avatar prior the clinical day. Students also need to be prepared with EHR password access with which they have had prior experience in the nursing lab. These instructions were provided to students through electronic course communication. At the beginning of the simulation students were given verbal instructions and a folder of pertinent reference documents that include learning objectives, the day's schedule, instructions for progression through the simulation scenarios, some key slides from the introductory content presentation. Also included were patient teaching materials for both diabetes, the AADE 7TM Self Care Behaviors teaching sheets (AADE, n.d.), and heart failure, portions of an online heart failure patient teaching presentation from The Heart Failure Society of America (2006). Prior to beginning the patient encounters students met virtually in

the South Street Clinic conference room for a web-based voiced slide presentation created by the primary investigator (Appendix C). Content presented prepared students for the non-acute care focus of the simulation and included standards of care, chronic illness self-management support, and clinical reasoning which guide the students in making individualized care decisions for each patient.

To provide a consistent learning experience, each student participated in all four patient encounters. Guided by the “South Street Clinic RN Worksheet” students reviewed each patient’s EHR to determine if any laboratory tests or screening exams for chronic complications are due, such as A1C or dilated eye exam, and integrate the national standards of care and SMS (Appendix D) (ADA, 2013; AADE, 2010; HRSA, 2010). Students were required to compare patient laboratory values and clinical measures such as blood pressure to target values, and obtain patient specific self-management information through a previously documented nurse’s note or by interacting with the patient. Based on the information collected students determine the self-management support needed for the patients. Students also had the opportunity to document using the ambulatory care focused nurse’s note template designed for the simulation (Appendix E).

Following the four patient encounters a facilitator guided debriefing occurs. Established principles of debriefing that include reflection, processing, application, and generalization were used to format the flow of debriefing (Jeffries, 2005; Dreiruerst, 2009). A debriefing guide was developed based on the specific focus of each patient encounter (Appendix F). The facilitator had the opportunity to steer the conversation, support student decisions, guide students in clinical reasoning, discuss variations in SMS for each patient, and clarify concerns. Debriefing discussion focused on the individualized application of standards of clinical care and SMS, RN

decision making for SMS focus, and variations in clinical measures between patients. Students had the opportunity to present rationale for decisions made for SMS provided and to discuss differences of opinion with one another. Particular emphasis is placed on the uniqueness of chronic illness care in a non-acute ambulatory care setting compared to an acute care setting and the RN role specific to the setting and situation.

Evaluation

Following completion of the simulation debriefing students were given the opportunity to complete a post simulation evaluation geared at capturing the student perception of the learning experience. At the time of this SCP a validated virtual simulation specific evaluation tool was lacking. Thus, The Learner HPS Evaluation[®] tool was used (Appendix G). The tool uses Likert style questions, a continuum scale, and free text comments focused on student ability, student confidence, and the learning environment (Brent & Hatler, 2010). Students were allowed time to review the Information and Consent Form which provides a brief background of the study, assures confidentiality, and confirms the voluntary nature of the study (Appendix H). Students that decided to participate in the evaluation then completed the tool. The data collected from this tool is presented in Chapter 4.

Investment and Return

Investment

This SCP delivers both tangible and intangible return on investment. The initial budget for preparing the virtual simulation included technological development and faculty time. The primary costs for initial implementation of this SCP are the one-time expenses involved in construction of the virtual simulation environment totaling \$2,800 (Table 2, p.36). A BU Alumni Faculty Grant obtained by the primary investigator paid for rent of the virtual space,

building a virtual clinic, and computer programming of the simulation. The primary investigator's doctoral clinical hour requirement provided faculty time for development of essential elements of the simulation, such as creating case studies and planning the clinical day. Therefore, no direct BU faculty time was required for the pilot semester. Nursing student lab fees support the function of nursing lab physical space and computers; therefore use of the facility and computers did not represent additional cost. Likewise, paper copies of materials for student reference notebooks and South Street Clinic RN worksheets are part of the regular course work materials cost in the pre-licensure BSN program.

Table 2

Virtual clinic construction costs

Item	Cost
Building of virtual clinic	\$1,200
Computer programming of the simulation	\$1,000
Rent of virtual space for pilot	\$600
Total	\$2,800

Return

In becoming a permanent location on Nightingale Isle, South Street Clinic provides a tangible resource that will not require substantial monetary maintenance costs for this non-acute care clinical simulation. The clinic can also be modified and populated with a variety of patients for future learning in other nursing courses with minimal additional resources needed.

Optimizing this potential by means of integrating additional clinical simulation learning

experiences in other nursing courses will increase the financial return on investment of the grant funding received by the primary investigator.

Intangible return on investment of this project is significant. For the BU nursing program, the satisfaction of providing students with a forward-looking, comprehensive approach to chronic illness care through an innovative teaching method is a prime consideration. By providing students a broad, holistic experience in caring for individuals with chronic illness, the BU nursing program affirms a commitment to optimally preparing students to be RNs that are able to meet patient needs in an evolving health care environment and system (IOM, 2011). Furthermore, increased student confidence in providing chronic illness care and SMS will foster high quality chronic illness care delivered by graduates of the program.

Ethical Considerations

Institutional Review Board (IRB) approval was obtained from St. Catherine University, where the primary investigator is a DNP student, and from Bethel University, where the SCP was implemented. Experimentation that would require protection of participants from potential harm was not a part of this SCP. However, student confidentiality is a fundamental ethical consideration for all learning activities. An atmosphere of mutual respect and trust was sustained within the group of students and faculty. In this clinical simulation the point at which students were most vulnerable was during group debriefing in which students shared individual perspectives and rationale for choosing particular foci of SMS with the virtual patients. As with all nursing clinical simulation the need to maintain confidentiality regarding the events of the simulation, including one another's actions and words, was firmly established with students (Campbell, 2010; Morse, 2012). Students were assured that their performance and debriefing discussion would remain confidential. The post-simulation evaluation survey was not

mandatory. Those students that chose to fill out the post simulation evaluation provided written consent prior to completing the survey (Appendix G). Evaluation surveys were anonymous in order to optimize provision of meaningful feedback.

Additional ethical dilemmas in development of the virtual patients were also considered. The process of patient case construction benefits from intentional avoidance of ethnic or cultural stereotyping, which might risk students' formation of associations of patient behavior and self-care ability with culture or ethnicity. Care was taken to present the patients in an objective manner for each of the four encounter activities and debriefing. Diverse in a variety of ways, each patient was considered as an individual with sociocultural lifestyle influences that potentially impact self-care, although patient diversity is not a specific emphasis in the simulation.

Chapter Summary

The design of this SCP provided a unique experience for students tying together theory and practice, and allowing students to demonstrate competence in working with chronically ill patients in a non-acute care setting. Data on student perspectives of learning in this environment and evaluation about the simulation as a whole are presented in the following chapter.

Chapter 4

The evaluation of the non-acute care clinical simulation of this SCP included both quantitative and qualitative data obtained from consenting participants following the simulation. Students were given freedom to participate or decline. Of the 79 students who participated in the simulation 61 students proceeded to complete the Learner HPS Evaluation© survey (Brent & Hatler, 2010). This chapter presents the data as obtained from those completed surveys.

Quantitative Data

Quantitative data from the Learner HPS Evaluation© survey (Brent & Hatler, 2010) contains 15 Likert-type items related to student perception of ability to perform nursing skills and care activities as a result of participation in the simulation. The survey also contains six Likert-type items focused on participant impression of the learning environment. The highest possible score for each Likert-type response is 6.00. Data obtained from these 21 items were entered for analysis into the Statistical Package for Social Sciences (SPSS) computer program.

Student self-rating of the 15 Likert-type items related to ability as a result of participation in the simulation are presented in Table 3 (p. 3). The simple mean of each item was calculated to determine the overall effectiveness of the simulation. Mean scores ranged from 2.46 to 4.69 (SD = 2.94 to 1.0) with “Know when more information is needed before action can be taken” having the highest mean and “Gather appropriate supplies and equipment before beginning care” having the lowest mean.

Simple mean scores for overall participant perception of the non-acute care simulation learning environment are presented in Table 4 (p. 41). Means scores for these six items ranged from 3.1 to 5.0 (SD = 1.06 to 1.82) with “The debriefing session helped me put information and

experiences together in a way that makes sense” having the highest mean and “The mannequin was easy to use” having the lowest mean.

Table 3*Ability Item Score Means – all respondents*

Item	Number of Responses	Mean	SD
1. Notice important concerns related to the patient’s condition.	61	4.62	1.22
2. Seek more information when necessary	61	4.61	1.20
3. Prioritize patient needs	61	4.54	1.36
4. Identify nursing interventions suitable to the situation	61	4.54	1.22
5. Gather appropriate supplies and equipment before beginning care	61	2.46	1.94
6. Make a judgment that I may not have been comfortable making before	61	4.15	1.33
7. Identify skills I can carry out without much anxiety	61	4.16	1.30
8. Know when more information is needed before action can be taken	61	4.69	1.09
9. Identify critical assessments related to the patient’s condition.	61	4.61	1.37
10. Identify skills I need to practice more	61	3.97	1.96
11. Respond quickly to patient needs	61	3.79	1.57
12. “Walk through” a situation to solve problems	61	4.41	1.51
13. Think about a patient problem and predict results	61	4.28	1.40
14. Handle equipment without much anxiety	61	2.56	2.14
15. Remain calm during situations that are stressful or that require quick action	61	3.31	1.89

Since facilitation and debriefing of the simulations in this SCP was performed either by the primary investigator or a Nursing Master’s intern, data was separated by facilitator for analysis of possible variances. Means for each of the 15 ability survey items are compared in Table 5 (p. 42). Significance of the variance between the means was determined through paired

t-test for equality of means. Individual item mean scores for the facilitation by the primary investigator are listed as Expert. Individual item mean scores for the facilitation by the intern are listed as Novice. Those items which have a statistically significant difference between means are indicated (p value 0.05 and 0.01 levels). The total number of respondents reported reflects the exclusion of evaluations from one simulation with novice as facilitator in which the group experienced significant technical difficulties. It was felt that including this data would skew the results and not be representative of the whole.

Table 4
Learning Environment Items Means – all respondents

Item	Number of Responses	Mean	SD
1. The scenario was presented at the most effective pace for my learning.	61	4.03	1.51
2. The mannequin was easy to use.	61	3.10	1.82
3. The simulation lab made me feel as though I was working in a real patient's room.	61	3.25	1.43
4. I felt at ease working in the simulation lab.	61	3.70	1.65
5. The debriefing session helped me put information and experiences together in a way that makes sense.	61	5.00	1.06
6. The debriefing session helped to identify skills that I need to improve.	61	4.69	1.27

The means for each of the six perception of learning environment survey items are compared in Table 6 (p. 43). Significance of the variance between the means was determined through paired t-test for equality of means. Individual item mean scores for the facilitation by the primary investigator are listed as Expert. Individual item mean scores for the facilitation by the intern are listed as Novice. Those items which have a statistically significant difference between means are indicated (p value 0.05 and 0.01 levels). This data also excludes of evaluations from the simulation with novice as facilitator in which the group experienced greater than expected technical difficulty which is reflected in the total number of respondents.

Table 5
Ability Item Score Means Separated into Simulations Facilitated by Content Expert or Novice

Item	Facilitator: Expert/Novice	Number of Responses	Mean	SD	Significance † = 0.05 level †† = 0.01 level
1. Notice important concerns related to the patient's condition.	Expert Novice	31 25	5.12 4.24	.562 1.451	††
2. Seek more information when necessary.	Expert Novice	31 25	5.03 4.04	.481 1.645	††
3. Prioritize patient needs.	Expert Novice	31 25	5.12 4.16	.763 1.462	††
4. Identify nursing interventions suitable to the situation.	Expert Novice	31 25	5.06 4.24	.679 1.267	††
5. Gather appropriate supplies and equipment before beginning care.	Expert Novice	31 25	2.51 2.88	1.823 1.985	
6. Make a judgment that I may not have been comfortable making before.	Expert Novice	31 25	4.16 3.88	.843 1.615	†
7. Identify skills I can carry out without much anxiety.	Expert Novice	31 25	4.70 3.80	.588 1.632	†
8. Know when more information is needed before action can be taken.	Expert Novice	31 25	4.93 4.36	.727 1.186	†
9. Identify critical assessments related to the patient's condition.	Expert Novice	31 25	5.22 4.36	.668 1.468	††
10. Identify skills I need to practice more.	Expert Novice	31 25	4.80 3.68	1.222 1.973	†
11. Respond quickly to patient needs.	Expert Novice	31 25	4.16 3.84	1.267 1.572	
12. "Walk through" a situation to solve problems.	Expert Novice	31 25	5.03 4.12	.912 1.641	†
13. Think about a patient problem and predict results.	Expert Novice	31 25	4.77 4.08	1.230 1.351	†
14. Handle equipment without much anxiety.	Expert Novice	31 25	2.96 2.56	2.152 2.063	
15. Remain calm during situations that are stressful or require quick action.	Expert Novice	31 25	3.64 3.12	1.992 1.900	

Table 6*Learning Environment Items Means Separated into Simulations Facilitated by Content Expert or Novice*

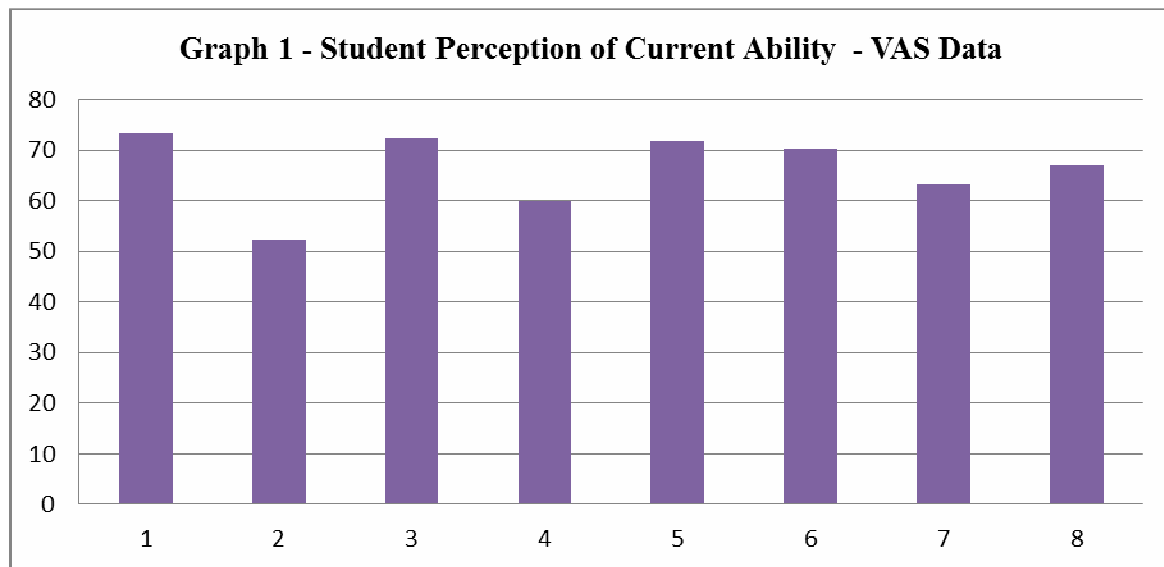
Item	Facilitator: Content Expert or Novice	Number of Responses*	Mean	SD	Significance † 0.05 level †† 0.01 level
1. The scenario was presented at the most effective pace for my learning.	Expert	31	4.80	.945	††
	Novice	25	3.52	1.451	
2. The mannequin was easy to use.	Expert	31	3.61	1.707	†
	Novice	25	2.56	1.938	
3. The simulation lab made me feel as though I was working in a real patient's room.	Expert	31	3.74	1.094	†
	Novice	25	2.96	1.567	
4. I felt at ease working in the simulation lab.	Expert	31	4.38	1.229	†
	Novice	25	3.28	1.791	
5. The debriefing session helped me put information and experiences together in a way that makes sense.	Expert	31	5.52	.570	††
	Novice	25	4.52	1.295	
6. The debriefing session helped to identify skills that I need to improve.	Expert	31	5.29	.782	††
	Novice	25	4.16	1.491	

Table 7*Student Perception of Current Ability to....*

Item	Number of Responses	Mean
Organize patient information.	61	73.23
Communicate with physicians.	60	52.33
Prioritize what you do when a patient has a problem.	60	72.42
Know when to contact a physician.	60	59.80
Quickly assess patients' physical needs.	60	71.93
Smoothly accomplish activities to address patients' needs.	60	70.28
Appropriately delegate tasks to assistive personnel.	58	63.14
Quickly make decisions about patient care.	59	67.03

Eight items on the Learner HPS Evaluation© (Brent & Hatler, 2010) focused on the learner's self-rated current ability, without mention of the impact of the simulation. These items

are rated using a visual analog scale (VAS) with scores calculated on a 0 -100 scale (one being the lowest and 100 being the highest possible). The means for the VAS items were calculated using a Microsoft EXCEL spread sheet. Since these items by description did not relate directly to the simulation impact on perception of current ability, they are reported without comparison of facilitator (Table 7, p. 43). To emphasize the overall level of students' perception of their own ability, the scores from the VAS items are also presented in Graph 1 (p.



44).

Qualitative Data

Qualitative data from the Learner HPS Evaluation© (Brent & Hatler, 2010) is collected from two open ended items focused on the overall simulation learning experience: 1) Things I liked most about the experience was/were ... ; and, 2) Something I would change about this experience is Perhaps seemingly prescriptive, due to the specific focus of the possible responses, each student's (N=61) perception of the experience is unique and thus valuable in terms of the overall evaluation of the simulation. Using a descriptive phenomenological approach to this analysis, the researchers attempted to explain the meaning of the students' experience through their individual written responses (Burns & Grove, 2005; Polit & Beck,

2010). Each response was transcribed from the surveys and checked for accuracy. Data was then independently hand coded using colors to identify themes by both the primary investigator and a nursing faculty colleague. Themes were cross checked to ensure rigor (Burns & Grove, 2005; Polit & Beck, 2010).

Components That Student Liked Most

Students' perceptions of what was liked most included the "real time" interaction with a patient in the non-acute care setting (N = 29). Comments such as "*The simulated patient interaction – I like(d) being able to talk with the patient as a primary nurse*" and "*'Talking' to the patient, actually hearing the patient's voice and emotions*" indicated that this aspect of the simulation(s) was most helpful. Of these 29 students, seven students (N = 7) specifically indicated that the opportunity to practice communication skills with the patient was beneficial. Students indicated that by responding to patient questions in the scenario, they were able to foster their ability to recognize areas for growth in this particular skill. This was apparent from one student comment indicating appreciation for "*Being independent in answering patient questions and handling care.*" Another student commented, "*I also liked getting a chance to talk to a patient (as) it helped me determine what skills I need to work on.*" Two additional themes included reference to the relaxed environment. Comments included, "*It gave us the opportunity to develop skills without have the anxiety of clinical, where as if you're right or wrong can make a big difference – especially in teaching*" and, "*It was pretty low stress, which helped me relax and get the most learning I could out of the simulation.*" Additionally student comments including, "*...I got to put nursing outpatient care together and strive to empower the patients*" and "*Learning how to approach an ambulatory care setting/situation*" revealed a theme of the

comparison of ambulatory chronic care to acute care as an aspect of the simulation that was liked by students (N=4).

Two additional themes from the primary investigator facilitated simulations were also identified. Students (N = 5) directly mentioned patient teaching or education as an aspect of the simulation they liked most. This was highlighted by one student's comment, "*Experiencing patient teaching/role playing*" and reinforced through other comments including, "...*practicing patient teaching about comorbidities.*" Ten students (N = 10) commented that the debriefing or discussion time helped to organize and process the scenarios with a focus on chronic care. This became apparent in comments such as, "*Debriefing time really helped me pull everything together. I wish the debriefing time was a little longer for that reason*", and "*I also liked the debriefing time and talking about each patient situation in a chronic care setting*".

Components That Students Would Change

Two predominant themes appear from student perception of what they would change about the learning experience. First, the overall technological aspects of the simulation, from individual computers to accessing Second Life, proved frustrating and stressful at least initially for 22 students (N = 22). Comments such as, "*(I would change...) The whole computer sim world*", and "*(I would...) Make 2nd Life as easy to navigate as possible, it was frustrating and confusing at times*" were directed at Second Life in particular while other comments referred more generically to the technology; "*(I would change the) Technology (that) isn't dependable*" and "*(I would change the) Intimidating technology that I didn't know much about.*" An additional suggestion from a student in an intern facilitated simulation indicated that the facilitator "*should be completely comfortable with the technology.*"

Secondly, student responses indicated that the electronic health record (EHR) that was used was challenging (N = 6). This was apparent through short comments with this focus such as, “*(the EHR was...) awkward and difficult to use*” and “*(I would change the...) EHR*”.

Chapter Summary

Both the quantitative and qualitative data from this SCP has been presented in this chapter. The data supports anticipated findings and elicited several unexpected findings. A discussion of these results follows in the next chapter.

Chapter 5

Discussion of Findings

Fundamental to any system change is evaluation of whether the desired outcomes were achieved or not, thus supporting continuation of the practice or providing direction for revisions to support future effectiveness. In this chapter achievement of this SCP objectives are discussed in light of student evaluation data and the experience of the primary investigator. Findings, conclusions, and recommendations that emerged as a result of the implementation as of this SCP will be discussed.

Objectives

Throughout the course of this SCP the following objectives have guided the planning, development, and implementation of each part of the non-acute care simulation:

1. Provide a non-acute care alternative clinical experience that facilitates students' fundamental knowledge of essential components of ongoing chronic illness care.
2. Provide BSN students with exposure to a multidisciplinary care environment in which chronic illness is managed well, minimizing acute exacerbation.
3. Increase student awareness of the challenges of chronic illness self-management in diverse populations, including those at risk for health disparities.
4. Provide students the opportunity to practice skills utilized in providing chronic illness self-management support (SMS).
5. Provide an alternative clinical experience through virtual simulation.

Objectives one, three, four, and five were met through implementation of the non-acute care clinical simulation as has been described in the previous chapters. Objective two was partially

met. While the focus of the simulation is the independent RN role in chronic illness SMS, the RN does not function solely in isolation, rather as a part of a team as per the Chronic Care Model (Wagner et al., 2001; Siminerio et al., 2007). Even though nursing was the only healthcare profession physically present in South Street Clinic, the variety of patients at varying levels of self-management ability provided students the opportunity to identify which health care disciplines with which they might collaborate to enhance patient care and facilitate positive patient clinical outcomes. This included referrals to disciplines that are common in chronic illness self-management such as dietitians, diabetes educators, physical therapists, pharmacists, ophthalmologists, dentists, and psychologists. Thus students were able to focus on collaboration in an effort to minimize or avoid acute exacerbation of chronic illness. To enhance the interdisciplinary collaborative RN practice aspect of the simulation, future addition of interprofessional students of appropriate disciplines, avatars of other health care professionals, or programmed learning that could lead to conversation with involved health care providers, should be considered. Although not implemented in this simulation with this group of undergraduate nursing students, interdisciplinary simulation has been implemented with success in other settings (Dillon, Nobel, & Kaplan, 2009; Hughes, 2013).

Findings and Conclusions

This SCP implementation and evaluation suggest several conclusions that will foster maintenance of curriculum change and revisions for an enhanced clinical learning experience.

Ambulatory care clinical.

Ambulatory care clinical focused on the care of individuals with chronic illness is a valuable learning experience for baccalaureate nursing students. Based on the objective data reported in Chapter 4 the overall student perception of the simulation is positive, with some

aspects of the learning experience perceived more positively than others. Student perception of their ability to assess, determine patient need, and decide on appropriate interventions as a result of participation in the simulation is consistent with evidence presented in Chapter 2 which supports simulation as effective in promoting self-confidence in assessment, decision making, and skill performance (Harder, 2010; McCallum et al., 2011; Lampkin, 2010; Pike & O'Donnell, 2009) as well as virtual simulation as effective in promoting clinical decision making skills (McCallum et al., 2011). In addition to promoting self confidence in assessment, decision making and skill performance, student comments such as, *"I also liked getting a chance to talk to a patient it helped me determine what skills I need to work on"* and *"It was good to practice the communication and interview process for a chronic illness"* also supported simulation as a positive learning environment for practicing communication skills. Considering the emphasis of this SCP on the independent role of the RN in chronic illness SMS, this was a reassuring finding. These results support the value of the clinical learning activity toward preparing RN students in SMS to be competent generalists in the non-acute care setting (Siminerio, et al., 2007).

Virtual simulation environment.

The findings of this SCP support the hypothesis that virtual reality simulation is a suitable alternative learning environment for the ambulatory care clinical experience. Similar to simulation in a lab setting, the virtual environment allows students to relax and interact with the ambulatory care patients without the worry of saying or doing something incorrectly. The communication practice that is afforded in simulation increases student self-awareness of strengths and highlights areas where improvement is needed. This is contrary to an actual clinical setting where students are working with live patients. The literature has demonstrated

that students can feel reluctant to share or provide patient education due to a lack of confidence in their ability to function independently in this nursing role (Pike & O'Donnell, 2009).

An essential RN role in DSMS and SMS in general is to determine and prioritize individual patient needs based on current state of health, as well as assist the patient in planning long term health goals in accordance with the standards of care related to self-management (AADE, 2011, n.d.b.; Siminerio, et al., 2007). After participation in this alternative clinical, students felt able to identify and prioritize individual patient need for SMS as well as identify and initiate appropriate interventions (refer to Table 3, p. 40). Given the variety of interactions with virtual patients in Second Life, students were able to make these decisions based on data ranging from reading a note written by an RN who just completed an encounter with the patient to a real time interaction with a virtual patient. The breadth of possible scenarios is endless and undoubtedly makes this feature one of the strengths of this type of clinical setting.

Despite the positive outcomes utilizing this platform, the technological basis of virtual simulation provided unique challenges to the students. For some students, inconsistent performance of the computers and internet connections led to frustration. In order to foster optimal learning, students must be able access and maintain activity in the virtual environment without technological challenges that can detract from the learning objectives and actively engaging in the simulation scenarios. To minimize these challenges Tiffany and Hoglund (2014) emphasize the importance of scaffolding in virtual reality simulation, an approach that encourages providing orientation to the virtual environment based on students' experience level in that environment. Although in this SCP written instructions about creating an avatar and beginning navigation in Second Life were provided for students, varied levels of ability and follow through with the instructions became evident through the course of the semester. This

might have been avoided through a more formal, face to face orientation to Second Life completed in a supervised setting rather than each student independently completing the orientation instructions. Moreover, facilitators of the simulation must be prepared to respond to student questions regarding the technological aspects of the virtual simulation environment and be aware of resources available for problem solving. While technological frustrations existed, overall students appreciated the self-paced completion of the simulation scenarios. These findings were in alignment with Adult Learning Theory (ALT), one of the frameworks used for this SCP.

Debriefing.

Both quantitative and qualitative data reported in Chapter Four supported the importance of debriefing to the overall student experience in simulation. Debriefing is considered the anchor of simulation as it allows time for discussion of the scenario. During debriefing, creative problem solving and student achievement that occurred during the simulation are highlighted. Additional learning occurs in the debriefing as students form connections between assessment and interventions, and discuss the clinical reasoning process that led to the decisions that students made (Dreifeurst, 2010; McCallum et al., 2011; Waxman, 2010). In this SCP students had opportunity to consider the rationale for individualization of DMS for each individual avatar patient in the debriefing session, thus supporting the process of clinical reasoning. Through this process, the concept of SMS was explored at greater depths assisting students to create patterns of knowledge. Students also indicated that debriefing was a useful time for clarifying the distinctions of chronic illness care in the ambulatory care setting. This is key for providing support for continuation of the simulation as an integral part of the curriculum at Bethel University.

Given the importance of debriefing to a successful and positive learning experience, it is necessary to determine whether the facilitator of the simulation is experienced and competent in teaching and the debriefing process. Anything less may be a reason to consider whether or not a virtual simulation is an appropriate platform for exposing students to the non-acute care setting (Dreifeurst, 2010; Gilbert & Womack, 2012; Weidman, 2013).

The statistical difference in means between the content expert and the novice, both of whom individually debriefed with students following simulation, support the need for a highly competent facilitator (Table 5, p. 42; Table 6, p. 43). The variation in means is likely attributed to the fact that the primary investigator/faculty facilitator has considerable nursing practice experience in the ambulatory care setting with patients with chronic illness, and in particular diabetes, while the intern, an experienced nurse in an acute care setting and a nurse educator student, did not. This is consistent to the findings in the literature which suggests that expert clinicians who become nurse educators require a time of transition in teaching nursing students. As the intern was nearing the completion of her master's program, she would be considered a novice educator (Gilbert & Womack, 2012; Weidman, 2013). Thus it is likely that the focused clinical expertise of the primary investigator combined with experience in nursing education yielded a greater agility in the simulation environment and confidence and competence in addressing the key aspects of the simulation scenarios.

Student current ability.

Although perhaps not specifically informative regarding the effectiveness of the simulation, student self-rating of current ability evaluated in the VAS (refer to Table 7, p. 43) is useful in understanding self-perceived ability of junior year nursing students. Student's self-rated highest in patient care activities in which they had previously participated in acute care

clinical, which emphasizes the impact of prior learning on current perception of ability and learning suggested by ALT (Brussard et al., 2007; Vandever & Norton, 2005). Similarly lesser ability was perceived in nursing functions with which students have had little experience. This data supports the importance of designing the simulation to meet course outcomes and learning needs that are specific to the level of the learners' point in the program of study. Simulation scenarios might include situations not commonly encountered in all clinical settings or sites in order to provide a more comprehensive exposure to the professional role of the RN (Jeffries & Norton, 2005).

The findings of this SCP provide a platform for recommendations that can be applied particularly to the non-acute care simulation as well as more broadly to nursing education. Additionally, recommendations for future research and scholarship emerge.

Recommendations

Specific to the Simulation

There are three primary recommendations for adaptations for future implementation of the ambulatory care simulation related to scenario design, student preparation, and debriefing. Based on student qualitative evaluation the scenarios will be modified to be more interactive with more real time patient contact, such as the scenario with avatar patient Emma Olson. A face to face orientation to the virtual environment will be integrated into the course in which the simulation occurs and a brief review will be added in the schedule for the simulation. This revision is supported by the Virtual Reality Simulation Education Model (Tiffany & Hoglund, 2014). The debriefing portion of the simulation will be refined through integration of the Debriefing for Meaningful Learning (Dreirfeurst, 2012). This approach is described as “a specific and consistent method of debriefing” that educators can use “to take students beyond

critical thinking toward the higher thinking skills of clinical reasoning” (Dreirfeurst, 2012, p. 237). Using a consistent method of debriefing will foster a similar experience for students even though there are different facilitators for the simulation.

Virtual Simulation Evaluation

A limitation of this SCP was the instrument used for student evaluation of the simulation. Although a validated instrument, the Learner HPS Evaluation survey was developed for human patient simulation with nurses in an acute care setting (Brent & Hatler, 2010). At the time of this writing, an evaluation tool for the virtual simulation environment with nursing students, or ambulatory care is not available. The limitations of the HPS tool included arbitrarily lower means in questions pertaining to gathering supplies and handling equipment in Table 3 (p. 40), as well as working with a mannequin and the similarity between the simulation lab and a patient room noted in Table 4 (p. 41). These lower means were not surprising given the non-acute care virtual environment of the simulation. These findings emphasize the need for a validated evaluation tool specific to virtual simulation and adaptable to the specific environment of care.

Transferability

Nursing education.

The impact of this SCP project can be considered in relation to its transferability to BSN programs and more broadly applicable in principle to nursing education. For those BSN programs that desire to expand clinical education to focus in part on meeting the charge from the IOM in the *Future of Nursing* (2011) to address the BSN role in chronic illness care, this SCP simulation as it currently exists has potential to augment current clinical experiences by expanding to include an ambulatory non-acute care focus. For those nursing programs that are currently using virtual simulation this would be easier to implement. Those programs that want

to develop a virtual space for simulation would need to consider the initial financial and time investment, or partner with another school to share an existing virtual clinical environment. Additionally, the simulation could be modified to meet a specific chronic illness population other than an emphasis of diabetes. Application of standards of care and SMS can be integrated into a variety of possible simulation scenarios focused on chronic illness.

Broader applicability of this SCP builds on the understanding that simulation in nursing education has been well established in the literature as an effective clinical experience. This SCP suggests that virtual reality simulation is an acceptable alternative clinical environment for a non-acute ambulatory care clinical experience in baccalaureate nursing education. In order to meet the challenge of preparing nursing students for the changing health care environment and anticipated patient populations, nurse educators should seek to implement creative non-traditional methods of providing meaningful learning experiences (IOM, 2011). This SCP simulation adds to the support of virtual simulation as a versatile learning environment.

Nursing practice development transferability.

In addition to transferability to other nursing education programs this simulation could be implemented in the training of nurses that will be working in ambulatory care with patients with chronic illness. Programmed training focused on the RN role in chronic illness SMS including standards of care, assessment, and interventions that are specific to the ambulatory care setting would be beneficial in the orientation of nurses to a new setting of nursing practice. This would be of particular benefit to those nurses moving to the ambulatory care setting from acute care.

Dissemination

Due to the focus of diabetes in this SCP dissemination of project implementation and preliminary student feedback began with a presentation at the Bethel University Nursing

Research and Practice Symposium in March 2013 and at the 2013 annual meeting and exhibition of the American Association of Diabetes Educators (AADE), a professional association of the primary investigator. Future dissemination of complete findings of the SCP is planned through submission of a journal article for the AADE publication, *The Diabetes Educator* and presentation with local diabetes educators and nurse educators. Additional potential dissemination venues could include nursing education and simulation association publications as acceptance for publication permits. Participation with the local chapters of Sigma Theta Tau International would offer potential platform for dissemination and partnership with other nurse educators.

Foundation for Future Scholarship

Completion of the initial implementation of this SCP is not an end in itself. Rather from this initial implementation comes the opportunity for further research and development. Student evaluation of the simulation was the only data collected for this SCP. Student knowledge was not assessed. Therefore, a near future goal is the development and validation of a pre-test/post-test instrument to test knowledge of the role of the RN in chronic illness SMS. This instrument can then be used to determine the ability of the non-acute care simulation to increase nursing students' knowledge of the specific RN role.

This simulation focused on chronic illness care in the non-acute setting can be developed into a simulation focused on holistic care across the continuum of care. Although nursing theories and nursing literature are replete with the concept of holistic care, that care in nursing education is often not holistic as it applies to environment of care, being restricted to the acute care setting. This simulation offers a platform from which to build an integrated experience of

providing holistic care for the person at various points along the course of living with chronic illness in the environments of care that represent a holistic continuum.

Conclusion

The implementation and evaluation of this SCP suggests that non-acute care clinical experience is a valuable addition to a baccalaureate nursing program curriculum. Students were provided an opportunity to view chronic illness care from a different perspective from that of the acute care setting. The experience broadened the view of chronic illness care, patient self-management of chronic illness, and the role of the RN in support of these patients. At this writing this system change has been maintained as part of the Bethel University second semester junior year clinical experience.

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Appendix A





Appendix B

Patient Name & DOB	Focus	Current Health Concerns	Medications	Vital signs, weight, etc.	Labs	Self-care Summary
Angela Hansen September 6, 1979 Age 33	<ul style="list-style-type: none"> • Type 1 diabetes, and mild anxiety • All labs in target range 	<ul style="list-style-type: none"> • Type 1 diabetes 1989 • Anxiety, mild, intermittent 2011 	Insulin aspart via CSII (continuous subcutaneous insulin infusion = insulin pump)	BP – 118/74 P – 68 Height: 165 cm (5ft. 5 in.) Weight: 59 kg BMI: 21.63	A1C <ul style="list-style-type: none"> • today 6.9 % • 3 months ago 7.1 % Glucose fasting yesterday 98 mg/dL Lipid panel fasting yesterday <ul style="list-style-type: none"> • • • Triglycerides 84 	<ul style="list-style-type: none"> • Glucose monitoring: tests pre-meal and 2 hours post prandial • Taking medicine: manages insulin pump without difficulty • Healthy eating: Counts carbohydrates and calculates insulin dose accordingly with one unit of insulin aspart per 25 grams of carbohydrate. • Being active: Exercises regularly, including aerobic exercise and strength training • Healthy Coping: Recently divorced after 7 years of marriage. • Problem solving: is working well with episodic mild anxiety and its impact on glucose control • Reducing risks <ul style="list-style-type: none"> ○ Last dilated eye exam: is 9 months ago ○ Last dental exam: 3 weeks ago ○ Monofilament foot exam: one year ago ○ Last diabetes education: has regular contact with the diabetes educator

						<p>from the insulin pump company; had an annual visit with the diabetes educator from the clinic 6 months ago.</p> <ul style="list-style-type: none"> ○ Performs foot inspection – twice daily ○ Has hypoglycemia rarely
<p>Antonio Martino</p> <p>June 3, 1952</p> <p>Age 60</p>	<ul style="list-style-type: none"> • Type 2 diabetes, and HTN • anxiety 	<ul style="list-style-type: none"> • Type 2 diabetes 2008 • Hypertension 2008 • Erectile dysfunction 2008 • Anxiety 2008 	<ul style="list-style-type: none"> • Metformin 1000 mg, orally, twice daily with food • Glipizide 5 mg orally daily before breakfast • Lisinopril 20 mg orally once daily • Buspirone 10 mg orally once daily • Tadalafil 10 mg po once daily prn 	<p>BP – 136/88 P – 84</p> <p>Height: 172 cm (5ft. 9 in.) Weight: 95 kg BMI: 32.1</p>	<p>A1C</p> <ul style="list-style-type: none"> • today 9.2 % • 3 months ago 8.5 % <p>Glucose in clinic today fasting 146 mg/dL</p> <p>Lipid panel last week</p> <ul style="list-style-type: none"> • HDL 30 • LDL 110 • Triglycerides 200 	<ul style="list-style-type: none"> • Glucose monitoring: tests up to 8 times a day, and is worried that his readings have been higher in the last month • Taking medicine: Regularly takes all medication as prescribed • Healthy eating: Knows how to count carbohydrates and fat grams; however finds that it makes him nervous sometimes • Being active: Does not like to exercise, but walks his dog daily • Healthy Coping: Married 35 years, wife provides encouragement, but he thinks it is nagging • Problem solving: Is concerned about work since his company is experiencing difficulties. • Reducing risks <ul style="list-style-type: none"> ○ Last dilated eye exam:

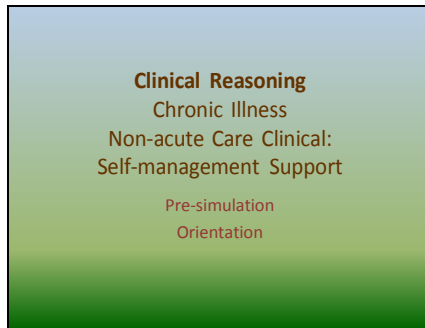
						<p>appointment is scheduled for next month</p> <ul style="list-style-type: none"> ○ Last dental exam: 3 months ago ○ Monofilament foot exam: 6 months ago ○ Last diabetes education: just completed an annual follow-up appointment with the diabetes educator ○ Performs foot inspection – twice daily
<p>Isaac Benjamin September 6, 1977 Age 35</p>	<ul style="list-style-type: none"> • 2 year history of depression following loss of job, and divorce. paroxetine led to weight gain and is newly diagnosed with type 2 DM • Type 2 diabetes and depression; type 2 followed development of depression • Little involvement in self-management of either, 	<ul style="list-style-type: none"> • Depression 2011 • Type 2 DM 3 months ago 	<ul style="list-style-type: none"> • Metformin 1000 mg po bid • Paroxetine 40 mg po daily 	<p>BP 146/90 Weight: 110kg Height: 71inches BMI: 33.7</p>	<ul style="list-style-type: none"> • A1c: <ul style="list-style-type: none"> ○ 3 months ago 9.6% ○ Today 8.7% • Lipid panel: none in record • Urine albumin: none in record 	<ul style="list-style-type: none"> • Glucose monitoring: states that he does not remember how to use it and does not test • Taking medicine: Regularly takes paroxetine; forgets metformin up to 5 doses per week • Healthy eating: Does not count carbs and eats whatever he wants to eat. 3 meals a day, plus snacks • Being active: No regular physical activity • Healthy Coping: attends day treatment for depression twice a week • Problem solving: forgets to take medication, but demonstrates not interest • Reducing risks <ul style="list-style-type: none"> ○ Last dilated eye exam:

	particularly diabetes					<ul style="list-style-type: none"> ○ never ○ Last dental exam: cannot recall ○ Monofilament foot exam: never ○ Last diabetes education: has refused to attend ○ Performs foot inspection: never ○ Smokes ½ pack per day
<p>Emma Olson</p> <p>January 5, 1946</p> <p>Age 67</p>	<ul style="list-style-type: none"> • Complex patient • type 2 diabetes, chronic heart failure, and mild anxiety • Recent exacerbation of CHF • Insulin • Discharged from hospital 1 week ago for acute on chronic heart failure. She presents today for routine diabetes and BP follow-up. 	<ul style="list-style-type: none"> • HTN 1992 • Diastolic heart failure 2006 • Type 2 DM 2000 • Mild anxiety 2010 	<ul style="list-style-type: none"> • Metformin 1000 mg po bid • Insulin glargine 40units daily • Insulin aspart 2 units per carb choice • Lisinopril 20 mg po daily • Losartan 25 mg po bid • Carvedilol 6.25 po bid • Paroxetine HCl 20 mg po daily • Simvastatin 20 mg po daily 	<p>Bp 132/84</p> <p>Weight: 80 kg</p> <p>Height: 67 inches</p> <p>BMI: 28.4</p>	<p>A1c</p> <ul style="list-style-type: none"> • 9 months prior 7.8% • In hospital 8.4% <p>Lipid panel in hospital</p> <ul style="list-style-type: none"> • HDL 38 • ↓ ↓ • Triglycerides 175 <p>Urine-albumin 35</p>	<ul style="list-style-type: none"> • Glucose monitoring: admits to testing fasting in the morning but then forgets during the day. • Taking medicine: Regularly takes insulin as prescribed; had been throwing used pen needles and lancets into the trash • Healthy eating: Is not clear about carbohydrate counting and insulin doses; avoids salty foods • Being active: “How can I exercise, my heart is not working well? It makes me so nervous that I will have a heart attack.” • Healthy Coping: Prayer, friends • Problem solving: • Reducing risks <ul style="list-style-type: none"> ○ Last dilated eye exam: 6 months ago ○ Last dental exam: 3 years ago ○ Monofilament foot exam: 2 years ago

						<ul style="list-style-type: none">○ Last diabetes education at diagnosis with brief insulin instruction in hospital○ Performs foot inspection – rarely, when she remembers○ Prior to hospitalization had missed 2 ongoing care appointments
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Appendix C

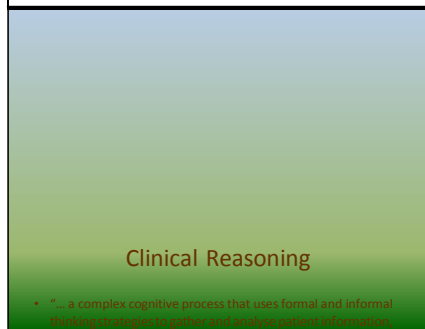
Slide 1



Clinical Reasoning
Chronic Illness
Non-acute Care Clinical:
Self-management Support

Pre-simulation
Orientation

Slide 2



Clinical Reasoning

- "... a complex cognitive process that uses formal and informal reasoning to gather and analyze patient information, evaluate the significance of this information and weigh alternative actions" (Simmons, 2010, p. 1155).

- Other terms often used for similar meaning
 - Decision making
 - Problem solving
 - Clinical judgment
- Goal – optimal patient outcomes

Slide 3



Slide 4

Self-care Key Points

- Daily tasks that promote optimal health
- Individual to the patient
- Specific to the chronic illness
- Includes independent and dependent activities
- Components
 - Reducing risks
 - Managing illness
 - Coping with functional limitations
- Essential to chronic illness self-management

Slide 5

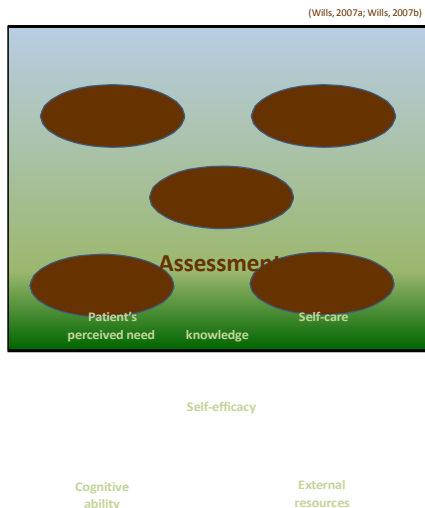
Applicable Nursing Theories

- Drent's Theory of Self-care and Self-care Deficit Theory

- Roy Adaptation Model
- Caring Theory –Watson

- Nursing theories that provide support for nursing care decisions and care delivery include those listed above.
- Clearly many nursing theories are applicable and you might have additional thoughts on an appropriate theory

Slide 6



- As with any nursing care or intervention, before providing self-management support, thorough assessment is important.
- The assessment is different than a physical assessment and is useful in all environments of care.
 - The patient's perceived need is the starting point. The nurse might have a different thought on what is most important to address during a particular clinical encounter, but the patient sets the agenda.
 - Self-care knowledge assessment is necessary before providing any further

information. For example, if the patient has knowledge of the use of a glucose meter, then providing detailed instruction on all of the steps in the process would fall short of meeting the client need.

- Self-efficacy is the patient's self-perceived ability to make a difference in chronic illness. For example, the greater the self-efficacy, the greater the patient's belief that self-care activities will make a difference. Therefore, the patient is more likely to engage in self-care behaviors if he believes he can make a difference through the behaviors.
- Cognitive ability – self-explanatory
- External resources might include family support, insurance, income

Slide 7



Slide 8

Health Promotion with Chronic Illness

- Emphasizes behavior change that
 - Decreases risk of long term complications
 - “striving toward optimal health” (Huckstadt, 2012, p. 429)
- Works toward avoiding acute exacerbation
- Desired outcomes include
 - Improving clinical measures
 - Optimal patient reported quality of life

Slide 9

Self-Management Support

- A primary role for the RN
- Does not include “telling” patients what to do
- Support the patients’ efforts to daily manage
- Provide information as needed/desired – remember that the most important assessment for patient education is the readiness to learn
- Emotional support – might just need to listen
- Problem solving strategies – different for each person
- The health care team must work together

(improvingchroniccare.org)

Slide 10

Environment of Care

- Chronic illness care takes place primarily in the

Slide 11

**Clinical Reasoning in Non-acute
Chronic Illness Self-Management Support**

- Prioritize patient learning needs
- Identify actual and potential barriers to self-management behaviors
- Identify health maintenance priorities
- Guide patient in problem solving strategies
- Facilitate referral to members of the care team
- Individualize plan of care

Slide 12

**Diabetes and its Comorbidities,
Heart Failure, and Mental Health**

- Diabetes
 - Impacts a wide variety of patients
 - Worldwide increased incidence
- Heart Failure
 - More common in the elderly
 - Often accompanied by other chronic conditions
- Mental Health/Illness
 - Prevalent in Chronic illness
 - Impacts self-care

- Diabetes and its comorbidities are commonly seen by most nursing students in the clinical courses to this point.
- Heart failure is another chronic illness that will be seen primarily but not exclusively in the elderly, and it is often accompanied by other chronic illnesses, including diabetes.
- Diabetes is not only a risk factor for the development of heart failure it is a predictor of heart failure (HRSA, 2010).
- Mental illness, or mental health components, are closely associated with chronic illness.
- Therefore, for the purposes of this clinical simulation, the chronic illness of primary focus will be diabetes, perhaps accompanied by comorbidities such as hypertension. Anxiety and depression are more prevalent in patients with diabetes and chronic heart failure (HRSA, 2010).

Slide 13



Slide 14

Diabetes Health Maintenance Standards

Clinical measure	Frequency	Desired result
A1C	every 3 to 6 months (2 to 4 times per year)	< 7%
Urine albumin – random collection (Albumin – creatinine ratio)	yearly	< 30
Fasting Lipids	HDL	> 50 mg/dL
	LDL	< 100 mg/dL
	Triglycerides	< 150 mg/dL
Blood pressure	Every care encounter	< 140/80
Dilated eye exam	Yearly	No retinopathy
Monofilament foot exam	Yearly	Intact sensation
Diabetes Self-management education and support (DSME/S)	Initial comprehensive DSME	
	Ongoing SMS	
Medical Nutrition Therapy (MNT)	Initial and as needed	

(ADA, 2013)

Slide 15

**Chronic Heart Failure
Follow-up Care Standards**

Measurement	Frequency	Desired/result
Body weight	Every care encounter Daily at home	Changes of < 2 lb in a day or 5 lb in a week
Fluid retention	Every care encounter Daily at home	No edema
Blood Pressure	Every care encounter Home monitoring possible	130/80 mmHg
Activity tolerance	Every care encounter Home monitoring	Stable or improving tolerance to activity
Fasting Lipids	HDL	> 50 mg/dL
	LDL	< 100 mg/dL (70 mg/dL)
	Triglycerides	< 150 mg/dL

Increase in A1c increases risk of HF
(Cha et al., 2012).

Slide 16

Diabetes Self-care Behaviors

- 1 Health eating
- 2 Being active
- 3 Monitoring
- 4 Taking medications
- 5 Problem solving
- 6 Reducing risks
- 7 Health coping

Wong, 2011

Slide 17

Chronic Heart Failure Self-care

- Weighing daily
- Checking ankles for swelling
- Low salt diet – 1 Gm. or 2 Gm.
- Physical activity
- Monitor activity tolerance
- Maintain fluid restriction (if applicable)
- Contacting health care professional when changes are noted

Slide 18

Cha et al. 2012

Consider Mental Health Components

- Anxiety related to medical conditions

Slide 19

Self-Management Support

- Assess patient's self-care activities
- Explain self-care behaviors
- Help patient identify barriers to self-care
- Assess safety in medication self-administration
- Reinforce and validate patient performance
- Provide instruction as needed
- Assist in identifying risks for complications
- Monitor clinical measures
- Determine need for referral to interdisciplinary team or services

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Slide 20

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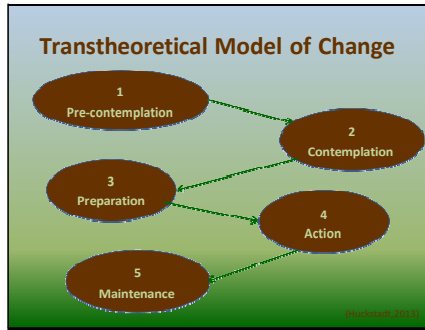
Assistance from
FUNDAMENTAL TOOLS

Slide 21

Motivational Interviewing

- Understand the patient perspective

Slide 22



This model addresses stages at which you might find patients along the road to behavior change toward positive self-management of chronic illness. The Model was developed by Prochaska.

- Pre-contemplation – not considering change at this time
- Contemplation – intending to change within the next 6 months
- Preparation – a little more serious now, moving the beginning of behavior change to within 30 days
- Action – change in process for up to the last six months
- Maintenance – has continued the behavior change for six months (Huckstadt, 2013).

Each patient will be in a different place. Maintenance is the most challenging.

Slide 23



Slide 24

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Slide 25

Appendix D

South Street Clinic RN worksheet for diabetes patients

Patient: _____ VS: _____ Wt. _____ Ht. _____ BMI _____ Recent change in weight? _____ Labs: A1C _____ Serum K ⁺ _____ Urine albumin _____ HDL _____ LDL _____ Trig _____ Other _____ Self-care diabetes: Healthy eating Being active Monitoring Taking medications Problem solving Reducing risks Dilated eye exam date _____ Monofilament foot exam date _____ Daily foot inspection? _____ Smoking? Healthy coping DSME &/or MNT _____ Notes:	Patient: _____ VS: _____ Wt. _____ Ht. _____ BMI _____ Recent change in weight? _____ Labs: A1C _____ Serum K ⁺ _____ Urine albumin _____ HDL _____ LDL _____ Trig _____ Other _____ Self-care diabetes: Healthy eating Being active Monitoring Taking medications Problem solving Reducing risks Dilated eye exam date _____ Monofilament foot exam date _____ Daily foot inspection? _____ Smoking? Healthy coping DSME &/or MNT _____ Notes:
--	--

If patient has chronic heart failure the following self-care/self-management activities should be assessed.

Weighing daily _____ Checking ankles for swelling _____ Low salt diet _____

Physical activity _____ Monitor activity tolerance _____

Maintain fluid restriction (if applicable) _____

Contacting health care professional when changes are noted _____

Appendix E

Title: NURS: DIABETES NURSES NOTE

Dilated eye exam
 Date within one year: [dropdown] [text]
 Due - referral completed: [dropdown] [text]

Dental exam date: [text]

Monofilament foot exam
 Within the last year: [dropdown] [text]

SELF-MANAGEMENT
 =====

Glucose monitoring
 Frequency: [dropdown] [text]
 Timing: [text]
 Ranges: [text]
 Hypoglycemia
 Frequency: [dropdown] [text]
 Treatment: [text]

Nutrition
 Carb counting: [dropdown]

Carb choices per meal
 Breakfast: [dropdown] [text]
 Lunch: [dropdown] [text]
 Evening meal: [dropdown] [text]
 Snacks: [dropdown] [text]

Dietitian referral: [dropdown]

Physical activity
 Frequency: [dropdown] [text]
 Duration: [text]
 Type: [text]

* Indicates a Required Field Preview OK Cancel

Title: NURS: DIABETES NURSES NOTE

HEALTH MAINTENANCE
 =====

A1c
 Date: [text]
 Result: Unknown [text]

Microalbumin urine
 Date within one year: [dropdown] [text]
 Result: Unknown [text]
 Due - lab test requested:
 Urinalysis
 Protein
 BUN
 Creatinine
 Creatinine Clearance
 Microalbumin
 eGFR
 Other: [text]

Lipid panel
 Date within one year: [dropdown] [text]
 Result: Unknown [text]
 Due - lab test requested:
 Lipid panel
 Cholesterol
 Total cholesterol
 HDL Cholesterol
 LDL Cholesterol
 Triglycerides
 VLDL Cholesterol
 Other: [text]

Dilated eye exam
 Date within one year: [dropdown] [text]

* Indicates a Required Field Preview OK Cancel

Title: NURS: DIABETES NURSES NOTE

Verbalizes understanding purpose: [dropdown]

Verbalized understanding of how/when to take medication: [dropdown]

Side effects experienced? [dropdown]
Describe: [text box]

Coping
What is your greatest challenge in managing diabetes?
[text box]

How do you cope with it?
[text box]

Referrals: [dropdown]
Specify: [text box]

Support systems
[text box]

Comments/Other not mentioned above:
[text box]

Self Care Goals:
[text box]

ADDITIONAL INFORMATION
=====

[text box]

* Indicates a Required Field Preview OK Cancel

Title: NURS: DIABETES NURSES NOTE

Physical activity
Frequency: [dropdown]
Duration: [text box]
Type:
 Aerobic Exercise
 Strength Training
 Flexibility Exercises
 Brisk walking/jogging
 Running
 Yard work
 Dancing
 Swimming
 Biking
 Climbing stairs/hills
 Lifting weights
 Yoga/Pilates
 Aerobics

Medications
Verbalizes understanding purpose: [dropdown]
Verbalized understanding of how/when to take medication: [dropdown]
Side effects experienced? [dropdown]
Describe: [text box]

Coping
What is your greatest challenge in managing diabetes?
[text box]

How do you cope with it?
[text box]

* Indicates a Required Field Preview OK Cancel

Appendix F

Ambulatory Care Clinical Debriefing Guide

Scenario	Focus of the scenario	Expectations	Debriefing
Angel Hanson	<ul style="list-style-type: none"> • Exposure to well managed type 1 diabetes • Explore carb counting with insulin pump use • Working with client that is managing anxiety well • Working with client who has all standards of care for screening/maintenance current 	<ul style="list-style-type: none"> • Interact with patient to obtain self-management assessment • Provide Self-management support (SMS) as appropriate – little needed with this patient except for ongoing encouragement to consistently good self-care. • Reducing risks highlights: • Complete Diabetes Nursing Note in EHR 	<ul style="list-style-type: none"> • How did your interaction with Angela go? • Did you get a sense of her overall self-management ability? • What do you consider to be a primary need for self-management support at this time? Rationale? <i>She has her diabetes under control, but might need some assistance in the future with episodic anxiety. Students might decide on something else.</i> • What possible referrals to the interdisciplinary diabetes care team might be? Rationale? <i>None needed at this time.</i> • How is the role of the nurse in SMS different in an encounter with a patient who seems to have a good handle on self-care and self-management? <i>In this case the nurse is involved mostly in supporting the self-management skills in which the person is participating. Encouraging the patient to continue in self-care activities, stressing the need for ongoing follow-up, and reviewing all clinical parameters, offering praise for a job well done.</i>
Antonio Martino	<ul style="list-style-type: none"> • Exposure to improving clinical measures for diabetes • Provide SMS for the client who’s anxiety is impeding self-care ability in 2 ways <ul style="list-style-type: none"> ○ Excessive monitoring ○ Inability to consistently use carb counting due to increase in anxiety that it causes • Dyslipidemia and HTN comorbidities with DM 2 	<ul style="list-style-type: none"> • Identify the impact of the client’s anxiety on self-care. • Complete the embedded notecards based on information in health record and self-management summary notecard. • Reducing risks highlights: <ul style="list-style-type: none"> ○ Needs no referral at this time ○ Labs are all current ○ Might benefit from a referral to the dietitian for MNT • SMS focus – problem solving on ways 	<ul style="list-style-type: none"> • How would you describe his overall self-management ability? <i>He might need to problem solve how to prevent self-care activities from increasing anxiety. He is able to perform self-management skills without assistance.</i> • How does his mental health component (anxiety) impact his self-management and self-care behavior? <i>Rather than a motivator, the anxiety is a deterrent to completing self-care activities. High level of anxiety related to blood glucose checks, not needed to check glucose 8 times a day.</i> • What possible referrals to the interdisciplinary

	<ul style="list-style-type: none"> The impact of family on self-management 	<p>to be more consistent with carb counting.</p>	<p>diabetes care team might be? Rationale? <i>Dietitian, since he needs help with problem solving how to minimize the anxiety surrounding carbohydrate counting. Also, either hid primarily physician, or the dietitian should address strategies to control fat intake – see lipids – HDL, LDL, triglycerides.</i></p> <ul style="list-style-type: none"> How did you respond to Mr. Martino about his anxiety related to carbohydrate counting? <i>Varied responses possible.</i>
<p>Isaac Benjamin</p>	<ul style="list-style-type: none"> Exposure to patient that developed diabetes due to weight gain caused by antidepressant medication. Significant impact of depression on the ability to provide self-care. Exposure to the patient that expresses little interest or ability to perform self-care activities. 	<ul style="list-style-type: none"> Identify the impact of depression on self-management activities. Complete the embedded notecards based on information in health record and self-management summary notecard. SMS focus <ul style="list-style-type: none"> basic support to augment understanding of the components of Diabetes self-management (since patient seems to be thinking that the medication will “fix” the diabetes). Reinforce how to use blood glucose meter. No physical activity. Encouragement is needed for attending diabetes education. Reducing risks highlights: <ul style="list-style-type: none"> Needs referral for eye exam Needs to schedule dental exam Needs monofilament exam today Encourage smoking cessation Labs needed – urine albumin & lipid panel 	<ul style="list-style-type: none"> How would you describe his overall self-management ability? <i>Varied responses; generally poor.</i> How does his mental health component (depression) impact his self-management and self-care behavior. <i>Impedes his self-care and self-management.</i> What do you assess about Mr. Benjamin’s BP and A1C? What lab test that is lacking, and can be impacted by these other readings, might you attempt to obtain today. <i>BP out of range for standards of care, A1c is improving but has some yet to go, lipid panel and urine albumin/microalbumin are missing. Most concerned about microalbumin. An additional lab test might be creatinine.</i> What possible referrals to the interdisciplinary diabetes care team might be? Rationale? <i>Reinforce the need to attend previously ordered diabetes Self-management education; dietitian “I eat whatever I want.”</i>
<p>Emma Olson</p>	<ul style="list-style-type: none"> Senior/elderly patient with 2 chronic illnesses that require daily self-management activities 	<ul style="list-style-type: none"> Interact with patient to obtain self-management assessment SMS focus on insulin self- 	<ul style="list-style-type: none"> What was the primary focus of your conversation with Mrs. Olson? What is your overall assessment of Mrs. Olson’s

	<ul style="list-style-type: none"> • Exposure to complex chronic illness self-management • Patient new to insulin use and requires review 	<p>administration including hypoglycemia and sharps disposal, coordinating self-care activities for both diabetes and heart failure</p> <ul style="list-style-type: none"> • Heart failure specific SMS = purpose of daily weight, monitoring for edema, monitoring for increased intolerance to activity/SOB • Complete Diabetes Nursing Note in EHR • Reducing risks highlights: <ul style="list-style-type: none"> ○ HDL is low ○ LDL is high ○ Urine albumin is high ○ A1C is higher than 9 months ago ○ Referral needed for diabetes education regarding change in medication ○ Needs referral to dietitian to coordinate carb counting and sodium restriction. ○ Possible referral for cardiac rehab ○ Needs dental appointment ○ Might benefit from a referral to public health or home care? 	<p>ability to manage 2 chronic illnesses and her ability to perform self-care behaviors?</p> <ul style="list-style-type: none"> • Are there any lab values that were concerning to you? <i>Lipids, A1c increased compared to 9 months ago, urine albumin.</i> • What possible referrals to the interdisciplinary diabetes care team might be? Priority referral? Rationale? <i>Diabetes educator, dietitian, PHN</i> • What self-care activities require further teaching and ongoing encouragement? <i>Insulin self-administration, including sharps disposal.</i> • How well is she able to complete the self-care activities for both the diabetes and heart failure? <i>She might be able to perform everything for one illness, but the combination of the two chronic illnesses complicates self-care and she has become less able to provide self-care and to self-manage diabetes and chronic heart</i> • What additional self-care activities are necessary for Mrs. Olson? <i>Daily weights, low sodium intake (diet),self-assessment for edema and activity tolerance</i>
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Final debriefing:

- How is providing SMS in the non-acute environment of care different that providing care in the acute-care environment?
 - *In the acute care environment survival skills until follow-up in the non-acute care setting is most common*
 - *In the non-acute care setting the emphasis will then switch to ongoing self-management skills.*
 - *In the non-acute care setting the patient is not as “ill” and will more likely be more receptive to teaching and evidence increased readiness to learn.*
- How is it the same?
 - *Patient centered*

- *Focused on patient empowerment*
- *Assuring that routine standards of care, including screening for long term complications, is occurring.*
- How do you see differently the continuity of care between environments of care following this simulation? –*Responses will vary.*

Appendix G

Learner HPS Evaluation® (NEB/CHW®)

We need your help to make simulation experiences as useful as possible. Please take a few minutes to answer these questions in as honest a manner as you can. Your answers will be kept confidential and you will not be identified in any way.

Please answer each item on the table using the phrase:

“Participation in this simulation has improved my ability to...”

	Not Applicable	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1. Notice important concerns related to the patient's condition.							
2. Seek more information when necessary							
3. Prioritize patient needs							
4. Identify nursing interventions suitable to the situation							
5. Gather appropriate supplies and equipment before beginning care							
6. Make a judgment that I may not have been comfortable making before							
7. Identify skills I can carry out without much anxiety							
8. Know when more information is needed before action can be taken							
9. Identify critical assessments related to the patient's condition.							
10. Identify skills I need to practice more							
11. Respond quickly to patient needs							
12. "Walk through" a situation to solve problems							
13. Think about a patient problem and predict results							
14. Handle equipment without much anxiety							
15. Remain calm during situations that are stressful or that require quick action							

Please tell us your thoughts about the learning environment

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1. The scenario was presented at the most effective pace for my learning.						
2. The mannequin was easy to use.						
3. The simulation lab made me feel as though I was working in a real patient's room.						
4. I felt at ease working in the simulation lab.						
5. The debriefing session helped me put information and experiences together in a way that makes sense.						
6. The debriefing session helped to identify skills that I need to improve.						

Place a single mark along each line to indicate your perceptions of each topic.

How would you gauge your current ability to:

Organize patient information:

not at all confident completely confident

Communicate with physicians:

not at all confident completely confident

Prioritize what you do when a patient has a problem:

not at all confident completely confident

Know when to contact a physician:

not at all confident completely confident

Quickly assess patient's physical needs:

not at all confident completely confident

Place a single mark along each line to indicate your perceptions of each topic.

How would you gauge your current ability to:

Smoothly accomplish activities to address patient's needs:

not at all confident completely confident

Appropriately delegate tasks to assistive personnel:

not at all confident completely confident

Quickly make decisions about patient care:

not at all confident completely confident

Things I liked most about this experience was/were: _____

Something I would change about this experience is: _____

Thank you for taking time to complete this evaluation form. Your answers will help us to make needed changes.

*Appendix H***Non-acute care clinical in baccalaureate nursing education: A focus on chronic illness care
INFORMATION AND CONSENT FORM****Introduction:**

You are invited to participate in a research study that seeks to evaluate integration of an ambulatory care clinical experience via virtual simulation which focuses on providing care for individuals with chronic illness. You were selected as a possible participant in this research because you are a student in Nursing Practicum II and you will be participating in this virtual clinical experience. Please read this form and ask questions before you agree to be in the study.

Background Information:

This study intends to provide junior level nursing students a clinical experience with chronic illness care outside of the acute care setting in a chronicity/adult health clinical course. This clinical simulation will provide a learning environment in which ongoing management and patient self-management of the chronic illness is experienced. The role of the RN in self-management support for the patient in an ambulatory care setting is the focus, as opposed to the RN management of an acute exacerbation of a chronic illness in the acute care setting

Procedures:

If you decide to participate, you will be asked to complete the following:

Learner HPS Evaluation

Completion of this survey will take you approximately 10 to 15 minutes.

Risks and Benefits of being in the study:

Risks: none

There are no direct benefits to you for participating in this research.

Confidentiality:

Information obtained in connection with this research study will be de-identified. All surveys will be kept confidential. Written reports will report group statistics only.

Surveys will be kept in a locked file cabinet at my home. De-identified group data will be shared with my advisor, and site mentor. All surveys will be kept until the completion of the project in December of 2013, after which they will be confidentially destroyed.

Voluntary nature of the study:

Participation in this research study is voluntary. Your decision whether or not to participate will not affect your future relations with Bethel University. If you participate and feel uncomfortable at any point during completion of the surveys you may stop, no questions will be asked and your surveys will be destroyed confidentially.

Contacts and questions:

This research project has been reviewed and approved in accordance with Bethel’s Levels of Review for Research with Humans. If you have any questions about the research and/or research participants’ rights or wish to report a research related injury, please contact the primary investigator at 651-635-2383, or kjt39934@bethel.edu. You may also contact Dr. Jone Tiffany at 651-638-6837, or jone-tiffany@bethel.edu.

In addition you may contact Dr. Emily Nowak with any questions at ewnowak@stkate.edu. Concerns regarding the safety of this study may be directed to Dr. John Fleming, Acting Chair of the College of St. Catherine Institutional Review Board, at 651-690-6951.

Statement of Consent:

You are making a decision whether or not to participate in this study: *Non-acute care clinical in baccalaureate nursing education: A focus on chronic illness care*. Your signature indicates that you have read this information and your questions have been answered.

I consent to participate in the study.

Signature of Participant

Date

Signature of Researcher

Date