Integrating Primary Care in Baccalaureate Nursing

Integrating Primary Care in Baccalaureate Nursing

Tara Burnham

Department of Nursing, University of Vermont

Abstract

Background: Registered Nurses (RNs) with expertise in primary care are essential to improve health outcomes and quality of care in areas such as chronic disease management, transitional care management, and preventive care. However, primary care didactic and experiential learning are lacking in many baccalaureate nursing programs.

Purpose: To enhance primary care integration into an undergraduate adult health nursing course, assess current primary care content in one baccalaureate program, and identify courses/key concepts needed for future primary care enhanced curriculum.

Methods: Primary care activities consisting of didactic and experiential learning were integrated into an adult health nursing course. Student self-efficacy was assessed, and students, faculty, and preceptors evaluated the integration. The curriculum was also evaluated by program faculty for comfort, feasibility, and presence of 32 primary care activities.

Results: Student (n=102) self-efficacy increased in the following primary care domains: transitions of care management (p=.023), care coordination (p=.002), triage (p <.001), and telehealth (p <.001). Clinical students (n=12) and preceptors (n=5) reported overall positive experiences with support for ongoing primary care curriculum. Clinical faculty focus group (n=4) and co-faculty (n=2) debriefing revealed themes of strengths, concerns, and suggestions for improvement. Activities most lacking within the curriculum were those unique to primary care, and activities most prevalent bridged to other facets of the program.

Conclusions: Primary care activities can be successfully integrated into existing courses and should include experiential learning. Implementation of the new Essentials provides an ideal time for further program integration of lacking primary care content.

Keywords: nursing curriculum, primary care, clinical, curriculum assessment, baccalaureate nursing

Problem Description

Primary care is described by the Institute of Medicine (IOM) as the "provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community" (Institute of Medicine, 1996, p. 1). The delivery of primary healthcare is associated with reduced healthcare costs, decreased mortality, increased health equity, and improved healthcare outcomes (Shi, 2012). The enactment of the Patient Protection and Affordable Care Act (2010) has promulgated the formation of novel care delivery models that focus on high quality, cost effective health care, thereby transferring the care focus from a disease-focused to a disease prevention and wellness promotion model of health (Salmond & Echevarria, 2017). This care model rewards healthcare providers and healthcare systems for meeting disease care and prevention benchmarks (Salmond & Echevarria, 2017), highlighting the need for a shift in healthcare from inpatient or tertiary care to preventative or primary care.

The American Academy of Ambulatory Care Nursing (2017) emphasizes that Registered Nurses (RNs) should practice to the full extent of their license and training, as they are well-qualified to improve healthcare quality, reduce costs, and improve access to care. Transforming demographics, including a more diverse and aging population, and the escalation of chronic disease (Salmond & Echevarria, 2017) requires a nursing workforce that is skilled in the provision of high quality primary healthcare. While new graduate nurse residency programs that aid in the transition to professional practice are well established in hospital settings, there is little evidence of similar programs in ambulatory care (Walton et al., 2021), leaving primary care settings dependent on nursing educational programs to adequately prepare prospective nurses to

practice to the full scope of their license within this domain. Despite the need for primary care content in nursing education, the integration of this material into baccalaureate nursing programs is lacking (Wojnar & Whelan, 2017).

Available Knowledge

Registered Nurses (RNs) are well qualified to provide equitable and high-quality care in primary care related to their expertise in disease prevention, health promotion, social determinants of health, and management of chronic disease. Changing patient demographics and escalating chronic disease (Salmond & Echevarria, 2017) has shifted the burden of care to the primary care setting, which further emphasizes the need for high quality primary health care clinicians. The increasing number of older adults with chronic disease (Salmond & Echevarria, 2017) necessitates a highly skilled primary care nursing workforce that is prepared to care for complex healthcare needs.

Primary care RNs engage in several important activities in the provision of quality care within the outpatient setting, including acute and chronic illness management, health promotion counseling, patient education, case management, transitions of care management, and complex medication management (Flinter et al., 2017; Smolowitz et al., 2015), as well as quality improvement, telephone triage, and leadership activities (Smolowitz et al., 2015). In a national survey of primary care providers and geriatricians, Buerhaus et al. (2021) found that chronic disease patient education and medication adherence assessment were among the most commonly utilized RN skills used in the primary care setting. They also noted that RNs performed patient assessments, care coordination during transitions of care, and chronic disease management, responsibilities that have the potential to affect clinical outcomes, quality, and cost of care. Yet, little of this knowledge is provided in RN preparatory educational programs.

Registered Nurses' Impact on Outpatient Care

Improvements in patients' clinical outcomes, disease knowledge, adherence to treatment, and quality of life with the use of RN-led care interventions in the outpatient setting have been demonstrated in the management of chronic diseases such as hypertension, diabetes, and even gout, a manifestation of metabolic dysfunction. Kolcu & Ergun (2020) found that a nurse-led hypertension management program in two Turkish nursing homes involving health education, assessment of medication adherence, physical activity, and motivational meetings resulted in significant reductions in systolic and diastolic blood pressure, as well as improved medication adherence and quality of life as compared with the control group who received the routine nursing home care. Given the role of hypertension in other comorbidities, such as heart disease and stroke, the role of nurse-led interventions such as this can provide far-reaching effects.

Negarandeh et al. (2013) examined the effect of two nurse-led educational programs on diabetes knowledge and treatment adherence in patients with low health literacy in Iran. They found that two nurse-led educational approaches for patients with diabetes led to significantly higher diabetes knowledge scores, and improved medication and diet adherence than the usual care group. This is significant because comprehensive knowledge of one's disease condition is positively associated with improved health outcomes, and the medication and lifestyle modification adherence necessary to successfully manage one's disease (Paczkowska et al., 2021). In addition to having an impact on disease knowledge and treatment adherence, the findings from this study (Negarandeh et al., 2013) also indicate that nurse-led care positively influences the health of underprivileged patients.

Gaudel et al. (2021) further demonstrated the effect that nurse-led interventions can have on underserved populations in a randomized controlled trial conducted in Nepal. They

investigated the effect of a nurse-led group and individual counseling program on lifestyle changes in patients with coronary artery disease who were being discharged from the hospital. The investigators found a significant improvement in diet, perceived stress, smoking, alcohol use, and medication compliance in the experimental group as compared with the usual care group, who received the routine lifestyle modification and hospital education. These findings illustrate the influence that nurses can have on chronic disease management, particularly in disadvantaged populations.

Nurse-led care can also positively influence other chronic conditions, such as gout. Doherty et al. (2018) reported improved outcomes with the implementation of one-on-one nurse-led care for patients with gout in UK primary care settings. Specially trained nurses provided individualized patient assessment and education and encouraged shared decision-making. They found that the intervention group achieved significantly lower serum urate levels, less gout flares, and improved quality of life compared with the usual care group, who received the usual general practitioner provided care. Taken together, it appears that the effect of nurse-led care in the outpatient setting improved outcomes with regard to disease knowledge, treatment adherence, quality of life, lifestyle modification, and clinical measures.

Nurse-led interventions have shown a positive effect in improving healthcare costs. Liljeroos & Strömberg (2019) found that the implementation of nurse-led heart failure clinics in primary care was associated with a significant reduction in emergency room visits, heart failure related hospital admissions, and heart failure related hospital days, suggesting a reduction in healthcare related costs. In a Turkish study of nurse-led home interventions in patients with stomas, Cengiz et al. (2020) found that the experimental group was less costly, and sought complication related hospital care less often as compared with the control group. Doherty et al.

(2018) also discovered that nurse-led care for patients with gout was more cost-effective as compared with the usual care group, who received general practitioner-led care. These findings indicate that nurse-led care can lead to significant healthcare cost reduction.

Transitions between care settings are prone to error and are associated with adverse medication events (Corbett et al., 2010; Forster et al., 2003), re-hospitalization, increased healthcare cost (Hines et al., 2014), and increased morbidity (Forster et al., 2003). The presence of a complex healthcare system, coupled with patients' lack of understanding of its intricacies, accentuates the need for nurses who can perform care coordination and transitional care management to improve healthcare delivery (National Academies of Sciences, Engineering, and Medicine, 2021). Lin et al. (2022) examined the effect of a nurse-led health-coaching program on self-efficacy, quality of life, and disease-related knowledge in stroke patients, as well as caregiver burden after transition to home from the hospital. The intervention consisted of individual health coaching prior to discharge, followed by a 12-week follow-up program. They found a significantly greater increase in self-efficacy, quality of life, and stroke-related knowledge, as well as less hospital readmissions in those who received the intervention as compared with those who received the usual care. Furthermore, caregivers reported a more substantial reduction in caregiver burden in the intervention group than caregivers in the usual care group did. Altogether, the improvements from this nurse-led program suggest a potential impact on patients' health, as well as reduction in hospitalization-related cost.

Nursing's contribution to the delivery of health promotion and preventative care is widely recognized (Institute of Medicine, 2011). Farford et al. (2021) conducted a retrospective chart review of 630 patients to examine the effect of RN-led Medicare Annual Wellness Visits (AWVs) on acquisition of preventive health services. The control group consisted of patients

who qualified for an Annual Wellness Visit, but alternatively received a routine 30-minute history and physical from their primary care physician. They found that those who participated in nurse-led AWVs received preventive healthcare, including colonoscopies, bone density scans, mammograms, flu vaccines, pneumovax vaccines, depression screening, and hepatitis C screening to a greater extent (*OR*=1.64-4.15) than those who received physician-only directed preventive care.

Integration of Primary Care Content into Nursing Programs

The escalating shift in healthcare services to the primary care setting requires that RNs be fully prepared to practice to the full scope of their license, necessitating enhanced curriculum in nursing programs that adequately prepare novice nurses for practice in primary care settings rather than solely hospital-based acute care. Nursing practice in the primary care setting requires independent decision making skills and experience with a wide variety of conditions (California Healthcare Foundation, 2015). Wojnar & Whelan (2017) found that while many baccalaureate and master's entry to practice programs incorporated some aspects of primary care content, more needs to be integrated. Many respondents from baccalaureate and master's entry to practice programs (n=232, 76.8%) conveyed some incorporation of this material into their programs, but suggested there was limited integration. Only 6.6% of nursing programs (n=20) reported that they have integrated or are in process of integrating primary care throughout their pre-licensure baccalaureate or master's entry program for both didactic and clinical courses (Wojnar & Whelan, 2017). Few studies are available detailing the level of primary care content within nursing programs, however, Dolansky et al. (2022) reported that content most lacking included telehealth, clinic flow, triage, motivational interviewing, and mental health content, all key aspects in the provision of high quality primary care.

Wojnar and Whelan (2017) describe educational models from two baccalaureate nursing programs that implemented primary care into their curriculum. Seattle University College of Nursing fostered relationships with academic-practice partners in the development of outpatient clinical experiences in underserved communities, which allowed all students to have community-based experiences prior to graduation. They concluded that clinical experiences provided students with opportunities to engage in chronic disease management, care coordination, as well as nurse-led perinatal care, all key activities in the provision of effective primary care. Furthermore, they made a concerted effort to place students interested in ambulatory care into those settings for their senior practicum clinical, facilitating transition to practice in community-based organizations (Wojnar & Whelan, 2017).

In a second exemplar by Wojnar and Whelan (2017), Jefferson College of Nursing at Thomas Jefferson University emphasized health promotion as the infrastructure of their curriculum, which focused on skills necessary for the provision of primary care. In doing so, the need for cultivating academic-practice partnerships was also considered a vital component to delivering quality clinical experiences for nursing students. The curriculum aligned didactic and clinical learning to focus on community-based care, providing students with "knowledge and skills in care coordination, chronic disease prevention, population health, and team-based interprofessional care" (Wojnar &Whelan, 2017, p. 231), skills integral for high quality primary healthcare.

In an effort to expand the volume of new graduate RNs in the outpatient nursing workforce, the Health Resources Services Administration (HRSA) granted funding to nine baccalaureate nursing programs for the purpose of designing community-based curricular models that included both didactic and practical experiences (Morton et al., 2019). Evidence-based

guidelines from organizations such as the American Association of Colleges of Nursing (AACN), the Quad Council, and the American Academy of Ambulatory Care Nursing, were utilized in the curricular development, as these organizations provide best practice guidance for academic, public/community health, and ambulatory care nursing. The awardees assessed for the presence of essential community-based, population, and public health content in their respective didactic curricula and implemented diverse approaches to incorporate these concepts. Experiential community-based learning took place in a range of settings, including primary care, varied in clinical hours, and offered students opportunities to learn in interprofessional teams, provide community-based, patient-centered care, conduct community assessments, and develop skills more predominantly used in community settings. The authors noted that fostering academic-community relationships, and providing preceptor and faculty training were essential to building successful clinical experiences. They recommended that community and primary care competencies be woven throughout baccalaureate nursing curricula, particularly in clinical settings (Morton et al., 2019).

Rationale

The shift in healthcare from a disease-centered to a disease prevention and wellness promotion, value-based model in order to provide high quality, cost-effective health care (Salmond & Echevarria, 2017) requires a proficient, well prepared nursing workforce in primary care. RNs have made a significant impact on patient's medication adherence (Gaudel et al., 2021, Kolcu & Ergun, 2020; Negarandeh et al., 2013), clinical outcomes (Doherty et al., 2018; Kolcu & Ergun, 2020), quality of life (Doherty et al., 2018; Kolcu & Ergun, 2020; Lin et al., 2021), and many other aspects of patient care within the ambulatory care setting. The presence of skilled primary care nurse clinicians is dependent upon nursing programs providing curriculum

that prepares nurses for practice in this setting. While there is inclusion of elements of primary and ambulatory care content and clinical experiences, it is inconsistent and lacking amongst preparatory programs. As such, the focus of this project was to assess and strengthen the curriculum in primary care in both didactic and clinical areas at a university in the Northeast. Consistent with most baccalaureate programs, the current curriculum has a prominent focus on hospital-based disease management, rather than primary care-based health promotion and disease prevention. Integration of primary care content into the baccalaureate nursing program in both didactic and clinical settings will enhance new RN preparation to practice to the full scope of their license in primary care areas.

The overarching goal of this project was to develop and implement an enhanced primary care nursing curriculum into a senior level baccalaureate nursing course and evaluate the full program for the presence of such content. The long-term goal is to improve competency in primary care nursing practice for newly graduated RNs during their transition into practice. To that end, the specific aims of this project were as follows:

1. Enhance the integration of primary care content into a senior level adult health nursing course in the Fall 2022 semester by developing and including didactic content and clinical experiences.
2. Assess the current level of primary care content in the baccalaureate nursing curriculum at a University in the Northeast to inform future curriculum revision.

Conceptual Framework

Patricia Benner's (2001) novice to expert nursing theory serves as the guiding framework for this project. Benner’s theory is predicated on the notion that nurses navigate through various stages as their skills and knowledge mature, including “novice, advanced beginner, competent,

proficient, and expert" (Benner, 2001, p. 13). These phases are representative of the growth that occurs as the nurse gains experience, becomes more proficient, and is able to utilize previous experiences, examine the big picture, and become embedded into patient care.

Benner (2001) postulates that because a novice nurse lacks experience, their thinking tends to be rigid and reliant on concrete data that they have learned, while an advanced beginner nurse is further able to apply previous experience to evaluate a clinical situation, yet they are not able to prioritize needs. Nurses within the competent stage prioritize care using "conscious, deliberate planning" (Benner, 2001, p. 27), but do not have the skill to evaluate the "big picture", as the proficient nurse does. Not all nurses become experts, which requires immense experience and ability to understand a situation using intuition. For the development of this project, careful consideration of the students' stages of practice served as the infrastructure for addressing project aims as they advance toward nursing practice competency.

Methods

Context

The setting for this project was the Department of Nursing at a public university in the Northeast United States. The baccalaureate nursing program enrolls approximately 100-130 students per year and follows a traditional curriculum, offering nursing courses focused on adult health, pediatrics, psychiatric-mental health, women and newborns, and public health nursing in addition to general education and theoretical aspects of nursing. Formal clinical experiences in the healthcare setting begin during the fall of junior year and occur primarily within the inpatient setting. While students are afforded the opportunity to infrequently experience outpatient clinical settings, consistent primary care clinical experiences are lacking.

Interventions

Within the project, there were two distinct interventions. First, substantive primary care curriculum was integrated into an adult health nursing course (i.e., micro-level), offered during the first semester of the senior year in a baccalaureate nursing program. The curriculum spans both the didactic and clinical arenas, which required faculty and student participation, as well as additional clinical sites and preceptors. The second intervention was assessment of the current baccalaureate curriculum (i.e., macro-level) to determine the level of primary care content within the undergraduate program, determine faculty comfort level in providing such content, and resources necessary for further curriculum revision. Recommendations for future enhancement of primary care into the baccalaureate program were outlined.

Study of the Intervention

Senior Adult Health Nursing Course Primary Care Enhancement (Micro-level)

The integration of primary care content and skills into the baccalaureate-nursing program required a significant amount of planning. While the baccalaureate program follows a traditional model, McHugh (2022) maintains that community-based concepts can be woven within the courses throughout the curriculum and it has been for several Health Resources Services Administration (HRSA) funded nursing schools (Morton et al., 2019). As such, primary care concepts and activities developed by Dolansky et al. (2022) were utilized as a framework for course integration and served as a guide for developing course activities and assignments specific to enhancing primary care knowledge and skills. Support from course faculty and the Baccalaureate Education Committee was sought and granted prior to project implementation. Primary care activities/ knowledge areas were framed based upon recommendations by several nationally recognized ambulatory care competencies detailed by Dolansky et al. (2022).

Curriculum development followed a backward design approach for several assessments/activities, whereby learning outcomes were first established, followed by the development of appropriate assessment methods to evaluate achievement of outcomes, and finally the construction of teaching strategies and learning activities (Emory, 2014). This approach of curriculum design has been demonstrated to improve student success, particularly in minority groups (Long et al., 2020).

Didactic Course Development and Enhancement. Primary care concepts including health promotion, acute and chronic disease management, and discharge planning/transitions of care management were emphasized during lecture, in-class active learning activities, and assignments. Examples of in-class activities included a case study addressing weight bias, obesity lifestyle management, and health inequities, as well as team-based discussions of chronic disease management. Instruction on transitions of care management was conducted using an unfolding case study for a client with cirrhosis. Students also completed the "Basics of Telehealth Nursing" online module (Center for Health Sciences Interprofessional Education, Research, and Practice, n.d.), which served as an introduction to telehealth and triage and prepared students for in-class triage activities (Appendix A). This module also served to prepare the subset of students who were attending clinical experiences with triage nurses.

Two team-based projects used a backward design approach and focused on the care of clients with obesity and clients with cancer to facilitate student understanding of nursing care for patients in outpatient settings. The project scenario of an individual with obesity undergoing bariatric surgery required students to construct client education regarding surgery, post-operative pain and nausea management, potential surgical complications (including when to call a healthcare provider), and appropriate diet progression, and provide resources for psychosocial

support. The project scenario of an individual with cancer required students to provide cancer treatment education, including symptom self-management, the identification of and plan for the individual with health disparities, and psychosocial effects experienced by the client.

All clinical students enrolled in the course completed a care coordination assignment, which served to develop students' skill sets to ensure a client's successful transition to the next care setting (Appendix B). Prior to completing this assignment, students listened to a podcast (Harris, 2019) about care coordination and debriefed this with clinical faculty and clinical group peers. A debriefing outline was provided to clinical faculty for use in guiding the post-conference discussion. Students then assessed client discharge needs, identified barriers to a successful transition home, developed a discharge plan of care, and proposed areas requiring follow up in the primary care setting, which was presented to their peers during post-conference.

Experiential Curriculum Development. Successful integration of primary care content within a nursing curriculum requires the incorporation of experiential learning (Morton et al., 2019; Wojnar & Whelan, 2017). Five adult primary care clinical sites, as well as RN preceptors were secured. The intentional cultivation of academic-practice partnerships that considered the needs of the clinical agencies (Morton et al., 2019) was essential for the success of the project. The project manager met with the triage sites' nursing director, triage nurse preceptors, and the nurse conducting Medicare Annual Wellness Visits to discuss the logistics and share mutual expectations. Students from two clinical groups spent one day each during their adult health clinical rotation working with a triage nurse or a nurse conducting Medicare Annual Wellness Visits. Students and preceptors received the learning objectives and the student post-clinical assignment in advance (Appendix C). Students received the following preparatory work to complete prior to their primary care clinical day:

- Booklet describing Medicare Annual Wellness Visits (Medicare Learning Network, 2018) for students conducting Medicare Annual Wellness Visits.
- Review triage protocols from triage protocol book (Briggs, 2016) and two agency-specific triage protocols for students working with a triage RN.

Simulation is another type of experiential learning that can enhance student learning. The use of simulation in undergraduate nursing education has been associated with improved knowledge, skill demonstration, and student self-efficacy (Tamaki et al., 2019), as well as enhanced clinical judgment (Ayed et al., 2022). The simulation used for this course was an unfolding stroke scenario that fostered critical thinking and clinical reasoning in the emergency department and inpatient hospital settings. The simulation script was modified to further encourage students to consider care management needs and how to facilitate a successful client transition to the next care setting, both key primary care competencies.

Primary Care Integration into Senior Adult Health Nursing. Integration of primary care content into the adult health nursing course required faculty buy-in, which was sought and received from the course co-faculty, the Baccalaureate Education Committee, and the Undergraduate Program Director. The project manager and co-faculty debriefed about the strengths and barriers to primary care content integration into the adult health nursing course at the end of the semester. Adult health clinical faculty were presented with an overview of the project and educated on the care coordination assignment completed by all students during clinical. The Clinical Faculty Focus Group was conducted at the end of the semester. Finally, meetings were held with the RN preceptors/clinic contacts as well as the triage sites' nursing director to endorse support for and plan the primary care clinical experiences.

All enrolled students in the adult health nursing course received the didactic primary care curriculum and simulation, and two clinical groups (13 students in total) were selected to spend one clinical day with an RN in a primary care setting. The Student Self-Efficacy Survey was administered to all students at the beginning and end of semester. The end of semester survey also queried about strengths and areas for improvement using free response items. The Student Clinical Evaluation was administered to students who attended primary care clinical at the end of each seven-week clinical rotation. The Preceptor Evaluation was administered to RN preceptors at the end of the semester. Appendix D outlines the process of primary care integration into the course.

Assessment of Primary Care Content in Baccalaureate Curriculum (Macro-level)

Faculty were asked to complete the Curriculum Assessment for each undergraduate course they were instructing to determine primary care gaps and opportunities for improvement, faculty comfort in delivering such content, and resources needed for further inclusion in program courses. After analyzing the percentage of inclusion for each of the 32 primary care content areas, courses that lent themselves to further assimilation were identified for those areas with less than 50% inclusion. The results will be presented to the Baccalaureate Education Committee and faculty for consideration in future course and curriculum revision. Appendix D outlines the program primary care assessment process.

Measures

Student Self-Efficacy Survey

Student self-efficacy, which can influence academic performance (Bandura, 1997), was assessed using an instrument designed to assess students' confidence level in performing nine essential primary care activities, using a five-point Likert scale with one being "not at all

confident" and five being "very confident". The nine activities included patient and family education and engagement, assessment of health inequity issues, nutrition and lifestyle management, chronic disease management, self-management of health conditions, provider communication to ensure safe transitions of care, care coordination and long-term care plan development, triage, and use of telehealth. These primary care activities were derived from the Faculty Primary Care Assessment Tool (Dolansky et al., 2022). The Student Self-Efficacy Survey was validated by four academic nursing faculty, yielding a CVI of 0.986. This survey was administered using Qualtrics.

Student Clinical Evaluation

This survey assessed student perceived effectiveness of the primary care clinical experiences using five-point Likert style items with one being "strongly disagree" and five being "strongly agree". Strengths and areas for improvement were assessed using free response items. This survey was administered using Qualtrics.

Preceptor Evaluation

This survey assessed RN preceptor perceived effectiveness of the primary care clinical experiences using five-point Likert style items with one being "strongly disagree" and five being "strongly agree". Areas for improvement were assessed using free response items. This survey was administered using Qualtrics.

Clinical Faculty Focus Group

Faculty feedback on the care coordination clinical assignment was assessed during a focus group session conducted virtually at the end of the semester. Faculty were queried on the assignment's strengths, areas for improvement, and student feedback received.

Curriculum Assessment

Adapted from the Faculty Primary Care Assessment Tool created by Dolansky et al. (2022), which was formulated in alignment with several nationally recognized ambulatory care competencies and quantified the amount of primary care content within a baccalaureate curriculum. The validity of this tool was established by four ambulatory care content experts, yielding a content validity index (CVI) of 1.0. The tool uses a five-point Likert scale with one being "not discussed" and five being "entire intent of course". There were additional five-point Likert style items pertaining to faculty comfort level in delivering primary care content, with one being "extremely uncomfortable" and five being "extremely comfortable", as well as their perceived importance of integrating said content into the curriculum, with one being "not at all important" and five being "extremely important". Free response items queried about questions/concerns and suggestions for further integration. This survey was administered using Qualtrics.

Analysis

Senior Adult Health Course Primary Care Enhancement (Micro-level)

Mean scores for each item on the Student Self-Efficacy Survey were computed pre- and post-intervention, and an independent samples t-test was performed comparing the two scores for each item. Data from questions pertaining to level of agreement that the clinical objectives were met on the Student Clinical Evaluation and the Preceptor Evaluation were recoded to binary data; scores of four and five were collapsed and recoded to one, indicating "agree", and scores of one to three were recoded to zero, indicating "do not agree". Frequencies were then computed for each item on the Student Clinical Evaluation and Preceptor Evaluation. Themes were derived from the Clinical Faculty Focus Group data, Course Co-Faculty Debriefing data, and all free

response items. Significance was set at p=.05, two tailed. IBM SPSS Statistics (Version 28) was used for all computations.

Assessment of Primary Care Integration into Baccalaureate Curriculum (Macro-level)

Data from the Curriculum Assessment were recoded to binary data; scores of three to five were collapsed and recoded to one, indicating high level of integration, and scores of one and two were collapsed and recoded to zero, indicating low level of integration. Frequencies were then calculated for each primary care content area across the program, and further grouped by year of the program. Frequencies were calculated for faculty comfort in delivering primary care content and perceived importance of integrating primary care. Themes were derived from the free response items.

Ethical Considerations

This project did not meet the regulatory definition of research and was deemed not research. To ensure there was no undue influence on students, the project manager did not participate in the administration or collection of any student evaluations. Student participation in the completion of evaluations was voluntary and anonymous, and course evaluation data from students was viewed and analyzed upon completion of the semester, after all graded components of the curriculum were submitted and graded (Dinç, 2015). There were no student identifiers on any student submission related to the project. Students' grades were not affected by their participation or non-participation in evaluative surveys. Participation by RN preceptors was also voluntary and anonymous. Faculty participation was voluntary, but not anonymous due to the nature of the curriculum survey, which indicated specific courses, and thus identified faculty indirectly. Likewise, faculty participation in the focus group and faculty debriefing was voluntary, but not anonymous due to the inherit nature of project activities.

Results

Didactic Content

One hundred ten students were eligible to complete the Student Self-Efficacy Survey pre-project implementation and 109 students were eligible post-project implementation. Prior to project implementation, 103 students attempted the survey (one did not finish). Post-project implementation, 88 students attempted the survey (two did not finish). See Table 1 for pre- and post-implementation mean student self-efficacy scores with nine primary care activities. There was a statistically significant increase in mean self-efficacy scores from pre- to post- project implementation in transition care management (p =.023), care coordination/long-term care planning (p =.002), triage (p <.001), and telehealth (p <.001).

Of the 51 students who provided open item responses identifying primary care activities that were most helpful in enhancing primary care skills, 31.3% (n=16) reported in-class activities, 25.4% (n=13) reported hands-on experience, 15.6% (n=8) reported group projects, 11.7% (n=6) reported triage activities, and 9.8% (n=5) reported the care coordination assignment. Student commentary may be found in Table 2. Of the 37 students who responded when asked for suggestions in improving their primary care skills, 64.8% (n=24) indicated hands-on experience, 24.3% (n=9) indicated in-class activities and 5.4% (n=2) indicated that integration should occur earlier in the program. Student commentary may be found in Table 3.

The Course Co-Faculty Debriefing (n=2) revealed the three themes of strengths, concerns, and suggestions for future integration. Strengths included faculty agreement on the necessity to include primary care/outpatient care content in the course, and that the in-class activities and group projects facilitated student learning in several primary care activities. Concerns included the amount and density of existing course material, the time-consuming

nature of in-class activities, large cohort size, and competing interests, such as the implementation of a new student-learning platform and the need to prepare students for the Next Generation NCLEX-RN examination. Suggestions for future integration included the expansion of group projects and developing pre-class work to better prepare students for in-class activities.

Clinical Content

Thirteen students were eligible to participate in primary care clinical experiences, however only 12 attended. There were 14 attempts at the Student Clinical Evaluation, two of which were not completed. Six respondents spent one day with a triage RN and six spent one day with an RN conducting Medicare Annual Wellness Visits. Table 4 outlines the student (n=12) and preceptor (n=5) agreement with whether the clinical objectives were met. Eight-four percent (n=10) of students believed that they were somewhat or very prepared for their clinical day (Figure 1). Free response data revealed one theme that the preparatory work was beneficial for them in preparing for the clinical day (Table 5).

There were seven attempts at the Preceptor Evaluation, five of which were completed. Four respondents were RN preceptors who worked with students in a triage setting, and one who worked with students conducting Medicare Annual Wellness Visits. Eighty percent (n=4) reported that they believed that students were very or somewhat prepared for the clinical day (Figure 2). Free response items revealed two themes, a positive experience precepting, and suggestions for improvement (Table 5).

Four faculty attended the Clinical Faculty Focus Group. Three themes derived from this data were assignment strengths, assignment challenges, and suggestions for assignment improvement. Table 6 provides supporting quotes for each of these themes.

Program Primary Care Integration

Eighteen respondents started the Curriculum Assessment with two being discarded for less than 10% completion, yielding a final n=16. There was a total of 22 responses reflecting one elective and all 18 required undergraduate nursing courses. Three courses had responses from two separate faculty members and some variation in responses was noted between course faculty. These responses were treated as unique observations.

As shown in Table 7, the inclusion of primary care activities varied throughout the program. Activities that fell in the lowest tertile were those most unique to primary care nursing. Those in the highest tertile were activities that bridged to all facets of the undergraduate program. The inclusion of primary care activities also varied by program year, as displayed in Table 8 (second year), Table 9 (third year), and Table 10 (fourth year). Overall inclusion of primary care activities increased incrementally by year, with 26% inclusion during the second year, 37% during the third year, and 63% during the fourth year of the program.

Figure 3 illustrates the level of comfort respondents (n=22) felt in including the primary care content into their respective courses. Of the faculty who responded (n=15), four believed that it was moderately important to include primary care into the baccalaureate program, six believed it was very important, and five believed it was extremely important. Four themes emerged from the free response data (n=14): concerns, integration suggestions, resources needed, and content recommendations (Table 11).

Discussion

Senior Adult Health Course Integration

The results of this project indicate that primary care content can be successfully integrated into the existing curriculum. The significant increase in student self-efficacy for

performing primary care activities related to transition care management, care coordination/long-term care planning, triage, and telehealth indicate that the assignments and active learning activities facilitated student learning in these areas. Care coordination and transition care management competencies were foci during active learning activities and the stroke simulation. The clinical care coordination assignment was a competency-based activity where students had to interview their own clients to determine barriers to a successful transition home, identify care coordination needs, and develop short and long-term care plans. These active learning and experiential activities may serve as exemplars for future primary care integration into the baccalaureate program.

Although not statistically significant, there was a trend increase in self-efficacy scores for providing education and engaging patients and families. Many topics for which there were no changes (Table 1) were topics introduced in previous courses, so prior exposure may have resulted in a higher baseline level of self-efficacy in those areas. It is possible this accounts for the lack of difference. Conversely, students had minimal previous exposure to transition care management, care coordination/long-term care planning, telehealth, and triage prior to this course, so it is not surprising that there was a significant difference in self-efficacy after being introduced to these concepts. There were a number of lecture and active learning activities executed over the course of the semester related to all nine activities, however due to the substantial and density of course content, there were times that insufficient time was allotted for optimal learning to occur.

Earlier introduction of these primary care activities accompanied by escalating complexity of such activities, and integration of experiential learning (i.e., clinical experiences and simulation) may result in even greater self-efficacy with these skills. Lawlor et al. (2022)

found a significant increase in primary care knowledge and perceived ability to carry out primary care skills after nursing students participated in a fellowship program. Students completed online modules covering key primary care concepts, 150 clinical hours in primary care, with up to 250 supplementary clinical hours in community settings (Lawlor et al., 2022), suggesting that extensive exposure to primary care is beneficial in enhancing students' competence in this setting. The current project was not aimed at providing extensive time with primary care concepts, nor providing primary care clinical immersion given large cohorts; however, it is plausible that even shorter, less intensive opportunities enhance overall student competencies in the primary care setting.

Students within primary care clinical settings reported an overall positive experience. Likewise, the RN preceptors conveyed a positive experience and articulated their support for the continued primary care clinical experiences for students. There was a strong indication from students that more hands-on experience, such as primary care clinical or simulation would further enhance their primary care competency. Both clinical and simulation experiences increase students' self-efficacy (Kimhi et al., 2016), and are important activities to develop in the future, however the large cohort sizes, lack of primary care clinical sites, and simulation laboratory capacity pose a significant barrier. The expansion of clinical experiences may require outreach to sites beyond the University affiliated medical center. Although there is limited physical capacity for increased simulation, many primary care activities may be conducted virtually, which may serve to increase student self-efficacy in the area of telehealth and transitions of care.

A number of challenges presented themselves during the implementation of this project. The amount of course material required significant amounts of teaching work effort to ensure

robust learning. Because this course addresses the nursing care for multiple body systems from the lens of both acute and primary care, it resulted in the need to eliminate some less pertinent course topics due to the lack of time. Conducting active learning activities with a large cohort size was also problematic, as it was difficult to provide meaningful and constructive feedback for students, something that will need to be addressed for future implementation.

Baccalaureate Program Integration

The inclusion of primary care content in the baccalaureate program as a whole was low, with the majority of content occurring during the final year of the program. It is important to note that the primary care concepts may have been interpreted differently between faculty who completed the survey, which indicates the potential need for faculty development in this area. Further assimilation of this content is recommended to begin earlier, with escalating complexity throughout the curriculum. Concepts such as health literacy and relationship building may be introduced during the sophomore year in the initial introductory nursing course, and then further expanded upon in the second semester during the health assessment and fundamentals of nursing courses, potentially resulting in higher levels of learning or self-efficacy. Activities such as triage, telehealth, shared accountability, nursing process to systems level, teamwork and collaboration/shared decision-making, and motivational interviewing may be introduced in sophomore second semester courses as well. These activities may then continue to be built upon during the clinical courses during the third and fourth year when higher-level competency-based learning may occur.

Other activities, such as continuity of care, crossing setting communication/transition management, support for self-management, chronic disease management, care coordination/longitudinal care planning, delegation, and conflict management may be introduced

during the first clinical course, and expanded upon during subsequent clinical courses. The inclusion of panel management, clinic flow, safety huddle, data analysis/health information management, and quality improvement require further consideration, as they may not "fit" well within the existing curriculum. Population health, while not well represented across the curriculum, is highly incorporated in the public health nursing course and clinical projects, but could potentially be sequenced to occur earlier in the program, as the overall assimilation of primary care activities in those two courses ranged from 62-84%.

Overall, faculty believe the integration of primary and outpatient-based content is important, indicating there is faculty buy-in, however there are a number of concerns and suggestions to take into account as further assimilation is considered. The dearth of qualified preceptors and clinical sites coupled with the large cohort sizes will require a sustained faculty effort in cultivating academic-practice partnerships beyond the University-associated medical center. Curriculum mapping and revision may assist in identifying courses in which this content can fit within the program structure. This will be necessary as the program moves forward with curriculum revision to ensure compliance with The Essentials: Core Competencies for Professional Nursing Education (American Association of Colleges of Nursing, 2021). Leveraging faculty with primary care expertise, including faculty who teach in the graduate primary care curriculum, to support those who lack confidence in providing such education will be crucial as further integration is considered.

Limitations

The scope of this project was limited to one undergraduate nursing course and baccalaureate program that follows a traditional style curriculum, so the inclusion of certain primary care activities may not be advantageous for other nursing courses and programs. The

limited number of students who attended primary care, as well as the small number of clinical preceptors limited experiential learning. Securing sufficient clinical experiences posed a challenge given the large cohorts of students. Finally, the project manager also served as co-faculty for the course, which could potentially introduce unintended bias. However, multiple controls were in place to minimize this effect.

Conclusion

The aim of this project was to integrate primary care content into a senior level adult health nursing course in the Fall 2022 semester, assess the level of primary care integration in the baccalaureate nursing program, and make recommendations for further assimilation. Students demonstrated a significant increase in their self-efficacy scores in several primary care activities and reported overall positive feedback on the didactic and clinical integration of primary care content into the adult health nursing course. Hands-on experience and in-class activities emerged as common themes of the most helpful activities, as well as suggestions for the development of primary care skills. Faculty and preceptor feedback was positive as well, with suggestions for future improvement. A review of primary care content inclusion in the baccalaureate curriculum identified primary care activities in need of further coverage, which could be accomplished through earlier introduction, and escalating complexity.

The Essentials: Core Competencies for Professional Nursing Education (American Association of Colleges of Nursing, 2021) outline four spheres of care to be emphasized in nursing education, including disease prevention/health promotion, chronic disease management, and hospice/palliative/supportive care. The integration of primary care content aligns well with these competencies, a requirement for future baccalaureate nursing program accreditation. The rise in student self-efficacy scores in four primary care areas in just one semester indicates the

potential for significant improvement in self-efficacy in more areas across the program, particularly if the curriculum incorporates early and consistent didactic and experiential learning.

References

American Academy of Ambulatory Care Nursing. (2017). *American Academy of Ambulatory Care Nursing position paper: The role of the registered nurse in ambulatory care*. https://www.aaacn.org/sites/default/files/documents/RNRolePositionPaper.pdf

American Association of Colleges of Nursing. (2021). *The essentials: Core competencies for professional nursing education.* https://www.aacnnursing.org/Portals/42/AcademicNursing/pdf/Essentials-2021.pdf

Ayed, A., Khalaf, I. A., Fashafsheh, I., Saleh, A., Bawadi, H., Abuidhail, J., Thultheen, I., & Joudallah, H. (2022). Effect of high-fidelity simulation on clinical judgment among nursing students. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, *59*, 1-6. https://doi.org/10.1177/00469580221081997

Bandura, A. (1997). *Self-efficacy: The exercise of control.* W.H. Freeman and Company.

Benner, P. E. (2001). *From novice to expert: Excellence and power in clinical nursing practice: Commemorative edition.* Pearson.

Briggs, J. K. (2016). *Telephone triage protocols for nurses* (5th ed.). Wolters Kluwer Health.

Buerhaus, P. I., Chang, Y., DesRoches, C., Guzikowski, S., Norman, L., & Donelan, K. (2021). The roles and clinical activities of registered nurses and nurse practitioners in practices caring for older adults. *Nursing Outlook, 69*(3), 380–388. https://doi.org/10.1016/j.outlook.2020.11.011

California Healthcare Foundation. (2015). *RN role reimagined: How empowering registered nurses can improve primary care*. 1–20. https://www.chcf.org/wp-content/uploads/2017/12/PDF-RNRoleReimagined.pdf

Cengiz, B., Bahar, Z., & Canda, A. E. (2020). The effects of patient care results of applied nursing intervention to individuals with stoma according to the health belief model. *Cancer Nursing*, *43*(2), E87-E96. https://doi.org/10.1097/NCC.0000000000000678

Center for Health Sciences Interprofessional Education, Research, and Practice. (n.d.). *Ambulatory care nursing modules.* University of Washington. https://collaborate.uw.edu/online-training-and-resources/ambulatory-care-nursing-toolkit/ambulatory-care-nursing-modules/

Corbett, C. F., Setter, S. M., Daratha, K. B., Neumiller, J. J., & Wood, L. D. (2010). Nurse identified hospital to home medication discrepancies: Implications for improving transitional care. *Geriatric Nursing*, *31*(3), 188–196. https://doi.org/10.1016/j.gerinurse.2010.03.006

Dinç, L. (2015). Implementation and evaluation of a nursing ethics course at Turkish doctoral nursing programs. *Journal of Academic Ethics*, *13*(4), 375–387. https://doi.org/10.1007/s10805-015-9243-5

Doherty, M., Jenkins, W., Richardson, H., Sarmanova, A., Abhishek, A., Ashton, D., Barclay, C., Doherty, S., Duley, L., Hatton, R., Rees, F., Stevenson, M., & Zhang, W. (2018). Efficacy and cost-effectiveness of nurse-led care involving education and engagement of patients and a treat-to-target urate-lowering strategy versus usual care for gout: A randomised controlled trial. *The Lancet*, *392*(10156), 1403–1412. https://doi.org/10.1016/S0140-6736(18)32158-5

Dolansky, M. A., Nikstenas, C., Badders, A., Brannack, L., & Burant, P. A. (2022). Assessment of primary care content in a nursing curriculum: Identification of gaps and strategies for

integration. *Nurse Educator*, *47*(1), E7–E11. https://doi.org/10.1097/NNE.0000000000001086

Emory, J. (2014). Understanding backward design to strengthen curricular models. *Nurse Educator*, *39*(3), 122–125. https://doi.org/10.1097/NNE.0000000000000034

Farford, B. A., Baggett, C. L., Paredes Molina, C. S., Ball, C. T., & Dover, C. M. (2021). Impact of an RN-led Medicare annual wellness visit on preventive services in a family medicine practice. *Journal of Applied Gerontology*, *40*(8), 865–871. https://doi.org/10.1177/0733464820947928

Flinter, M., Hsu, C., Cromp, D., Ladden, M. D., & Wagner, E. H. (2017). Registered nurses in primary care: Emerging new roles and contributions to team-based care in high-performing practices. *Journal of Ambulatory Care Management*, *40*(4), 287–296. https://doi.org/10.1097/JAC.0000000000000193

Forster, A.J., Murff, H.J., Peterson, J.F., Gandhi, T.K., & Bates, D.W. (2003). The incidence and severity of adverse events affecting patients after discharge from the hospital. *Annals of Internal Medicine, 138*(3), 161-167. doi: 10.7326/0003-4819-138-3-200302040-00007

Gaudel, P., Neupane, S., Koivisto, A.M., Kaunonen, M., & Rantanen, A. (2021). Effects of a lifestyle-related risk factor modification intervention on lifestyle changes among patients with coronary artery disease in Nepal. *Patient Education and Counseling, 104*(6), 1406-1414. https://doi.org/10.1016/j.pec.2020.11.030

Harris, E. (Host). (2019, March 15). The case for care coordination (No. 3) [Audio podcast]. In *Med-surg moments.* Academy of Medical-Surgical Nurses. https://www.medsurgmoments.org/ep-3-the-case-for-care-coordination

Hines, A.L., Barrett, M.L., Jiang, H.J., & Steiner, C.A. (2014). *Conditions with the largest number of adult hospital readmissions by payer, 2011* (Statistical Brief 172). Agency for Healthcare Research and Quality. https://hcup-us.ahrq.gov/reports/statbriefs/sb172-Conditions-Readmissions-Payer.jsp

Institute of Medicine. (1996). *Primary care: America's health in a new Era*. The National Academies Press. https://doi.org/10.17226/5152

Institute of Medicine. (2011). *The future of nursing: Leading change, advancing health.* The National Academies Press. https://doi.org/10.17226/12956

Kimhi, E., Reishtein, J. L., Cohen, M., Friger, M., Hurvitz, N., & Avraham, R. (2016). Impact of simulation and clinical experience on self-efficacy in nursing students: Intervention study. *Nurse Educator*, *41*(1), E1-E4. https://doi.org/10.1097/NNE.0000000000000194

Kolcu, M., & Ergun, A. (2020). Effect of a nurse-led hypertension management program on quality of life, medication adherence and hypertension management in older adults: A randomized controlled trial. *Geriatrics & Gerontology International*, *20*(12), 1182–1189. https://doi.org/10.1111/ggi.14068

Lawlor, M. A. C., Mitchell, R.L., Burant, P. A., Griffin, M.Q., & Dolansky, M. A. (2022). Enhancing nurse roles in community health (ENRICH): The impact of a primary care–based undergraduate nursing fellowship. *Nurse Educator*. Advance online publication. https://doi.org/10.1097/NNE.0000000000001345

Liljeroos, M., & Strömberg, A. (2019). Introducing nurse-led heart failure clinics in Swedish primary care settings. *European Journal of Heart Failure*, *21*(1), 103–109. https://doi.org/10.1002/ejhf.1329

Lin, S., Xiao, L.D., Chamberlain, D., Ullah, S., Wang, Y., Shen, Y., Chen, Z., & Wu, M. (2022). Nurse-led health coaching programme to improve hospital-to-home transitional care for stroke survivors: A randomised controlled trial. *Patient Education and Counseling, 105*(4), 917-925. https://doi.org/10.1016/j.pec.2021.07.020

Long, M., Cottrell-Yongye, A., & Huynh, T. (2020). Backward redesign of a nonmajors' biology course at a two-year technical college. *Journal of College Science Teaching*, *49*(6), 7–16. https://www.proquest.com/docview/2501929290/abstract/B204214C049E44D1PQ/1

McHugh, M.K. (2022). Curriculum design and evaluation of program outcomes. In R.A. Wittmann-Price, M. Godshall, & L. Wilson (Eds.), *Certified nurse educator* (4th ed., pp. 309-343). Springer Publishing Company.

Medicare Learning Network. (2018). *MLN booklet: Annual wellness visit.* Centers for Medicare & Medicaid Services. Retrieved April 30, 2023, from http://nebula.wsimg.com/d436b1182c913e5e3e95055b34591f02?AccessKeyId=2CA0B33586200FDFFC6D&disposition=0&alloworigin=1

Morton, J. L., Weierbach, F. M., Sutter, R., Livsey, K., Goehner, E., Liesveld, J., & Goldschmidt, M. K. (2019). New education models for preparing pre-licensure students for community-based practice. *Journal of Professional Nursing*, *35*(6), 491–498. https://doi.org/10.1016/j.profnurs.2019.05.004

National Academies of Sciences, Engineering, and Medicine. (2021). *The future of nursing 2020-2030: Charting a path to achieve health equity.* The National Academies Press. https://doi.org/10.17226/25982

Negarandeh, R., Mahmoodi, H., Noktehdan, H., Heshmat, R., & Shakibazadeh, E. (2013). Teach back and pictorial image educational strategies on knowledge about diabetes and

medication/dietary adherence among low health literate patients with type 2 diabetes. *Primary Care Diabetes*, *7*(2), 111–118. https://doi.org/10.1016/j.pcd.2012.11.001

Paczkowska, A., Hoffmann, K., Kus, K., Kopciuch, D., Zaprutko, T., Ratajczak, P., Michalak, M., Nowakowska, E., & Bryl, W. (2021). Impact of patient knowledge on hypertension treatment adherence and efficacy: A single-centre study in Poland. *International Journal of Medical Sciences*, *18*(3), 852–860. https://doi.org/10.7150/ijms.48139

Patient Protection and Affordable Care Act of 2010, Pub. L. No. 111-148, 124 Stat.119 (2010). https://www.congress.gov/111/plaws/publ148/PLAW-111publ148.pdf

Salmond, S. W., & Echevarria, M. (2017). Healthcare transformation and changing roles for nursing. *Orthopaedic Nursing*, *36*(1), 12–25. https://doi.org/10.1097/NOR.0000000000000308

Shi, L. (2012). The impact of primary care: A focused review. *Scientifica*, *2012*, 1–22. https://doi.org/10.6064/2012/432892

Smolowitz, J., Speakman, E., Wojnar, D., Whelan, E.M., Ulrich, S., Hayes, C., & Wood, L. (2015). Role of the registered nurse in primary health care: Meeting health care needs in the 21st century. *Nursing Outlook*, *63*(2), 130–136. https://doi.org/10.1016/j.outlook.2014.08.004

Tamaki, T., Inumaru, A., Yokoi, Y., Fujii, M., Tomita, M., Inoue, Y., Kido, M., Ohno, Y., & Tsujikawa, M. (2019). The effectiveness of end-of-life care simulation in undergraduate nursing education: A randomized controlled trial. *Nurse Education Today*, *76*, 1–7. https://doi.org/10.1016/j.nedt.2019.01.005

Walton, S. A., Harmon, K. A., & Knoedel, M. A. (2021). Impact of a nontraditional ambulatory clinic nurse residency program. *Journal for Nurses in Professional Development, 37*(1), 22–27. https://doi.org/10.1097/NND.0000000000000665

Wojnar, D. M., & Whelan, E. M. (2017). Preparing nursing students for enhanced roles in primary care: The current state of prelicensure and RN-to-BSN education. *Nursing Outlook, 65*(2), 222–232. https://doi.org/10.1016/j.outlook.2016.10.006

Table 1

Student Self-Efficacy Scores

Primary Care Activities	Pre-Intervention		Post-Intervention		*t*(186)	*p*
	M	*SD*	*M*	*SD*		
Provide education and engage patients and families	3.99	.605	4.01	.790	-.210	.061
Assess issues of health inequity	4.09	.759	4.19	.744	-.888	.561
Assist patients with nutrition and lifestyle management	4.17	.759	4.13	.794	.342	.577
Assist patients with managing their chronic disease(s)	3.75	.792	3.99	.874	-2.000	.844
Support patients in self-managing their health conditions	3.93	.721	4.10	.767	-1.594	.303
Communicate appropriately to providers in other settings to ensure a safe transition of care	3.77	1.033	4.02	.920	-1.728	.023
Coordinate care and construct a long-term care plan for patients	3.43	.887	3.90	.812	-3.750	.002
Triage a patient	3.52	1.106	3.84	.838	-2.186	<.001
Use telehealth	3.51	1.233	3.79	.947	-1.727	<.001

Note: Mean self-efficacy scores are shown for pre-intervention (n=102) and post-intervention (n=86), as well as the results of the *t* tests comparing the mean scores between the two time points. Significance was set at $p<.05$, two tailed.

Table 2

Most Helpful Activities for Enhancing Primary Care Skills (n= 51)

Activity	Example quote	Frequency n (%)
In-class activities	"Some case studies were catered toward us being primary care nurses. This was helpful."	16 (31.3)
	"Case studies-especially focusing on out of hospital experiences."	
	"In class case studies were helpful when we were pretending to be the primary care nurse."	
	"In class case studies that include transition of care from hospital to elsewhere. Activities practicing patient education."	
Hands-on experience	"Sim labs and clinical experiences were very helpful in gaining skills in primary care nursing. I find that the hands on experience is the most beneficial."	13 (25.4)
	"Working in the clinical setting is the most helpful in enhancing my skills."	
	"Clinical rotations, outpatient opportunities."	
Group projects	"The group project because helped with interprofessional collaboration."	8 (15.6)
Triage activities	"Whenever we talked about it, any triage, phone triage activity."	6 (11.7)
Care coordination assignment	"Care coordination-looking at care after hospital admission"	5 (9.8)

Table 3

Suggestions for Improving Primary Care Skills (n= 37)

Theme	Example quote	Frequency n (%)
Hands-on experience	"I think it would be cool to have more opportunities to shadow in a primary care office. I was not able to have the opportunity to go directly to a primary care office."	24 (64.8)
	"More hands-on work in a nursing setting."	
	"Offer primary care clinical experiences-I would have loved this experience."	
	"Maybe a sim day? I appreciated the emphasis on outpatient care this semester. It was great!"	
In-class primary care activities	"Integrating what you might see at a primary care office in lecture rather than really critical patient."	9 (24.3)
	"More activities and information regarding what exactly the roles of the primary care RN are."	
	"Specific primary care lectures."	
Earlier program integration	"Having started the primary care focus of our program earlier than senior year. It felt very out of the blue/like an interruption to clinical, but I understand that couldn't be avoided for us."	2 (5.4)
	"More clinicals and earlier exposure specific to outpatient care."	

Table 4

Students and Preceptor Agreement That Clinical Objectives Were Met

Objective	Students (n=12)		Preceptors (n=5)	
	Agree	Do Not Agree	Agree	Do Not Agree
		Triage		
Verbalize the roles of the RN practicing in the primary care setting	5	1	4	0
Utilize the nursing process in symptom-based care of people using telehealth principles	5	1	4	0
Demonstrate critical-thinking skills in assessing the needs of the caller	5	1	4	0
Collect appropriate data, assess, and prioritize interventions in the care of a symptom-based caller	5	1	4	0
Document the encounter appropriately, including pertinent data, interventions, and follow-up needed	4	1	3	1
		Medicare Annual Wellness Visits		
Understand the background and intent of the Annual Wellness Visit (AWV)	6	0	1	0
Define the RN role in conducting an Annual Wellness Visit (AWV)	6	0	1	0
Conduct an AWV using appropriate screening tools	6	0	0	1
Formulate care plans and educate patients based on results of the risk assessments	6	0	0	1
Assess for barriers related to social determinants of health	6	0	0	1
Refer patients to appropriate community resources to improve their health	6	0	0	1

Table 5

Student and Preceptor Free Response Themes for Clinical Experience

Respondent type and theme	Example quote
Student	
Helpful preparatory work	"The pre-work describing what an RN does during a primary care visit."
	"The annual wellness book was more than enough!"
	"Looking through triage book."
	"Reading through the instructions provided to me."
Preceptor	
Positive experience	"It's a true pleasure to share with students a new opportunity for them to consider within nursing. The majority are eager to participate and learn. They also see connections between what the AWVs set out to accomplish and how they can improve one's health and wellbeing."
	"I had an overwhelmingly positive experience. I hope the students feel the same! It's interesting because since shadowing, I have seen more and more articles and publications regarding ambulatory RN student shadowing, and I hope this represents an emerging trend. It would be so beneficial to engage students in ambulatory experiences early in their careers."
	"I really enjoyed the experience with the students. I would be happy to participate again in the future."
Suggestions for improvement	"We reviewed documentation and I was confident in understanding, although I do believe it would be useful to have them [students], either with pen and paper or tablet, attempt documenting a patient call in real time for review with preceptor. I believe an example of documentation was required for submission after the shadowing, but a quick exercise in documentation could be useful."
	"It would be great if they [students] could prepare some questions ahead of time if they have any. I would also like feedback from the students on their impression of the day, so that I know if I need to adjust what I am doing."

Table 6

Clinical Faculty Focus Group Themes (n=4)

Theme	Example quote
Assignment strengths	"…they said that it was challenging [for] them to ask questions that they never even thought about because they are so concerned with the here and now, but I think sometimes we fail to recognize, like, what happens when our patients leave the hospital, so it was really eye opening for them to consider like "well where ARE they going to get their prescriptions, it's not like a nurse can just go down the hall and get it for them, or how DO they get into their house, or those kinds of questions that some of the social workers might ask, some of the students never even thought to ask about."
	"I think it was really helpful that you gave them a script, that you gave them so many questions to ask."
	"I did like the podcast. I feel like they get so much reading material so it was a nice change of pace."
	"They enjoyed doing it and it brought up great conversation and they were, all of them, very engaged and so supportive of each other."
Assignment challenges	"…sometimes it's hard because our patients are in and out so quickly… they are going to a procedure and usually those are the ones who are going home the next day so they don't have a whole lot of like follow up, I mean they have follow up, you know - it's like but they have no food insecurity, no housing insecurity, these are people that have full time jobs, they come in, they are independent..."
	"…I think that a live presentation was a little bit harder for me to maybe grade or give great feedback on…"
	"this is not something I necessarily have a lot of experience in…"
	"…for the podcast, they had a lot of like concerns kind of about like what they were saying. They were kind of like, this seems like it would be really good, but I don't think it would actually be attainable in an inpatient setting…"

Theme	Example quote
Suggestions for assignment improvement	"I wonder if we almost put the onus on them to be like, ok, find a resource, an article, a podcast, something that has to relate to care coordination or primary care and like come together as a group and share like why it was beneficial to you or something?"
	"I also wonder about having example of like patients that keep coming back to the hospital because of poor case management because of a lack of resources or something like that."
	"…but I could see finding ways to involve nurses who specifically are skilled or experienced or well versed in this topic and bring them either into clinical or bring them into like a separate workshop day or something."

Table 7

Percentage of Primary Care Activities Represented in Baccalaureate Program

Content Integration (%)	Primary Care Activity
0.00	Panel management
9.09	Clinic flow
9.09	Safety huddle
9.09	Shared accountability
13.64	Telehealth
22.73	Data analysis-health information management
27.27	Cross-setting communication and transition management
27.27	Support for self-management
31.82	Care coordination-longitudinal care plan
31.82	Conflict management
31.82	Delegation
31.82	Triage
36.36	Motivational interviewing
36.36	Population health management
36.36	Quality improvement
40.91	Addiction
40.91	Nursing process to systems level
45.45	Health literacy
50.00	Interprofessional coordination
50.00	Relationship building
50.00	Teamwork and collaboration-shared decision-making
54.55	Continuity of care
59.09	Chronic disease management
63.64	Patient-centered care planning
68.18	Mental health services/behavioral health
68.18	Nutrition and lifestyle management
72.73	Values diversity
77.27	Advocacy
77.27	Education and engagement of patient and family
81.82	Ethical and legal aspects of nursing
86.36	Evidence-based practice
86.36	Health inequities

Table 8

Percentage of Primary Care Activities Represented in Second Year of Program

Content Integration %	Primary Care Activity
0.00	Care coordination-longitudinal care plan
0.00	Clinic flow
0.00	Continuity of care
0.00	Cross-setting communication and transition management
0.00	Health literacy
0.00	Panel management
0.00	Population health management
0.00	Safety huddle
0.00	Shared accountability
0.00	Support for self-management
0.00	Telehealth
0.00	Triage
16.67	Addiction
16.67	Chronic disease management
16.67	Conflict management
16.67	Data analysis-health information management
16.67	Delegation
16.67	Motivational interviewing
16.67	Nursing process to systems level
33.33	Mental health services/behavioral health
33.33	Relationship building
33.33	Teamwork and collaboration-shared decision-making
50.00	Advocacy
50.00	Education and engagement of patient and family
50.00	Interprofessional coordination
50.00	Nutrition and lifestyle management
50.00	Quality improvement
66.67	Health inequities
66.67	Patient-centered care planning
66.67	Values diversity
83.33	Ethical and legal aspects of nursing
83.33	Evidence-based practice

Table 9

Percentage of Primary Care Activities Represented in Third Year of Program

Content Integration (%)	Primary Care Activities
0.00	Clinic flow
0.00	Conflict management
0.00	Data analysis-health information management
0.00	Panel management
0.00	Safety huddle
0.00	Shared accountability
0.00	Telehealth
14.29	Cross-setting communication and transition management
14.29	Motivational interviewing
14.29	Quality improvement
14.29	Triage
28.57	Care coordination-longitudinal care plan
28.57	Interprofessional coordination
28.57	Nursing process to systems level
28.57	Population health management
28.57	Support for self-management
28.57	Teamwork and collaboration-shared decision-making
42.86	Addiction
42.86	Delegation
42.86	Patient-centered care planning
42.86	Relationship building
42.86	Values diversity
57.14	Continuity of care
57.14	Health literacy
71.43	Advocacy
71.43	Chronic disease management
71.43	Ethical and legal aspects of nursing
71.43	Mental health services/behavioral health
71.43	Nutrition and lifestyle management
85.71	Education and engagement of patient and family
85.71	Evidence-based practice
85.71	Health inequities

Table 10

Percentage of Primary Care Activities Represented in Fourth Year of Program

Content Integration %	Primary Care Activities
0.00	Panel management
22.22	Clinic flow
22.22	Safety huddle
22.22	Shared accountability
33.33	Delegation
33.33	Telehealth
44.44	Data analysis-health information management
44.44	Quality improvement
44.44	Support for self-management
55.56	Addiction
55.56	Care coordination-longitudinal care plan
55.56	Cross-setting communication and transition management
66.67	Conflict management
66.67	Health literacy
66.67	Interprofessional coordination
66.67	Motivational interviewing
66.67	Nursing process to systems level
66.67	Population health management
66.67	Relationship building
66.67	Triage
77.78	Chronic disease management
77.78	Nutrition and lifestyle management
77.78	Patient-centered care planning
77.78	Teamwork and collaboration-shared decision-making
88.89	Continuity of care
88.89	Education and engagement of patient and family
88.89	Ethical and legal aspects of nursing
88.89	Evidence-based practice
88.89	Mental health services/behavioral health
100.00	Advocacy
100.00	Health inequities
100.00	Values diversity

Table 11

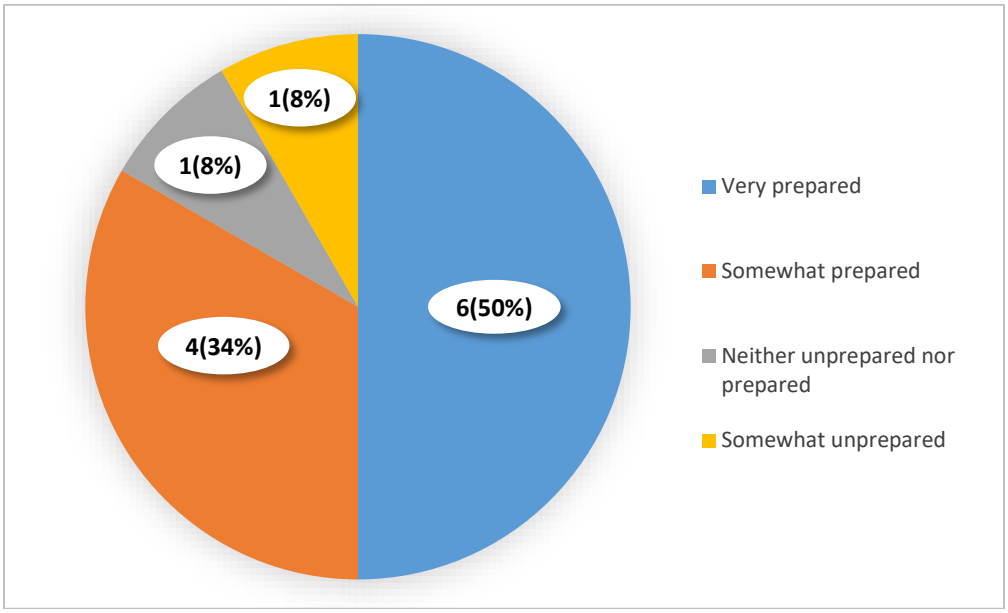
Themes from Faculty Regarding Integrating Primary Care into the Curriculum (n= 14)

Theme	Example quote	Frequency, n (%)
Concerns	"If we integrate more primary care content, will that be difficult to balance with the existing content?"	11 (78.5)
	"Clinical experience will be a challenge in this current environment. Many primary care practices are understaffed, already busy with MD and NP students, do not have BSN staff, do not know how to precept an RN student."	
	"Most of our undergraduate faculty do not have experience in primary care. It would be great to reflect the diversity of nursing roles in our faculty to support building this part of our curriculum."	
	"How do we integrate given our current cohort sizes?"	
Integration suggestions	"Forming relationships, having supports to formulate these new resources, ensure students have objectives of what you hope they accomplish during these experiences…"	7 (50)
	"Focusing either a class specifically on primary care or integrating primary care issues into current curriculum."	
	"Would need to introduce early on, with shared concepts between courses."	
	"Connect to the nursing process in discussing acute and chronic care. Show how care is similar and different in various settings."	

Resources needed	"More education for staff about primary care; many clinical faculty don't work in primary care and I would want to ensure I had more education/insight about this field should I incorporate it into my courses." "Leverage faculty who work or have worked in ambulatory or primary care offices and reach out to community resources if we still have knowledge deficits."	3 (21.4)
Content recommendations	"By integrating more primary care, I think a beneficial outcome will be better understanding of care coordination which is something we desperately need. I think focusing more on how health systems work and the role of the nurse across systems- I think this was something I struggled with as a new nurse." "Make sure the curriculum focuses on inequities specific to Vermont (rural health care) along with inequities in other parts of the country."	2 (14.2)

Figure 1

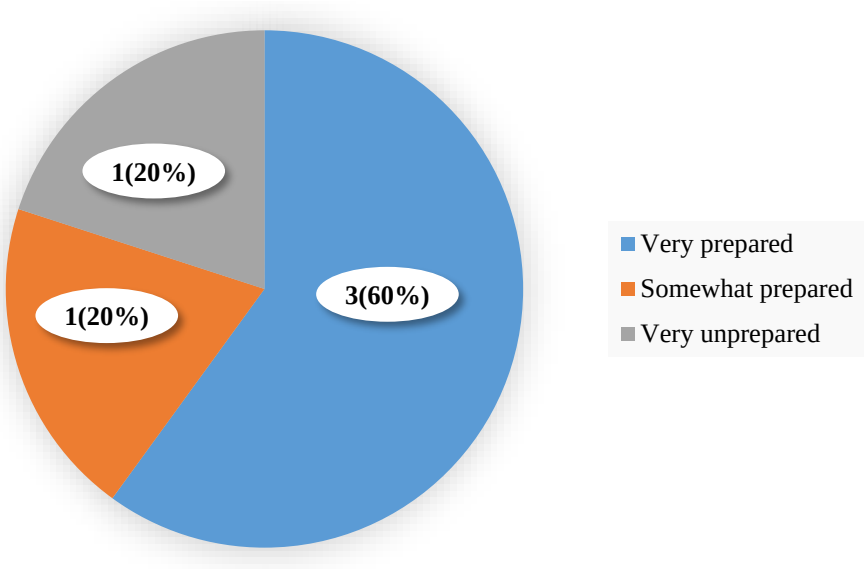
Student Perceived Preparedness for Primary Care Clinical
(n=12)



Note. This figure demonstrates students' perceived preparedness for primary care clinical, measured at the end of each seven-week clinical rotation.

Figure 2

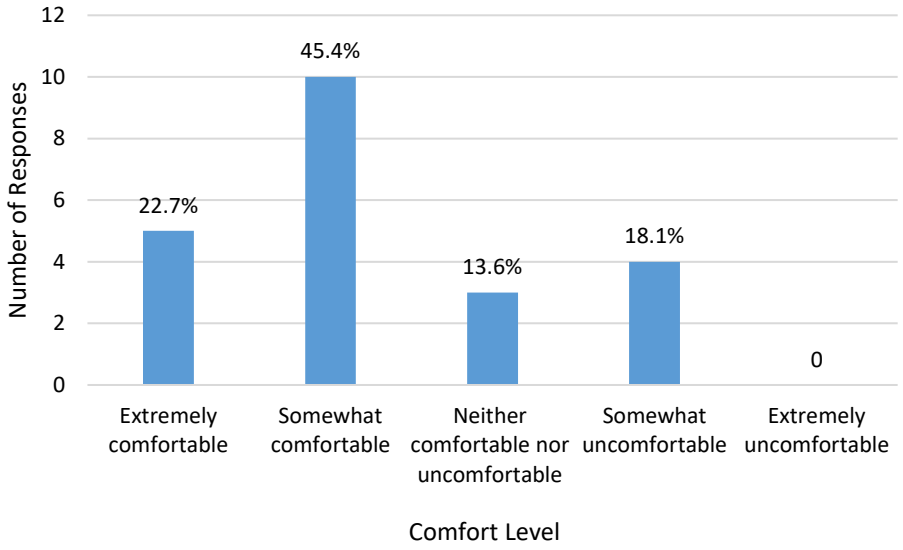
Preceptor Perceived Student Preparedness for Clinical
(n=5)



Note. This figure demonstrates RN preceptors' perceived student preparedness for primary care clinical, measured at the end of the semester.

Figure 3

Faculty Comfort with Delivering Primary Care Content in Their Respective Courses (n=22)



Appendix A

Triage Example Activity: Esophageal Varices (half of students completed this activity and the other half completed an activity focused on the hospital care of the same client)

You are the primary care triage RN who takes a call from a 60-year-old male patient with known esophageal varices who is complaining of vomiting.

- What priority assessment questions will you ask?
- How will you determine if they need emergency or hospital care?

Appendix B

Care Coordination Clinical Assignment

Care coordination and transition care management are integral components of nursing practice in all settings. The purpose of this assignment is for the student to gain an understanding of the skills needed to coordinate a client's care and ensure a successful transition to the next care setting after discharge from the hospital. The student will conduct a needs assessment, discharge plan of care, and clinic follow-up plan, and then present their work to their clinical group peers.

Assignment Objectives:

1. Assess client's discharge needs.
2. Determine barriers to a successful transition to the next care setting (home, long term care facility, etc.)
3. Develop an individualized plan of care for a client who is being discharged from the hospital.
4. Discuss the follow up care that the clinic nurse must provide after the client is discharged.

TASKS:

1. **Assessment of Needs:** Conduct an assessment of the client's discharge needs and consider barriers to a successful transition to home: Describe the patient's living situation, potential barriers to adequate self-care and healthcare. This may be accomplished by interviewing the client and/or their family/support system. The Case Manager may also be consulted with. Address the prompts below and any other contributing factors that arise during your conversation with the patient and their family/support system.
    - Where will the client be discharged to? How will they get there?
    - What supports does the client have (family, friends, church groups, visiting nurse, Meals on Wheels)
    - Do they have stairs in their home? Can they get up and down them?
    - What is the client's level of education?
    - Do they have housing or food insecurity?
    - Do they use any equipment for mobility or ADLs?
    - Do they have adequate transportation for follow-up care and obtaining meds?
    - Are they able to afford medications?
    - Do they understand their diagnosis? Do they know when to call the provider office?
    - Do they understand their medications (reason for use, proper administration, side effects, reasons to call the provider)?

2. **Discharge Plan of Care (Speculative):** Develop a plan of care for the client upon discharge, based on your assessment above. Remember to meet the client where they are at.
    - Determine what other providers, services, or community resources should be involved in the client's care based on your assessment above. What pertinent information would you communicate with these other providers/services/resources and how will you get them involved in this client's care? Research what resources are available to the client/family both online and in their community.
    - Describe how you will ensure the client is taking the appropriate medications at home (medication reconciliation). What education do they need on their medications?
    - Establish short-term self-management goals based on your assessment and their priority diagnoses. Detail how the client will accomplish those goals?
    - How will you ensure follow-up occurs? What type of ongoing monitoring can be established?

3. **Clinic Follow-Up:** Imagine that you are the clinic RN at the patient's primary care office and are caring for the client at their follow-up appointment. After being discharged from the hospital, it is important to continue to coordinate care to ensure a successful transition to home. Address the following prompts, describing how they would differ from the hospital setting.
    - How will you assess if the client is meeting the previously identified self-management goals?
    - How will you ensure medication adherence?
    - Identify long-term self-management goals to prioritize with the client.
    - What strategies will you implement with the client to meet their goals? What resources might you consider?
    - What co-existing medical diagnoses does the client have and how might they complicate their care?

4. Construct a visual representation of your findings and present them to your peers. The visual representation can be one of your own choosing, including, but not limited to a poster, PowerPoint presentation, concept map, etc.

Appendix C

Triage Clinical Experience

Clinical Objectives:

1. Verbalize the roles of the RN practicing in the primary care setting.
2. Utilize the nursing process in symptom-based care of people using telehealth principles.
3. Demonstrate critical-thinking skills in assessing the needs of the caller.
4. Collect appropriate data, assess, and prioritize interventions in the care of a symptom-based caller.
5. Document the encounter appropriately, including pertinent data, interventions, and follow-up needed.

Pre-Work:

- Review materials provided (professor to provide)

Assignment (to be completed after the shadow day):

Address the following questions using one patient care interaction that you observed during your primary care clinical experience. Please use a fictional name when referring to the patient.

- What questions did you ask (or should have asked) the caller? Prioritize assessment questions needed to fully assess the situation. Questions that assess the most critical/life-threatening conditions should be listed first.
- Construct a note that could be documented in the patient's chart that addresses the following:
    - Reason for the patient's call.
    - Pertinent data collected.
    - Assessment of the situation.
    - Plan of care (based on your assessment). Did you have to discuss the case with a provider? What nursing interventions did you implement? What patient education did you provide? Is there follow-up care necessary? Are there barriers to care and how did you address them?
    - Describe how you ensured that the patient understood the directions provided.

Annual Wellness Visit Clinical Experience

Clinical Objectives:

1. Understand the background and intent of the Annual Wellness Visit (AWV).
2. Define the RN role in conducting an Annual Wellness Visit (AWV).
3. Conduct an AWV using appropriate screening tools.
4. Formulate care plans and educate patients based on results of the risk assessments.

5. Assess for barriers related to social determinants of health
6. Refer patients to appropriate community resources to improve their health.

Pre-Assigned Work:

- Read pages 1-8 and page 13 of the Annual Wellness Visit Booklet from CMS (attached to email reminder)

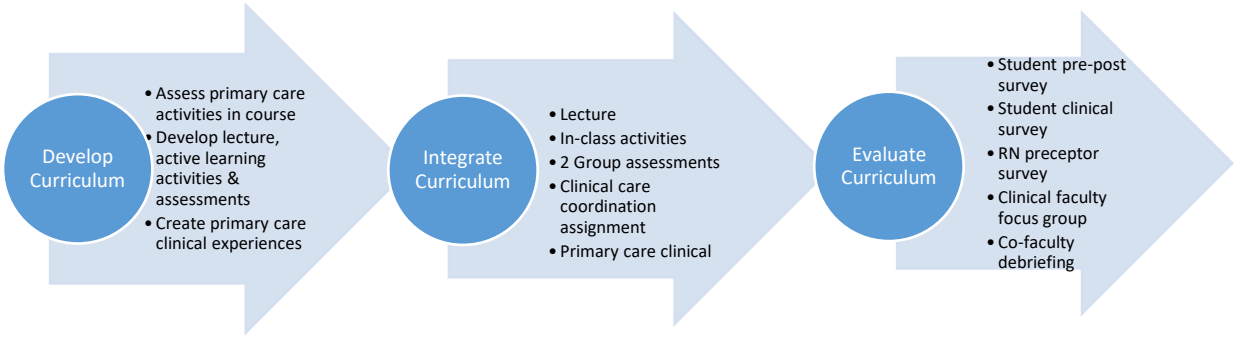
Assignment:

- Think back to one patient's annual wellness visit. Construct a nursing note that could be documented in the patient's chart addressing the following topics. Please use a fictional name or initials.
  - Describe the patient's demographics and social determinants of health that could impact their health.
  - Prioritize two of the annual wellness visit findings and develop a plan of care to address those findings? Did you need to further discuss with the provider? What interventions did you implement or recommend? What education did you provide? Is there follow-up care necessary?
  - What community resources did you or could you refer the patient to in order to address your findings?

Appendix D

Curriculum Integration Process

Aim 1: Enhance integration of primary care content in the senior adult health nursing course.



Aim 2: Assess the current level of primary care content in program to inform future curriculum revision.