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Running head: INTERMEDIATE LENGTH OF STAY: BRIDGING THE GAP OF CARE DELIVERY

Intermediate Length of Stay: Bridging the Gap of Care Delivery

Systems Change Project

Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

St. Catherine University

St. Paul, Minnesota

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December, 2010

ST. CATHERINE UNIVERSITY

ST. PAUL, MINNESOTA

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

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December 8, 2010

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DEPARTMENT OF NURSING

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Executive Summary

Transitional care unit programs and long term care programs are two models of care designed to meet the needs of chronically disabled and elderly patients. A 'gap' in care provision and coordination exists for many patients who do not fit the profile of usual skilled nursing facility patients. Underserved patients who fall into this gap typically require longer length of stay in higher acuity sub-acute care units due to their co-morbid medical conditions, concomitant psychiatric disorders, inadequate home support systems, and inadequate or lack of insurance.

This project involved the development of a modified model of care to provide an intermediate level of care for patients who fall into this care gap.

The project evaluation examined the cost effectiveness through summarization of relative value units (RVU) generation pre project implementation, and during the project implementation phase. The care effectiveness of the program was evaluated through the conduction of interviews with administration and nursing staff at the Care Facility, and administrators of Senior Care Specialty Group.

This project was successful as a potentially financially sustainable care system was designed and implemented to meet the needs of patients who fall into a gap in the care delivery system. Barriers to replication of the project were identified and potential solutions to eliminate the barriers in future demonstrations were proposed.

Chapter 1

The cost of healthcare has increased significantly over the past several decades as evidenced by a greater percentage of the gross national product (GNP) required for health care costs and by an increase in average amount spent per person in U.S. Economic analysts describe the current financial state of healthcare as a healthcare financial crisis (Mankiw, 2007). This growth in healthcare costs has contributed to more individuals having inadequate insurance (underinsured) resulting in decreased access to healthcare. Decreased access to healthcare contributes to the underinsured presenting with increased acuity of health conditions. Poorly controlled co-morbid conditions contribute to complex and costly healthcare needs of this population.

Attempts by key stakeholders to control healthcare costs have included: changes in the health insurance industry including new programs for payment and coverage of healthcare services; changes in governmental regulation of healthcare; increased emphasis on preventive services to prevent onset of disease; development of alternate care delivery methods; and delivery of care in lower cost care systems.

Currently, there are three major institutional care delivery systems for individuals who require treatment and procedures: acute care, sub-acute care, and long-term care. Each of these systems has parameters for admission, care provided, and reimbursement of services rendered. Information about these parameters is provided for each of these three institutional care delivery systems to provide context for the purpose of this systems change project.

The purpose of this systems change project was to advocate for a modification of one system, sub-acute care, to address a gap to serve persons who need a longer length of time in sub-acute care because of the complexity of their needs.

Acute Care

Patients are admitted to acute care for surgical procedures, diagnosis of emerging complex problems, and/or because a treatment regime for an existing problem is not working or needs to be modified. The acute care facility receives reimbursement from the patient's insurance based on the diagnostic related group (DRG) for the illness and/or surgical procedure. There are parameters for length of stay for each DRG. When patients need ongoing rehabilitation or care, but no longer meet criteria for ongoing care in the acute care environment, they may be transferred to either a sub-acute care facility or long-term care facility where the provision of care is of lower cost than in the acute care environment.

Sub-acute Care

The Department of Human Services defines sub-acute care as health care that is provided by a facility following a hospitalization, or in lieu of a hospital stay. Care is provided for conditions that require long term, progressive or complex treatments. The level of care provided in sub-acute units is generally for higher acuity conditions than care provided in long term care units, but of lower acuity than in acute care hospital units. Patients admitted to sub-acute care units are usually elderly persons, who are not sick enough to require admission to

acute care units, but are not yet well enough to return to their previous living environment or to home (DHS, 2009).

The American Health Care Association (AHCA) and The Joint Commission (JC) define sub-acute care as: A comprehensive inpatient care designed for someone who has an acute illness, injury, or exacerbation of a disease process. It is goal oriented treatment rendered immediately after, or instead of, acute hospitalization to treat one or more specific active complex medical conditions or to administer one or more technically complex treatments, in the context of a person's underlying long-term conditions and overall situation. (AHCA, 2009).

Sub-acute care can be divided into three categories of programs: sub-acute short-term medical care, sub-acute short-term rehabilitation, and long-term sub-acute care. Length of stay and type of patient varies for each type of sub-acute care. Discharge goals are identified upon admission to sub-acute units and typically include a plan to discharge to home or the patient's previous level of care.

- a) Sub-acute short-term medical programs typically have a length of stay of 20 days or less. Patients in these programs are those who have undergone extensive surgical procedures or have a medically complex illness. Because of their conditions, these individuals may have complicated or ongoing health care management and service needs that make home management difficult.
- b) Sub-acute short-term rehabilitative patients typically have a length of stay of 20 days or less for recent orthopedic procedures, or recent neurological

injury, for which they require ongoing rehabilitative needs along with their ongoing health care management needs.

- c) Long-term sub-acute admissions have an anticipated length of stay that is longer than 20 days. Patients on long-term sub-acute units may have suffered catastrophic illness, or multiple traumas that require ongoing high level health care management over an extended period of time. Many of the patients on long-term sub-acute units will eventually require placement in long-term care facilities (Gill, and Walter, 1994).

The typical sub-acute unit patient is chronically ill, and/or elderly and must meet certain financing requirements. Because 75% of the patients on sub-acute units are over the age of 65, Medicare is often the primary source of financial payment for patients admitted to these sub-acute units.

Costs incurred by the skilled nursing facility for the sub-acute unit stay are subject to reimbursement guidelines of the Health Care Financing Administration's (HCFA) Diagnosis Related Group (DRG) prospective payment system (PPS) and the Medicare SNF program (Gill & Walter, 1994). Provider fees for sub-acute patients are reimbursed through Medicare, Medicaid, or private insurance on a fee for service, or capitation basis. Financial benefits to acute care facilities when the patient is transferred to sub-acute care result from a reduction in care costs via reduced length of stay. Financial benefits to the skilled nursing facility where the sub-acute unit is housed are realized through per diem reimbursement.

The costs and benefits to health care providers are more difficult to quantify. Anecdotal reports of benefits often cite improved efficiency from grouping of patients at a central location, improved medical management during post hospitalization times, and improved continuity of care as patients move from acute care to sub-acute care and ultimately to home or long term care.

Quality of care in sub-acute units has been measured through evaluation of discharge outcomes, post discharge health care use, and death rates (Dunn, 1996; Kauh, Polak, Hazelett, Hua, & Allen, 2005). Reported findings are improved patient outcomes in terms of functional status, decreased rates of rehospitalization, and decreased length of stay on the sub-acute units (Burl, Bonner, Rao, & Kahn, 1998; Kauh et al., 2005; Rubenstein, Josephson, Wieland, & English, 1984; Rubenstein, Stuck, & Wieland, 1992).

Many organizations and sub-acute units utilize a multidisciplinary approach to health care management to improve the quality of care provided. Interdisciplinary teams may consist of nursing, pharmacy, physical therapy, occupational therapy, speech therapy, nutrition services, psychiatry, social service, as well as the medical providers. Medical care may be managed by a team as well, consisting of a physician and nurse practitioner (Kauh et al., 2005).

Long-Term Care

Long-term care is defined as care provided to meet activities of daily living either at home or in skilled nursing facilities (Administration on Aging, 2008). In 2006, there were 1.5 million patients classified as long-term care residing in nursing homes in the United States. The average length of stay for patients admitted to long-term care is 835 days or 27 months (CDC, 2008).

Care provided in skilled nursing facilities is regulated and monitored by the Department of Health. Included in these regulations is the frequency of visits made by the health care provider. Current guidelines require that new admissions to skilled nursing facilities be seen by a health care provider every 30 days for three months, then every 60 days thereafter. Every other visit may be made by an advanced practice nurse practitioner.

As illustrated in the previous discussion of institutional care delivery systems, it is clear that existing parameters may limit access to care for certain individuals. Therefore, the purpose of this systems change project was to advocate for a modification of one system, sub-acute care, to address a gap for individuals who need a longer length of time in that system because of the complexity of their needs.

Systems Change Project

The key participants for this systems change project were a) a subgroup of a major health system medical group that was established to serve the senior population (hereafter referred to Senior Care Specialty Group), and b) a care facility that is an affiliate of a major faith-based system for seniors (hereafter referred to as Care Facility).

Senior Care Specialty Group is a program within a large health care system medical group in the Upper Midwest. Senior Care Specialty Group is an interdisciplinary program that provides a) health care to patients of long-term care facilities, and b) health care management for individuals admitted to sub-acute care units who require transitional care between an acute care admission and discharge to home.

Within Senior Care Specialty Group there are two teams: long-term care teams (LTC), and transitional care teams (TCU). LTC teams consist of a physician (MD) and nurse practitioner (NP). The NP completes patient visits monthly and additional visits as needed for acute care needs. The MD/NP team completes a patient visit once every 4th month after three initial 30 day visits have been completed.

Transitional care teams (TCU) manage patients in sub-acute units and consist of an MD/NP team as well. Patients in the TCU receive twice weekly visits from the interdisciplinary team. The MD/NP team completes a patient visit together on a weekly basis. In addition, the NP completes a patient visit independently on a weekly basis. A discharge summary is dictated by the NP and sent to the patient's community primary care provider at the time of discharge from the TCU.

Productivity for the two programs in Senior Care Specialty Group is carefully monitored and reflects patient panel size, and the Relative Value Units (RVU) billed. RVUs are activity based cost estimations that reflect a determinate of the cost of provider services by procedure billing codes. RVUs also incorporate overhead clinical expenses into the estimation and are utilized by Medicare for provider service reimbursement. Full time NPs in Senior Care Specialty Group LTC program have a productivity goal of 125 patients and 1300 RVUs. Full time NPs in TCU program have a productivity goal of 11 patients per TCU and are accountable for 2 TCUs. The goal for RVUs for a TCU NP is 500 (A. Young, personal communication, March 25, 2009).

The mission of the major care system within which Senior Care Specialty Group is located is to “serve our community by providing exceptional care, as we prevent illness, restore health and provide comfort to all who entrust us with their care”. The health care system initiated a program with an underlying goal to refocus on their mission. The work of the new program is to achieve:

Patient centered care with supportive care teams and support of healthy lifestyles,

Better outcomes and better health for our communities,

Reduced costs for the system and the system patients,

Improved patient experience incorporating the patient’s voice in care design, and

More patients choosing the health system because of our coordinated, high quality care.

The rationale for the development of the new program was to reflect consistency with the findings of the Committee on the Quality of Health Care in America (Committee on Quality Health Care in America, 2001). The findings included increased fragmentation of care, increased cost of care making care too expensive for many patients, varied care quality of care among sites, increase in uninsured and underinsured patients, consumer demand for improved quality of care, the need for alternate payment models from insurance companies and government based on quality and outcomes.

The mission of the health care system, the rationale for the development of their new program, and the new program goals were consistent with the underlying premise of this project which was to improve the health care process and experience for underserved patients.

Site for System Change Project

The Care Facility for this project was located in a major city in the Upper Midwest. The Care Facility is affiliated with a faith-based system that has a statement in their mission purposing that "In God's Love, All Patients are Created Equal." Under this premise, the Care Facility frequently admits patients who have challenging home and financial circumstances, as well as complicated medical and psychiatric conditions. The Senior Care Specialty Group has an identified MD/NP team to care for patients residing at the Care Facility who are classified as long-term care. The Senior Care Specialty Group MD/NP team also accepts and follows patients from outside their health care system during their stay at the Care Facility. The team follows patients who are not expected to be long-term care even though the Care Facility is not an established site for the TCU program with Senior Care Specialty Group. This willingness to

medically manage these unassigned and short term patients is because there is a need created by the shortage of nursing home providers for these patients.

Conflict arises in the management of the intermediate length of stay patients. The patients do not meet the criteria for sub-acute care because their length of stay is longer than the average sub-acute stay, as well as that the facility is not an identified sub-acute site for the Senior Care Specialty Group. The medical acuity level of these patients is more complicated than most long term care patients. This higher acuity level cannot be met by the current frequency of provider visits for a long term care patient. This conflict has led to the development of the Systems Change Project.

Purpose for the Systems Change Project

Senior Care Specialty Group provides primary nursing home care for many patients at the Care Facility. In 2008, there were 39 non LTC admissions to the Senior Care Specialty Group team at the Care Facility. The average length of stay for these admissions was 66 days. There were 11 patients discharged in 2008 whose admission occurred prior to 2008. These patients were classified as LTC even though the plan on admission for these patients was to eventually transition them to an alternate care site. The alternate care sites included the patient's home, group home, assisted living or an alternate long-term care facility. The average length of stay for these 11 patients was 290 days. There are currently 75 LTC patients on the Senior Care Specialty Group service at the Care Facility. The average length of stay for the current LTC patients cannot be calculated until post discharge. There were 18 patients in 2008 with a length

of stay less than 30 days, and an average length of stay of 10.5 days (A. Young, personal communication, March 25, 2009).

The Care Facility is unique in that it serves a population of patients who require transitional care but do not fit the profile of either sub-acute care or long-term care. Discharge planning needs and medical management for these intermediate length of stay patients are of higher acuity than the patients in long term care, and match the acuity needs of sub-acute transitional care unit patients. However, these patients do not fit the profile of transitional care sub-acute patients because length of stay for these patients is longer than 30 days. Insurance, lack of insurance, homelessness, chemical dependency, and mental health issues are some of the underlying confounding factors which make discharge planning more difficult and lengthy (N. Tostenson, personal communication, March, 2009). These patients fall into a 'gap' within the care programs. They are not considered TCU patients, but have medical management needs and discharge planning needs that are similar to a TCU patient. Because these patients are not considered TCU patients, they do not receive the increased frequency of health care management visits from the MD/NP team that patients on a TCU would receive. Discharge planning and other health care management issues are handled over the phone and during the time between other patient visits on the nursing unit, resulting in fragmented care and care that is inadequately coordinated. The patient panel goal of 125 patients for LTC NPs at Senior Care Specialty Group limits the ability of the LTC NP to consistently provide a visit schedule with the frequency and acuity of care management for these patients that is similar or equivalent to TCU patients.

At the core of any practice are basic truths and beliefs. Guiding my practice with the Senior Care Specialty Group are the Key Principles of Catholic Social Teaching. The Key Principles of Catholic Social Teaching include:

1. Human Dignity: Each individual has inherent dignity.
2. Community and the Common Good: How the society is organized directly affects the dignity of its members.
3. Rights and Responsibilities: It is the responsibility of the members of society to protect human rights including right to life and those things required for human decency.
4. Option for the Poor and Vulnerable: The needs of the poor and the vulnerable should be priority.
5. Participation: All individuals in a society have the right to participate in the society equally.
6. Dignity of Work and Rights of Workers: The economy must serve people.
7. Stewardship of Creation: Respect for the Creator is shown through protection of people and the planet while living out one's faith.
8. Solidarity: We are one family regardless of national, racial, ethnic, economic, or ideological differences.
9. Role of Government: Being an instrument to promote human dignity, protect human rights, and build the common good.
10. Promotion of Peace: Mutual respect between peoples and nations.

(Office of Social Justice)

The principles of social justice stress the concepts of freedom from bias or favoritism, impartiality, as these concepts apply to the distribution and availability of health care.

The underlying premise of my project was to improve the health care process and experience for underserved patients. Therefore, this project was derived from and was compatible with the mission of the health system in which the Senior Care Specialty Group is located, the rationale for the development of a new program and goals for the health system, as well as the underlying premise seen in the mission of the faith-based group for the Care Group. The overall compatibility of my project, the corporate dedications of the health system, and the faith-based group which the Care System is affiliated are all manifestations of a dedication to the principles of social justice defined here as the aspiration for equity in the distribution of best quality health care.

Statement of the Problem

What are the health care needs of patients who require transitional care but do not fit the length of stay guidelines of sub-acute care and who do not initially plan to be long term care? How can the needs of these patients met by the Senior Care Specialty Group program while sustaining financial viability of the program?

Project Objectives

To accomplish the project, the following objectives were delineated:

1. Define the protocol for sub-acute care provided by Senior Care Specialty Group.
2. Define the protocol for long-term care provided by Senior Care Specialty Group.
3. Define a protocol for intermediate length of stay program for Senior Care Specialty Group.
4. Design an intermediate length of stay program that will be financially viable.
5. Design an intermediate length of stay program that will improve the health care management of patients who fall into the care delivery gap.

Chapter 2

Theoretical Framework

Knowledge transfer is facilitated when guided by a unitary perspective. Newman, Smith, Pharris, and Jones (2008) describe the unitary perspective as a representation of a change in how problems are viewed and solved. Historically, nursing has approached problem solving through a process of knowing the parts of the problem. In the unitary perspective, a problem is examined through a process of exploration of the patterns that make up the whole of the problem. By gaining a better understanding of the patterns and rhythm of the problem, a clarity develops into the actions needed for problem resolution. Identification of the special difficulties of providing care for patients who require the higher acuity of care that is typically provided in sub-acute units during an extended length of stay involves exploring the patterns associated with sub-acute care and long term care using the method Health as an Expanding Consciousness Praxis: The Process of Pattern Recognition (Newman, 2008). In this process, interviews are held with key stakeholders. These interviews center on determining the benefits of higher acuity care that can be achieved through care management provided by an interdisciplinary team that is focused on patients whose goals of care are to be eventually discharged from the long term care environment. In addition, attention to the financial implications of this higher acuity care program contributes to identification of patterns in the problems associated with health management for this patient population.

Key stakeholders include the clinic director for Senior Care Specialty Group, the Medical Director of Senior Care Specialty Group, the Director of Nursing at the Care Facility, financial

staff at Senior Care Specialty Group, the nurse manager of the Care Facility, the social worker at the Care Facility, and other members of the interdisciplinary team at the Care Facility.

Literature Review

Trends in health care have shown an increase in the number of individuals with inadequate insurance and decreased access to healthcare. The number of elderly in the population is expected to rise significantly in the next few decades. The number of chronically ill and disabled adults is also growing. These population trends have major implications regarding health care in the United States and there is a substantial growth in research and proposals for health care systems change to meet this challenge.

Methods of Care Delivery

Anderson and Knickman (2001) provide evidence that the chronically disabled population had reached numbers exceeding 125 million in the year 2000 with numbers expected to exceed 155 million by 2020. This population mix of frail elderly and younger disabled adults has many complex needs due to chronic medical problems, co-morbidity, and functional disability. Many of these individuals are at risk for inability to remain in their homes due to chronic care needs. The authors summarized the advantages and disadvantages of several payment systems in terms of how funding is utilized to meet the medical, support, mental health, and long-term care needs of the disabled and elderly population. The financial programs reviewed include Medicare, Medicaid, and Demonstration projects. The demonstration projects reviewed included: 1) EverCare, which focuses on high risk elderly in nursing home; 2) Social Health Maintenance Organization (SHO/I, and SHO/II), which dedicates

Medicare funding to community based benefits with a goal to reduce acute and skilled nursing facility admissions; 3) Prepaid Programs of All Inclusive Care for the Elderly (PACE), a program to provide care for elderly at risk for nursing home admission; and 4) Community Medical Alliance (CMA), a program to care for chronically ill or disabled adults eligible for Medicaid.

PACE and CMA demonstration projects have consistently reported success in efforts to improve quality of care and reduce hospitalization rates for their given populations through a redistribution of funds into primary care, support, and community based services. Despite the successes reported from the demonstration projects, there have been minimal attempts to incorporate strategies from these demonstrations on a wider scale.

The authors identify several contributing factors for this phenomenon. These factors include:

1. An underlying premise of the program requires the organization to incorporate mission-driven support to provide best care to this underserved population. It is through this underlying mission that organizations and providers in spotty geographic regions were able to identify a common goal and join together to implement the demonstration project.
2. The need for government and payer involvement. Medicare and Medicaid regulations were changed in small levels to accommodate the demonstration projects. Widespread changes to health care policy would be required to implement these programs on a larger scale.

3. The PACE and CMA programs are only available to Medicaid eligible individuals. Expansion of the program to non-Medicaid eligible individuals would require significant regulatory changes for hospital and institutional care benefits.

This evaluative review provided evidence that there are federally funded demonstration programs with proven success for improving the quality of care provided to the elderly and chronically disabled. There exists a paradox in that the regulatory changes required for the widespread implementation of these successful federal programs are prohibited due to the financial constraints facing the regulatory systems.

Care transitions are times of complex needs for patients. Patients in care transitions are at higher risk for rehospitalization and complications because of their health status. Hutt, Ecord, Eilertsen, Frederickson, & Kramer (2002) conducted a nationwide study to examine the characteristics of nursing home and sub-acute patients who experienced a rehospitalization in the 90 days following hospital discharge. The authors used *t*-tests to compare variables and regression analysis to explore the association between risk factors. The researchers found that residents who develop illness in the evening or weekend hours and who were younger or of male gender were more likely to experience a rehospitalization. The authors also reported a limitation of their findings because they did not consider including the type of primary care provider model as a variable in their analysis. They cited research that has shown the use of a nurse practitioner or physician assistants on the primary care team yielded consistently lower rates of rehospitalization for this population of patients.

At Risk Populations

In a study funded by the Kaiser Family Foundation (Hawryluk, 2004), the author identified gaps in care for at risk populations. These gaps were created by lack of overlap of the health care coverage within the Medicare and Medicaid payment systems. These are individuals who qualify for Medicare due to disability, but do not qualify for Medicaid. The number of individuals who fall into this gap varies from state to state due to differences in eligibility criteria, but Medicare and Medicaid enrollment data indicates there are more than 5 million individuals in this population. The study found that 25% of this population did not have a primary care provider, 45% had times they were unable to get needed medical equipment, 35% had difficulty obtaining prescription medication, and 35% had difficulty meeting social needs such as housing, food, and heat.

Mold, Fryer, & Thomas (2004) analyzed data from the 2000 National Health Interview Survey to identify the number of elderly individuals without insurance, along with other variables. The data show that 1% of the Nation's population over the age of 65 is uninsured and ineligible for Medicare or Medicaid. Other variables identified in this group were low socioeconomic standing, and income below poverty levels. Self-report data from individuals completing the survey indicate that this population is less likely to have primary care providers, less likely to seek care due to financial constraints, and are more likely to utilize acute care settings for non-urgent needs because they are unable to obtain care in community settings due to a lack of health care coverage.

Chronic illness is generally known to produce significant care needs. A review of the evidence indicates that the population of individuals with chronic illness will continue to increase. It becomes very challenging for this population to receive high quality, cost effective health care if one considers additional factors such as poverty, advanced age, or lack of adequate insurance coverage.

Many methods have been proposed to meet the care needs of these individuals. Programs aimed at improving the quality of care provided to the elderly and/or disabled populations have also been studied. The Institute of Medicine (2001) offers guidelines for creating higher quality health care. These guidelines include obtaining and reviewing data about the course and management of the condition, involving the patient in self-management of their illness, applying clinical interventions that prevent complications and optimize disease control, and ensuring continuous follow-up.

Health systems implement disease management programs which are designed to contain health care costs by improving the health status of the chronically ill. The goals of disease management programs are to implement care coordination, decrease duplicate medications, reduce use of potentially inappropriate medications, and improve the utilization of clinical guidelines. The success of disease management programs are measured in several ways. These methods include: (a) overall cost savings, (b) component cost savings as seen in reductions in emergency room visits or hospital admissions, (c) return on investment, (d) secondary prevention activities, (e) clinical outcome measures, (f) adherence to clinical guidelines, and (g) education of providers and patients. Early evaluations of several State

Medicaid Disease Management programs have shown only a small cost benefit, although the potential for improved care quality remains significant (Wheatley, 2002).

Elements of Quality Care

Transitional Care suggests performance of disease management concepts as patients move from one care setting to another. Reuben et al. (1997) describe a program for delivering care using nurse practitioner and physician teams in transitional care settings (TCU). Patients in the TCU model of care received care from the nurse practitioner and physician team. The TCU program involved two provider visits per week, with the nurse practitioner being available at the facility for additional patient visits for acute needs that might develop. Using descriptive and comparison measures, the TCU model of care was compared to a control group comprised of patients in the same health care system who received care from their primary care provider in the clinic. The evaluation showed improvement in quality of care for the demonstration group: rehospitalization rates were reduced, patient and care giver satisfaction with care increased, and lengths of stay were reduced. In addition, primary care providers expressed a high level of satisfaction with the care provided to their patients by the TCU team. The demonstration provided benefit to the health plan as well, with a 38% improvement in the negotiated rates for TCU reimbursement. The authors concluded that it was the presence and availability of the clinical team on the TCU which contributed to the striking results of this comparison study. Several variables were identified that impacted the results. The variables included incorporating a close interdisciplinary approach by providing education to the nursing and therapy staff and taking an active role with social service to make discharge arrangements.

Boult et al. (2009) conducted a review of research that investigated models of comprehensive health care aimed at improving the quality of care for chronically ill patients. The review included studies which met criteria for including strong study design. The criteria included meta-analysis, systematic review, trials with an equal control group, had adequate sample representation, used valid measures, had reliable data collection techniques, and had rigorous data analyses. The authors identified 15 models of care which include: (a) Interdisciplinary primary care team; (b) care and case management; (c) disease management; (d) Preventive home visits; (e) comprehensive geriatric assessment and management; (f) pharmaceutical care; (g) chronic disease management; (h) proactive rehabilitation; (i) caregiver education and support; (j) transitional care; (k) substitutive hospital- at- home; (l) early-discharge hospital-at-home; (m) care in nursing homes; (n) prevention and management of delirium; and (o) comprehensive inpatient care. Care provided by an interdisciplinary primary care team, and care provided in transitional care units which incorporated an interdisciplinary approach, or disease management showed significant improvement in both quality and cost of care. Many of the successful models of chronic care acknowledged barriers to expansion of the programs outside of the study setting. This phenomenon is due to inability to adjust regulations in the Centers for Medicare and Medicaid Services.

Wagner et al. (2001) developed a Chronic Care Model for the delivery of health care for patients with chronic illness. This model included six elements that have been identified as being essential when providing high quality care to chronically ill patients. These elements include community, the health system, self management support, delivery system design,

decision support, and clinical information systems. The model has been implemented in 104 health systems through a grant from the Institute for Health Improvement. The experience of implementing the Chronic Care Model brought to light that improvement in quality of care requires “comprehensive system changes that entail more than simply adding new features to an unchanged system focused on acute care”. The barriers identified were mostly factors that occurred outside of the practice organization. These factors include reimbursement issues, and the behavior of health plans and insurers.

Health Care Reform and Medical Homes

The literature shows that programs have been developed which improve the quality of care that is provided to patients with chronic illness. Difficulty is seen though with implementing these programs successfully. The Institute of Medicine (2001) reports that the design of the health system is part of the fundamental problem with program implementation, and that increased effort without a change to the health care system will not result in the incorporation of care quality improvement programs. It is clear that all systems involved in the health care process require change in order to achieve improvement in quality, cost, and access to health care.

Reform of the health care system has been attempted almost continuously. The current political administration has made significant efforts and steps towards a reform of Medicare and Medicaid programs. One aspect of this reform is to develop Medicare Medical Homes. The underlying goal of a health care home is to reduce fragmentation of services, and provide the participant with services which help them to coordinate their health care.

Medical homes have been used in health care for many years through multiple demonstration programs (Schiff, & Ricketts, 2006; Sia, Tonniges, Osterhus, & Taba, 2004; Nutting, Miller, Crabtree, Jaen, Stewart, & Stange, 2009). The premise of a medical home is to provide primary care which includes coordination of care for chronic illness, care planning that involves communication and formation of a partnership with families, and medical care that is integrated into the community. The medical home also provides a method for the care provider to track the patient's progress and outcomes (Schiff, & Ricketts, 2006).

Nutting et al. (2009) describe lessons and recommendations from their experience of transforming a practice into a medical home. The process of becoming a medical home requires a transformation of the practice system. The system changes from a model designed to enhance provider work flow, to a system designed to enhance the patient experience. The change requires significant technology support with ongoing upgrading and enhancements to the technology. The providers undergo a change with their approach in that the system moves from physician centered care to interdisciplinary care. The individuals involved will experience "change fatigue" making implementation of change more challenging. The process of change will vary from one practice to another. Just as patient care should be tailored to the individual patient, the process of change to becoming a medical home should be tailored to the particular clinic or health system. From this evaluation of challenges and lessons learned, the authors make several recommendations. The practice should establish realistic expectations for time and effort required, develop a practice technology plan that is flexible, monitor for change fatigue, and learn from the process.

Nurse practitioners have been providing care that mirrors the concepts outlined by the Institute of Medicine for the medical home as a method for primary care delivery (AANP, 2007). Continued integration of nurse practitioners and other advance practice clinicians in the development of nationwide reform of the Medicare and Medicaid and the health systems is a crucial component. Research consistently demonstrates improvements in quality of care, reduction in health care costs, and distribution of care to patients who fall into service delivery gaps can be achieved through systems change. Programs of care that focus on chronic illness care coordination, communication with patients and families, and medical care that is integrated into the community or the patient's environment have been shown to be successful in regional distributions.

The systems change project, Intermediate level of care: Bridging the gap of care delivery was an effort to bring about a health care system change. The project has been guided by the existing research that indicates the need for such innovation. This project has been formulated to be compatible with recommendations for needed elements of change as well as knowledge regarding the complex factors impinging on this change and the success of its implementation.

Chapter 3

Design and Methodology

The systems change project starts with a review of evidence to describe the health care needs of the population of study- underserved sub-acute patients, then proceeds to describe the design and evaluations of provision of care in transitional care settings, and to describe organization systems methods for meeting the challenges in caring for underserved sub-acute patients.

A project proposal was submitted to the Institutional Review Board at St. Catherine University, and project approval was granted on May 26, 2009. Approval was granted from the clinic manager for Senior Care Specialty Group for implementation in the work setting. The project was reviewed by the Institutional Review Board of the health system for the Senior Care Specialty Group, and after seeking clarification regarding the procedures surrounding consent for participation, the project was approved. Lastly, the project was approved by the Ethics Committee serving as the Institutional Review Board at the Care Center.

Descriptions and procedures were written for the already existing TCU and LTC programs at Senior Care Specialty Group. A draft of a program description and procedure for the Intermediate Length of Stay (ILS) program was developed based on the current TCU and LTC program. The written procedures were accepted by the clinic manager and plans were made to present these procedures to the nurse practitioner and physician groups at a meeting after completion of the ILS project. The ILS program for Senior Care Specialty Group was implemented at Care Facility from December 1, 2009 through February 28, 2010. The original

project proposal identified a four month period for the project implementation. Organizational changes occurred in the Senior Care Specialty Group during the project implementation requiring that the project be discontinued after three months.

The cost effectiveness of the intermediate length of stay program was evaluated through summarizing RVU generation during a four month time period from 2008 prior to the intermediate length of stay. These data were compared to a summary of RVU generation from the project implementation period of December, 2009 through February, 2010.

The care effectiveness of the ILS program was evaluated using the process of pattern recognition as described by Newman. Key stakeholders were identified prior to implementation of the project through consultation with administrators at both Senior Care Specialty Group and Care Facility. Interviews were conducted with these key stakeholders in March of 2010 after the completion of the project. The interviews were reviewed, and patterns were identified and summarized. These summaries were returned to the key stakeholders to provide them with the opportunity to clarify the patterns described. Lastly, recommendations were developed regarding implementing the ILS program at additional facilities with a similar patient profile as the Care Facility to Senior Care Specialty Group interdisciplinary staff.

Evidence-Based Project/Implementation Plan

Table 1

Timeline

Action	Dates
Project Planning	November, 2008-March, 2009
SCU, IRB Approval	June, 2009
Health System IRB Approval	July, 2009
Care Facility Ethics Committee Approval	August, 2009
Protocol Development	September, 2009
Project Implementation	December 1, 2009-February 28, 2010
Data Collection and Evaluation Plan Implementation	March, 2010
Data and Evaluation Analysis	April, 2010 – September 2010
Conclusions	September, 2010
Dissemination of Results, Recommendations and Lessons Learned	December, 2010

Return on Investment

The benefits of this project are calculated by comparing current costs with the costs of implementation of the project. Both financial and other potential benefits are described.

In 2008 there were a total of 93 nursing home patients at the Care Facility. Of these patients, 36 (37%) were classified as long term care (LTC), 18 (42%) were short term care (STC), and 39 (20%) were neither long term care nor short term care.

The Senior Care Specialty Group patients in long term care units are seen monthly by the nurse practitioner (NP) and quarterly by the physician (MD). Senior Care Specialty Group patients who are in a contracted transitional care unit are seen weekly by the NP, and weekly by the MD. The Care Facility is not a contracted TCU of the Senior Care Specialty Group. All patients at the Care Facility are seen on the long term care visit schedule regardless of their length of stay classification. Medical needs that arise between the monthly provider visits are usually managed without performing a provider visit. This management takes place via phone contact, or through discussion with the nursing home staff between other patient visits. Occasionally the patients will receive an additional urgent care visit as needed for management of their medical issues. A full-time NP manages an average of 125 patients per month.

The ILS Systems Change Project patients at the Care Facility classified as LTC would receive the standard LTC visit schedule. Patients classified as ILC would receive a weekly NP visit, and monthly MD visit. It was estimated that the full-time NP/MD team would manage 90 patients per month.

Over a four month period, the 93 Senior Care Specialty Group patients at the Care Facility would receive three NP visits and one MD visit for a total of 279 NP visits, and 93 MD visits. Based on the Medicare payment system, charges for these NP and MD visits would be \$114,576.00.

Table 2***Revenue Generated for LTC patients***

	LTC Patients	Revenue
Number of Patients	93	
NP Visits	279	\$81,747
MD Visits	93	\$32,829
Total Revenue		\$114,576

In the proposed system, the 36 LTC Senior Care Specialty Group patients would receive three NP visits and one MD visit over the four month period. The remaining 57 patients would receive a visit schedule as proposed for ILC patients of one NP visit weekly and one MD visit monthly.

Table 3***Projected Revenue for ILC program***

	LTC Patients	ILC Patients	Total Visits	Revenue
Number of Patients	39	19 *		
NP Visits	117	304	421	\$123,353.00
MD Visits	39	80	119	\$34,867.00
Total	156	384	540	\$158,220.00

Note. *ILC estimate of total based on four month study period

Estimated increase in revenue. The estimated increase in revenue from the proposed change was calculated by noting the total expected revenue (Table 2) and subtracting the total revenue from Table 1 (\$114,576.00) = \$43,644.00.

Project expenses. Project expenses include implementation costs and development costs. Implementation costs included the cost of NP services in terms of the NP salary. This expense was calculated by estimating that the number of patients managed by an NP would decrease by approximately 28% requiring NP staffing to increase by 28%, requiring an increased salary cost of \$8,500 over the four month project period. The development costs were calculated by estimating the time required for the NP to plan and implement this project. The estimated time requirement for project development was 450 hours. This is a one-time cost of \$19,350.00 as determined by the NP hourly salary. These hours are being performed outside of business hours by the student researcher for Senior Care Specialty Group as part of the DNP systems change project requirements. Therefore, Senior Care Specialty Group did not incur the development cost for this program. The one-time program development cost for the intermediate level of care program incurred by Senior Care Specialty Group was therefore \$0.00.

Return on investment calculation. A return on investment calculation (ROI) is performed to determine the expected benefit of a systems change project. The ROI is calculated dividing the estimated benefit by the cost of the project. The result is expressed as a percentage. The ROI for the ILS project is: Total Revenue (\$43,644.00) divided by Investment cost (\$8,500.00) = 513% return on investment.

Other associated benefits. It is clear through the calculation of the ROI the ILS project has potential for significant financial benefit. In addition to the financial benefit, the project has

many non-financial benefits that need to be considered. The ILS has several non-financial benefits that can impact the outcome of the project. These non-financial benefits include:

1. Improved medical management of patients with complicated and/or chronic conditions.
2. Improved discharge outcomes resulting in a reduction of hospital readmissions reducing hospital expenses. The average length of stay at a hospital within which the Senior Care Specialty Group is located was 3.7 days. The cost of one hospital day in 2007 was \$1,776.00 (B. Peterson, April 29, 2010). A reduction in one hospital readmission would result in \$6,571.00 savings.
3. Reduced readmission rates will increase acute care bed availability potentially increasing hospital revenue.
4. Decreased length of stay at the Care Facility resulting from improved medical management.
5. Increased bed availability at the Care Facility attributed to decreased length of stay.
6. Improved ease of discharge from hospital to the Care Facility due to increased bed availability at the nursing home.
7. Improved quality of care for patients residing at Care Facility, thus improving the evaluation results and reputation of the nursing home.
8. Increased patient satisfaction with the quality of care provided.

Measurements for these associated benefits were not included in the current systems change project plan. However, it is clear that the return on investment prediction and the identified associated benefits indicate a potential for substantial overall benefits.

Future measurements could include patient satisfaction surveys, comparison of hospital readmission rates pre and post project implementation, and comparison of nursing home length of stay pre and post project implementation. While the calculation of these benefits was not possible during the course of this project, these benefits can be evaluated on future project implementation. Recommendations for ongoing program implementation and expansion of the program into additional health care systems may be made based on the results of the project measurements.

Support from Site

The Senior Care Specialty Group exhibited enthusiasm for this project from the onset. As discussed previously, the ILS project was congruent with the new program to support the underlying mission of health system. Due to emphasis on productivity, the caveat was made that the project could not interfere with the care being provided to existing patients for the NP/MD team at the nursing home. Several organizational barriers occurred during the implementation of the ILS project. These barriers included staffing changes, implementation of an Electronic Medical Record, and a department focus on disease specific care management and end of life care treatment decisions. The ILS was considered a nonessential project for the department and was discontinued on 2/28/10.

The Care Center also expressed enthusiasm for the ILS project. The concerns from the nursing home surrounded the potential increased demands the project would place on the staff as well as the potential for interruption in the ability of the staff to complete the daily operations for the facility. Solutions to these concerns were discussed and the staff agreed that

if they felt that the project was viewed as an interruption in the daily operations of the unit, that they would bring this to the attention of the project author, and the administration of the facility and a course of action would be determined.

The health systems involved as the underlying organizations of the ILS project emanated an environment supportive of change. However, it was crucial to consider the ethical implications of this research project as the care delivery method is designed, implemented and evaluated.

Ethical Considerations

Ethical issues can be examined from the levels of individual and organizational participation in this project and the extent to which each component conforms to accepted, specified standards of conduct. The ethical considerations in this project pertain to a) general ethical principles of beneficence, autonomy, justice and equity as applied in health care delivery; b) principles of research ethics in the protection of human subjects, informed consent, and confidentiality and c) ethical considerations as applied to the individual researcher. The following sections describe how each of these three ethical considerations was incorporated into this systems change project.

General ethical principles. General ethical principles include beneficence in that an underlying premise of this project was the attempt to improve health care and promote the well being of the patient population. Autonomy is evident in that the individual's desire to live in the least restrictive environment that they are able is respected and incorporated into the development of their plan of care. Distributive justice is evident in that the patient population

of this project involves an underserved patient population with complicating co-morbid conditions, mental health issues, chemical dependency, and social issues such as homelessness, and lack of adequate health care insurance.

One of the identified pitfalls of this project was the financial component. In the current reimbursement structure, provider visits are made on a fee for service basis. Increasing the frequency of provider visits would ultimately increase the cost of healthcare incurred by the paying agency, and possibly the patient. While it is important to recognize that Medicare and insurance companies will reimburse for any medically necessary visit, revision of health care payment structures may be needed to decrease the costs incurred by patients.

Research ethical principles. Research regulations exist to protect research participants. When regulations are not followed, there is potential for maltreatment of study participants, and misuse of health care administration. Institutional Review Boards (IRBs) are established in organizations to ensure the protection of human subjects and compliance with research regulations and guidelines established in the Code of Federal Regulations on the Protection of Human Subjects (Health and Human Services, 2005; Grace, 2009). The mission of the IRB at the health system for Senior Care Group included a goal to provide an administrative system that supports clinicians and contributes to the safe and ethical conduct of research involving human subject. The IRB at St. Catherine University identifies that its primary purpose is to ensure that the safety of human research subjects through protection of privacy, respecting subjects autonomy, preserving the dignity of the subject, minimizing risks to subjects and maximizing research benefits (SCU, 2009).

The research ethics of this project were screened by research regulations and evaluation committees at St. Catherine University, the health system for Senior Care Group, and the Care Facility. The standards of conduct were spelled out formally by the IRBs at these facilities. The project performance was subject to surveillance and review of documents, throughout the course of the project. This particular project was deemed exempt and received a special bye because no new therapeutic procedures will be involved. However, it was through this review process that issues of informed consent were judged to be within the explicitly stated standards of conduct.

Researcher ethical principles. The ethical considerations that apply to this researcher are governed by the Code of Ethics for Nurses (Fowler, 2008), as well as by personal ethics and morals. The very premise of this project was to develop a means to meet the needs of underserved individuals who fall into a gap in the spectrum of health care. At the onset of this project, a systems review was conducted, and a care gap was defined. Prior to this review of the evidence, the systems problem was blurry. It was easy to continue to provide care and just feel vague frustration with the system, as I was unaware of the nature of the problem. Once the problem was defined, and possible solutions explored, I was forced to ask myself two questions. The first question was “Could I in good conscience continue to provide a method of healthcare that does not fully meet the needs of this vulnerable patient population?” The second question was, “What is my action obligation when acting in accordance with the Code of Ethics as established by my profession?” Both my personal ethics and the professional ethical standards to which I am accountable ultimately guided my actions in the development and

implementation of this systems change project. Evidence of adherence to the nursing professional standards can be found through faculty review, professional certification, organizational screening of the health system, and past performance in the practice of nursing that has been consistently demonstrated in several hospitals and training centers.

Chapter 4

Data Analysis

The timeframe for implementation of the project was December 1, 2009 through April 2, 2010. The project was discontinued on February 28, 2010, four weeks early due to the demands weighing on the department during the implementation of an electronic medical record. Data were collected during a pre project period of four months from August 1, 2009 through November 30, 2009. There were 82 work days during the pre-project phase, and 64 work days during the project implementation phase.

There were 127 patients during the pre-project phase who were seen following the standard long term care visit schedule. The total expected number of NP visits during the pre project phase based on panel size alone would be 381. The actual number of visits during this time was 303. The total RVUs were 573.

There were 104 patients during the project implementation phase. Of these, 93 were classified as LTC, and 11 were classified at ILC. The total expected number of visits based on panel size and the ILC visit schedule outlined for patients classified as LTC and ILC was 411. The actual number of visits during the project implementation was 272. The total number of visits that would be made following the traditional LTC visit schedule during the project implementation would be 238. This schedule is illustrated in Table 4.

Table 4***Estimated vs. Actual Visits***

Total Patients	LTC	ILC	Estimated # of Visits for ILC Program	Estimated # Of Visits For Patient Panel Without ILC Project	Actual # of Visits During Project Implementation
104	93	11	411	238	272

Data available from Senior Care Specialty Group regarding provider productivity was expressed in total number of visits and total number of RVUs for LTC and TCU. The data collection plan was to obtain the total number of visits broken down into level of service, and RVU generation for the pre-project and project implementation time periods for both the NP and MD providers involved in the systems change project. In addition, the same data were to be collected for the other NP and MD providers in Senior Care Specialty Group, expressed as an average. The Health System of which Senior Care Specialty Group was a part of was unable to collate and provide the requested data. Data from the Health System did not match the records kept by the project lead. Data expressed in the next several tables illustrates the data provided by the Health System. Table 5 illustrates the pre-project RVU and visit totals of the researcher and the totals for all NPs combined. Table 6 illustrates the project implementation period of RVU and visit totals for the researcher and totals for all NPs combined. The average was calculated for the number of FTEs represented by the collected data for NPs. Data regarding

MD visits were unable to be separated from the data provided by the Health System; therefore, analysis of MD involvement cost was not included in the discussion.

Simple analysis using the same calculations outlined in the return on investment indicates \$79,696.00 would be billed during the project implementation with the ILS program compared to an expected \$69,734.00 if the traditional LTC model had been followed.

Table 5

Pre-Project RVU and Visit Totals

	Visits	RVUs TCU	RVUs LTC	Total
DNP Student	303	32	541	573
Other NPs	4,611	3,845	3,817	7,302
(Average per NP, 15.0 FTE)	(300)	(256)	(254)	(487)
Total	4,914	3,527	4,358	7,875

Note. Pre-project period was August 1, 2009-November 30, 2009.

Table 6

Project Implementation RVU and Visit Totals

	Visits	RVUs TCU	RVUs LTC	Total
DNP Student	272	5	376	381
Other NPs	3118	3194	2761	5955
(Average per NP, 15.0 FTE)	(207)	(213)	(184)	(397)
Total	3390	3199	3137	6336

Note. Project implementation period was December 1, 2009-February 28, 2010.

Project Evaluation

Project evaluation was conducted through a process of interviews of ‘Key Stakeholders’ at the nursing home site. The interviews were done using the Process of Pattern Recognition as developed by Margaret Newman. The interviews focused on pattern identification of the successful elements of the project as well as pattern identification for project elements that would benefit from reformation. Key Stakeholders included the nurse manager and social worker of the young adult unit at Care Facility Nursing Home.

Several themes were identified from these interviews. These themes included:

1. Improved and increased communication with NP. This change in communication was observed from decreased utilization of after hours on call providers and decreased miscommunications between the nursing home staff and the NP. The nurse manager attributed this to increased face-to-face interactions between the nursing staff and the NP.
2. Improved interpersonal professional relationships on multiple levels. The nurse manager observed an improvement in the relationship between the nursing staff and the NP, exhibited by trust of the staff that their concerns would be heard and attended to. The patients and NP had an improved relationship as well. The knowledge that their provider would be available at regular intervals and at scheduled times provided them with the trust that their health concerns were being addressed and provided a sense of being included in the process of treatment plan development.
3. Improved quality of care for patients. Patients were seen on a routine and frequent visit schedule. This visit schedule provided opportunities for early identification and treatment of

complications. The staff described this as a “decrease in treatment lag time”. The nurse manager observed an increased willingness to implement higher acuity monitoring and treatment in the nursing home setting on the part of both the NP and the nursing staff. She expressed that she was “certain this higher acuity treatment resulted in avoiding multiple hospitalizations” for several of the project patients. The social worker identified that the process of discharge planning was more efficient when there was increased direct contact with the nurse practitioner.

4. Evolution of interdisciplinary care approach. Many departments indicated a sense of increased involvement in the overall care process for patients compared to a feeling that they previously practiced isolated from the nursing staff and primary care providers. These departments included the rehabilitative services, nutrition services, social services, pharmacy consultants, and external mental health consultants. Even medical records expressed a sense of involvement during the process of collaboration as they worked to obtain outside medical records and health information. The nurse manager identified that the facility considered the establishment of an interdisciplinary rounding program to continue with this trend.
5. A carry-over effect was also identified. The staff reported that several nursing home residents had requested to switch from their own primary care provider to the Senior Care Specialty Group NP/MD team. The staff also reported they had seen an increase in referrals to the nursing home towards the end of the project implementation period. The staff attributed the increased number of admission referrals to a familiarity of the hospitals with

the facility due to increased communication from the Senior Care Specialty Group NP assigned to the nursing home.

Chapter 5

Summary

This project can be characterized as a journey by an experienced geriatric nurse practitioner into the world of medical system change. The origin of the project lies in several years of working directly in geriatric patient care settings and seeing the possibility of making small changes in care that could lead to significant clinical and financial benefits. However, in the process of attempting to bring about this change encountered whole realms of concepts and methodology that were essential in bringing about any major change in geriatric health care.

There were many conceptual elements encountered during the completion of this project. These conceptual elements include:

1. National health care public and private policy and financing
2. Local private health care administration
3. Philosophy and value systems regarding health care delivery
4. Methods of study necessary to identify potential areas of improvement in geriatric medicine
5. Research evaluation methods for within-organization health care treatments
6. Implementation issues for both the proposed system change and its evaluation

The net result of this journey is the identification of methods, tools, and barriers for change required to continue efforts to improve the quality of geriatric health care.

It has become increasingly difficult to provide quality healthcare in an environment that stresses cost analyses and reduction in healthcare expenses. However, even in this environment of fiscal restraint, the Institute of Medicine has identified several priorities for health care reform. These priorities include improvements in the quality of care which should be safe, effective, and patient centered. In addition, improvements of service delivery to the poor and underserved should be equitable, timely, and efficient (Institute of Medicine, 2001).

Improvement in health care is a continuous and interactive process. Lessons learned from previous improvements need to be considered when developing new methods. The process of improving health care quality involves several basic elements:

1. Identification of the area where change is needed,
2. Developing a process for improvement,
3. Implementing the process, and
4. Evaluation of the results of the change.

Discussion of Findings and Outcomes

This project can be described as both a demonstration project and feasibility exploration. While the stated purpose of the project was to develop a care delivery system to meet the needs of patients who fall into a care gap, the project can be analyzed further through a description of purposes that unfolded as the project progressed. These purposes include:

1. Identification of a health systems gap for persons who need a longer length of stay in sub-acute care because of the medical complexity of their health care needs, co-morbid health

conditions, and the associated factors complicating discharge to a less structured environment. The exploration of evidence supported the trends seen in the practice at the Care Facility. The number of patients with chronic illness has increased in the past several years. Current health care delivery systems are unable to meet the needs of this patient group.

2. Demonstration of an alternate care delivery system with the potential for substantial financial benefit for the associated health systems including the primary care providers, hospital system, and health plans. Estimated return on investment calculations indicated a potential financial benefit return of 500% over the four-month project implementation time. Analysis of the potential increase in visit totals based on the patient panel size during the project implementation period indicated a possible increase in number of visits by 99 visits during the project implementation period. Analysis of projected billing data, and available productivity data from Senior Care Specialty Group supported that further implementation of the ILS program may have ongoing financial benefit. The project demonstrated a potential for financial sustainability.
3. Demonstration that this alternate care system has the potential for substantial improvements in quality of care delivered in the transitional care setting. Key stakeholders were interviewed using Margaret Newman's Process of Pattern Recognition (2008). The key stakeholders expressed observed improvements in the care delivery process. These improvements had a spill-over effect into other areas of care on the nursing unit. These associated benefits included the potential reduction in hospital readmission rates, improvement in health care delivery to non-project patients, improved efficiency of

discharge planning and follow-up care, and improved communications between interdisciplinary staff in the Care Facility.

4. Several knowledge transfer lessons were learned through the development and implementation of this systems change project. Several unanticipated barriers were encountered during the implementation. The project took place within a complex organizational context that had a significant impact on the implementation of the project as well as the potential integration of the change into future systems. The most significant barrier was the multi-system involvement. Each system had a unique mission and vision, as well as system goals which were independent of the other co-existing systems. While the overall missions of the health system, Senior Care Specialty Group and the Care Facility were aligned in underlying philosophy, they did not match in methods and timelines for attaining their goals. This semi-autonomous sub-system functioning made ongoing implementation and future integration of the project impossible.

Conclusions

This project demonstrated a framework for the achievement of systems change. The goal set forth was to modify an existing model of care to create a financially sustainable method of care delivery to meet the needs of at risk populations in long term care settings. The systems change project has implications in the areas of patient care, fiscal planning, and provider utilization. The process encountered many unanticipated barriers and through analysis of these barriers a roadmap for future implementation of a more robust system has been identified.

Impact on Future Nursing Research and Impact to Health System

This systems change project provides many lessons for future projects involving modification of health care delivery. The underlying premise of a fee for service (FFS) pay structure may be perceived as a drawback to this project. While Medicare and insurance systems will reimburse providers for any medically necessary visit, ultimately, the increased frequency of visits will impact the health care system, as the cost of the increased frequency of visits must be paid for. These costs may be absorbed by the health care payment systems such as Medicare and private insurance, out of pocket by the patients, absorbed into the cost of operation at Senior Care Specialty Group, in some combination of these methods. As health care continues to undergo reform at a national and local level, this project exemplifies the need for revision in how health care is paid for. This revision may be a change to a capitation type of payment system or a combination FFS and capitation system designed to reward health systems for improvements in quality care and generalized reductions in health care costs. These costs may not be identified as directly attributed to the systems change project itself.

A barrier to this project may have been that there was not a “buy in” process for the health systems involved. Although the project was designed and implemented with the approval and philosophical support of the health systems, it did not require significant involvement or participation of Senior Care Specialty Group or the Care Facility. Because there was no official “start up” and implementation risk involved for the health systems, it was easily a project that could be set aside to allow more pressing change processes in the organization to take place. The superficial commitment from the Health Systems may have been enhanced due

to the underlying design of the systems change project where the project was implemented by only one provider. Future health system change projects may realize increased success for sustainability through a process of negotiating greater participant commitment with both formal and informal consequences. This commitment may be a group from all involved systems brought together and lead through the process of systems change by a project lead rather than a project implemented wholly by an individual.

Overall, this project was successful in that a modification of an effective care system was designed and implemented to meet the needs of patients who fall into a gap in the care delivery system. Analysis of data from this brief demonstration project indicates the potential for financial sustainability of this program. Barriers to be addressed in future projects include enhanced health system cooperation to bridge multiple health system involvement. This would involve incorporation of a buy in process for increased support from the health systems, and an ability to bring the results to the payer sources in order to negotiate a change in payment structure to support the care delivery change.

This dissertation effort, expressive in underlying professional and ethical dedications, has led to an enhanced capability to attend to the welfare of patients in a manner that is technically competent, fiscally prudent, attuned to the realities of health care organizations and systems.

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Appendix A

Senior Specialty Group Care

Senior Care Specialty Group Services Policy	Long Term Care: Senior Care Specialty Group Physicians and Certified Nurse Practitioners	Origination Date:
Approved By:		Date Reviewed
Approved By:		Date Revised

Policy: Long-term care is care provided to meet activities of daily living in skilled nursing facilities. Senior Care Specialty Group provides health care to patients residing in long term care units in skilled nursing facilities.

Definitions:

Long Term Care Unit (LTC): Patient care unit in skilled nursing facility

NP: Nurse Practitioner

MD: Physician

Procedure:

Initial visit: performed by NP following admission to LTC, generally within 10 business days

Comprehensive Care Plan Oversight Visit: performed by MD within 30 days of admission to LTC

Subsequent Visit Frequency:

Regulatory Visits: patients are seen on a minimum visit schedule consistent with Medicare Visit Guidelines. Visits are made monthly for the first 90 days, then visits are made every 60 days. The NP and MD alternate these visits. MD visits are made by the NP/MD team. Pre-round assessment visits are completed by the NP prior to the combined NP/MD visit.

Interval subsequent visits: are made by the NP in between the above defined regulatory visits

Additional subsequent visits: made by either NP or MD as indicated by the patient’s medical status

Progress Notes: a progress note for each provider encounter is generated. Progress notes are dictated, or documented directly in the Electronic Medical Record (EMR)

Encounter Forms: An encounter form is completed for each visit

Protocol:

Dictated and EMR notes are mailed to the LTC

Encounter Forms are faxed or mailed to office

Forms:

Encounter Form

Responsible Party:

Senior Care Specialty Group NP and MD Providers

Appendix B

Senior Care Specialty Group

Senior Care Specialty Group Services Policy	Long Term Care: Senior Care Specialty Group Physicians and Certified Nurse Practitioners	Origination Date:
Approved By:		Date Reviewed
Approved By:		Date Revised

Policy: Long-term care is care provided to meet activities of daily living in skilled nursing facilities. Senior Care Specialty Group provides health care to patients residing in long term care units in skilled nursing facilities.

Definitions:

Long Term Care Unit (LTC): Patient care unit in skilled nursing facility

NP: Nurse Practitioner

MD: Physician

Procedure:

Initial visit: performed by NP following admission to LTC, generally within 10 business days

Comprehensive Care Plan Oversight Visit: performed by MD within 30 days of admission to LTC

Subsequent Visit Frequency:

Regulatory Visits: patients are seen on a minimum visit schedule consistent with Medicare Visit Guidelines. Visits are made monthly for the first 90 days, then visits are made every 60 days. The NP and MD alternate these visits. MD visits are made by the NP/MD team. Pre-round assessment visits are completed by the NP prior to the combined NP/MD visit.

Interval subsequent visits: are made by the NP in between the above defined regulatory visits

Additional subsequent visits: made by either NP or MD as indicated by the patient’s medical status

Progress Notes: a progress note for each provider encounter is generated. Progress notes are dictated, or documented directly in the Electronic Medical Record (EMR)

Encounter Forms: An encounter form is completed for each visit

Protocol:

Dictated and EMR notes are mailed to the LTC

Encounter Forms are faxed or mailed to office

Forms:

Encounter Form

Responsible Party:

Senior Care Specialty Group NP and MD Providers

Appendix C

Senior Care Specialty Group

Senior Care Specialty Group Services Policy	Intermediate Level of Care: Senior Care Specialty Group Physicians and Certified Nurse Practitioners	Origination Date:
Approved By:		Date Reviewed
Approved By:		Date Revised

Policy: Transitional care is health care that is provided by a facility following a hospitalization, or in lieu of a hospital stay. Health care is provided for conditions that require long term, progressive or complex treatments. The level of care provided in transitional care units is generally for higher acuity conditions than care provided in long term care units, but of lower acuity than in acute care hospital units. Patients admitted to transitional care units are usually elderly individuals, who are not sick enough to require admission to acute care units, but are not yet well enough to return to their previous living environment or to home. The length of stay on a TCU is typically 20 days or less. Many patients do not fit the profile of TCU patients because their length of stay for these patients is longer than 30 days; however, the goal is for eventual discharge out of the long term care environment. Insurance or lack of insurance, homelessness, chemical dependency, and mental health issues are some of the underlying confounding factors which make discharge planning more difficult and lengthy. Patients with a complicating profile do not meet TCU criteria or long term care (LTC) criteria and fall into a gap in care delivery. Senior Care Specialty Group provides health care to these patients in LTC units with the Intermediate Level of Care program.

Definitions: TCU: Transitional Care Unit: Care units located in skilled nursing facilities providing short term rehabilitative care during transitions from acute care facilities to home.

LTC: Long Term Care: Care units located in skilled nursing facilities providing permanent residence for patients needing ongoing skilled nursing care.

ILC: Intermediate Level of Care: Rehabilitative care provided to individuals on LTC units with plan for eventual discharge to home or community.

Protocol:

Initial visit: performed by NP or MD following admission to LTC, generally within four business days.

Subsequent Visit Frequency: patients are seen weekly by NP, and a monthly visit is made by the NP and MD together. Pre-round assessment is made by the NP prior to the combined NP/MD visit. Additional subsequent visits are made as indicated by the patient's medical status. The frequency of subsequent visits may be decreased as indicated by patient medical status.

Discharge Planning: discharge planning is initiated at the initial visit, and addressed with each subsequent visit.

Rehabilitation assessment: rehabilitation progress is assessed by NP via communication with rehabilitation staff. Frequency of assessments is individualized based on patient specific therapy goals and progress.

Progress Notes: a progress note for each provider encounter is dictated or documented directly in the Electronic Medical Record (EMR).

Discharge Summary: a discharge summary is dictated and a copy is sent to the patient's primary provider.

Encounter Forms: an encounter form is completed for each visit.

Forms:

Encounter Forms

Responsible Party:

NP and MD providers