2018

Enhancing the Nurse Aide Student's Knowledge of Evidence-Based Geriatric Care Practices

Vivienne McDaniel
Walden University

Walden University

College of Health Sciences

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Vivienne McDaniel

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Review Committee
Dr. Mary Verklan, Committee Chairperson, Nursing Faculty
Dr. Camilla Jaekel, Committee Member, Nursing Faculty
Dr. Eileen Fowles, University Reviewer, Nursing Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
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Abstract

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MSN, American Sentinel University, 2014

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Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

Certified nurse aides provide approximately 65% of care to more than 1.4 million older adults residing in nursing homes who have been diagnosed with 1 or more chronic illnesses or debilitating conditions. Licensed nurses rely on nurse aides to report potentially harmful status changes in geriatric residents. Nurse aides often receive limited education and do not have a structured care process to guide them in their practice in the geriatric population. The purpose of this educational quality improvement project was to develop a geriatric-specific nurse aide care process to increase the knowledge of student nurse aides regarding processes to identify and observe potentially harmful status changes in geriatric residents, and what changes to report immediately to a licensed nurse. The knowledge-to-action model was used to address the practice problem and to guide the translation of this evidence-based project into practice. The methodology used to guide data collection and analysis was a 1-group, quasi experimental, pretest/posttest design to compare participants' knowledge before the intervention with their learning outcomes after the educational intervention was implemented. The findings revealed an increase in the knowledge of student nurse aides after the educational intervention. The project may promote social change on an organizational level by demonstrating the need for a structured geriatric care process for nurse aides prior to their entry into the long-term care workforce to improve care outcomes for geriatric residents. The project may involve social change at the state level because incorporating this process may require additional hours in the nurse aide education program curriculum.

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Dedication

I am dedicating this scholarly project to the countless certified nurse aides who are often absent from family and friends during graduations, holidays, celebrations of life, and other social gatherings due their commitment to providing quality care to the geriatric population residing in nursing homes, assisted living facilities, and other long-term care settings. Your selfless acts of sacrifice and kindness do not go unnoticed. Your rewards are often found in the beaming eyes and smiling faces of the older men and women who would not meet the simple demands of activities of daily living if it were not for the care you provide. I also dedicate this project to some informal caregivers (Brenda Austin, Carolyn Evans, Eric and Gaynell (Haskett) Gray, Paulette Rush, Warren Hilton, Patricia McDaniel Pierce, Jeffrey McDaniel, Charlotte Elliott, Arleen Armstead, and Gail Cash) who provided countless hours of care to their loved ones in the familiar surroundings of their home as they aged in place. And last, but certainly not least, I dedicate this project to my mother, Marie Washington Pierce, who was the informal caregiver to my father, Bernis Lee Pierce, during his chronic illness, and my husband, Hilton McDaniel, the chief executive officer at a psychiatric hospital dedicated to the care and treatment of the vulnerable geriatric population. My project was completed in honor of my cousins, Rev. Dr. Curtis West, and Ruth Harris; godmother, Evelyn T. Hill; aunts, Marie McDaniel Anderson, Edna Earl McDaniel Haskett, Catherine Pierce Ellis Watson, and Edith Pierce Birchette; and friend, former United States Air Force Chief Master Sergeant, Elvin Herman Jones.

Acknowledgments

I want to thank my Heavenly Father for allowing me the opportunity to accomplish this challenging feat. A special thanks to my very supportive husband, Hilton Lewis McDaniel, because it was he who kept the fire lit under my feet when I wanted to prop them high in my recliner doing nothing, and it was also he who closed the hamper when I wanted to "throw in the towel." A big thank you to my daughters, Sahkeeta Ligon and Drisana McDaniel, my cheerleaders, and my son, LaDarryl Pierce, my coach. Thank you to my sister, Veronica Pierce Waller, who is always ready to celebrate my success. A special thanks to Dr. Paula Saxby, my preceptor and mentor, for allowing me the opportunity to play a significant role in enhancing the nurse aide education program curriculum in my state and Jeanne Ellis Holmes for suggesting Dr. Saxby as a resource. I also would like to thank Professor Victoria Brahe, PhD, the "ole resourceful one," and my "yes you can" engine. Thank you to nursing pioneers Florence Jones Clark and Dr. Terris Kennedy, two of my mentors, who reeled me in when I was grasping for straws. Last, but really first, I thank Dr. Mary Verklan, who really means it when she says she wants to help you to be super successful, as well as the numerous other professors and nurses who inspired me. Special thank you to Gaynell Haskett-Gray, who inspired me to write a nurse aide care model, and Dr. Brenda Christian, who said it was doable.

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Section 1: Nature of the Project

Introduction

Many older vulnerable adults diagnosed with one or more chronic illnesses and/or debilitating conditions reside in long-term care (LTC) facilities in the United States today. According to a report conducted by Houser, Fox-Grage, and Gibson (2009), there are more than 1.44 million older adults residing in nursing homes (NHs). The majority of members of the vulnerable elderly population have challenges with accomplishing simple tasks such as feeding, grooming, and toileting, necessitating reliance on LTC nursing staff for routine activities of daily living (ADLs). The expectation of stakeholders such as residents, family members, health care providers, payers, and policy makers is that the care rendered by all nursing staff will be provided in a consistent manner that fosters care quality (Horn et al., 2010). The LTC nursing workforce responsible for the care of residents includes registered nurses (RNs), licensed practical nurses (LPNs), and certified nurse aides (CNAs), with the latter providing approximately 65% of care (Trinkoff, Storr et al., 2017). Licensed nurses rely heavily on CNAs to report status changes in geriatric residents, yet these primary caregivers have the least amount of education and training.

The Institute of Medicine (IOM, 2008) and other stakeholders (Hernandez-Medina, Eaton, Hurd, & White, 2006; Office of the Inspector General [OIG], 2002) have strongly recommended improving the education and skills of CNAs by adequately preparing and training them to provide safe, high-quality, culturally competent, person-centered care (PCC) to the geriatric population before they enter the workforce. According to Trinkoff, Yang et al. (2017), nurse aides who receive adequate training are

more capable of performing assigned duties and are more inclined to provide better care. Improving the education and skills of student nurse aides (SNAs) in Virginia will require a meticulous evaluation of the current nurse aide education program (NAEP) curriculum, as well as the introduction of a geriatric-specific care process that SNAs can use to guide care provision in the LTC environment. Section 1 of this scholarly project presents the project's problem statement, purpose, nature, and significance.

Problem Statement

Nurse aide students usually enter the LTC environment with either minimal or no caregiver experience working with older, frail, chronically ill people (Kusmaul, 2016) who suffer from geriatric syndromes. *Geriatric syndrome* is a term to describe a cluster of conditions in older adults that increases the complexity of care provision and challenges the quality of care (Anzaldi, Davison, Boyd, Leff, & Kharrazi, 2017; Wang, Shamliyan, Talley, Ramakrishnan, & Kane, 2013). Providing quality care to older residents with multifactorial conditions in the LTC setting requires knowledge and skills of geriatric care processes beyond the minimum education and skills training SNAs acquire through a 75-hour NAEP. There is an urgent need to enhance the SNA's understanding of how to recognize and prevent undesirable outcomes and provide safe, quality care to frail older adults prior to allowing them to practice (IOM, 2008; OIG, 2002; Trinkoff et al., 2013). Nurse aide students need a foundation upon which to provide care during the clinical and skills practice component of the NAEP.

The problem was that nurse aide students do not have a structured care process to guide them through understanding how to recognize early warning signs of status

changes in the at-risk geriatric population and when to observe and report changes to licensed nurses. With the complex health challenges that caregivers face daily in the geriatric population (Stone & Harahan, 2010), NAEPs need to include a didactic and skills component that imparts understanding of geriatric-specific care processes that assist SNAs in observing and reporting early warning signs of questionable status changes in geriatric residents. When status changes occur or go unnoticed that move beyond the geriatric resident's normal (baseline) condition(s), they can abruptly lead to injuries, hospitalizations, readmissions, and even worse, deaths (OIG, 2014). Because licensed nurses rely heavily on CNAs to observe and report relevant findings while providing care (Kusmaul, 2016), it is imperative that NAEPs are constructed to adequately prepare SNAs for their future roles on the LTC interdisciplinary team and as empowered team members of the LTC nursing workforce.

Purpose

The purpose of this scholarly DNP project was to illustrate the need for improved nurse aide education and to develop and implement an evidence-based nurse aide care process that can be integrated into the Virginia NAEP curriculum to improve the knowledge of SNAs on providing care to vulnerable geriatric residents in LTC facilities. The primary aim of the geriatric care process was to increase SNAs' knowledge so that they would be better prepared to recognize when there is an undesirable change of status in a geriatric resident that requires observation. The second aim was to improve the knowledge of SNAs on what to immediately report to the appropriate licensed nurse when status changes occur by providing SNAs with a reporting tool. Empowering SNAs

increases the probability that they will enter the LTC workforce competent and prepared to provide quality care to geriatric residents. It was posited that the educational intervention would increase the SNAs' knowledge and understanding of how to recognize and report early warning signs of undesirable changes in the status of at-risk geriatric residents to a licensed nurse.

The literature supported a need to enhance nurse aide education (IOM, 2008; OIG, 2002; Trinkoff et al., 2017), but a gap existed concerning the type of interventions that would improve student nurse aide training. A gap also existed between what SNAs learn in the classroom and what is expected of them in the LTC workplace (Kusmaul, 2016). Unfortunately, the limited number of hours allotted for nurse aide training serves to widen this gap. Numerous studies have demonstrated the value of increasing NAEP hours to allow for more adequate nurse aide training in the specialty of geriatrics (Han et al., 2014; Hernández-Medina et al., 2006; Trinkoff et al., 2017). The importance of ensuring that SNAs understand how to recognize status changes, when to stop and observe residents to determine if changes are reportable, and what to report to licensed nurses when significant status changes occur in geriatric residents cannot be overstated. If nurse aides gain a better understanding of this process as students, they may help to reduce unnecessary injuries, hospitalizations, and readmissions among the geriatric population once they are certified and introduced to the LTC workforce.

The overarching practice question was the following: Would including additional hours in the NAEP focusing on "harmful geriatric syndromes" and an evidence-based geriatric care process increase the knowledge of SNAs on how to identify potentially

harmful changes in the status of geriatric residents and what changes to immediately report to a licensed nurse? Licensed nurses use the nursing process to guide them through caring for residents, but there was no structured evidence-based care process to guide CNAs in this practice. It is beyond the scope of practice for CNAs to assess or plan a resident's care (Karacsony, Chang, Johnson, Good, & Edenborough, 2015). Instead, while assisting residents with care such as ADLs, CNAs are expected to observe and report questionable changes in the status of geriatric residents. Because there is no process to guide SNAs through recognizing, observing, and reporting undesirable changes in status in geriatric residents at the student level, once they become CNAs, they will most likely rely on information gained from work experiences (Kusmaul, 2016) instead of evidence-based practice (EBP). Preparing SNAs to use a care protocol within their scope of practice will increase their knowledge and understanding of providing evidence-based care to geriatric residents, as well as empower them as members of the geriatric interdisciplinary team.

Nature of the Doctoral Project

The sources of data for evidence included a comprehensive search of the Cumulative Index to Nursing & Allied Health Literature (CINAHL), MEDLINE, ProQuest Nursing and Allied Health Source, Cochrane Database of Systematic Reviews, Ovid Nursing Journals, and Joanna Briggs Institute EBP Database. In addition, peer-reviewed articles from the *Journal of the American Geriatric Society* and quality improvement data from the Centers for Medicare and Medicaid Services (CMS) were reviewed to meet the purpose of this doctoral project. A list of all NAEPs was provided

by the preceptor at the Board of Nursing (BON) in the state of Virginia. A roster of SNAs currently enrolled in a NAEP during the implementation of the program was collected from various NAEP coordinators.

The purpose of the evidence-based educational intervention was two-fold: (a) it was meant to increase the geriatric knowledge base of novice nurse aides upon entry into the LTC workforce; and (b) it served to embed knowledge to guide the novice nurse aide in providing preventative care to a frail geriatric population, which may potentially lead to better resident outcomes. The educational intervention, called the Geriatric Initiative for Vocational Education on Patient Centered Care (GIVE-PCC), was implemented to respond to numerous concerns that newly graduated nurse aides lack adequate knowledge of geriatric care practices when they enter the LTC workforce (Kusmaul, 2016). The educational intervention, which consisted of a standardized geriatric care process, was developed for nurse aides (Figure 1). The program was constructed to educate the adult learner using Bloom's taxonomy to develop the learning objectives.

A nursing instructor with at least 1 year of geriatric experience, who had obtained a certification in train-the-trainer adult learning courses, introduced the program to SNAs during the last week of the didactic component of their NAEP. The training was introduced in a 2-hour interactive session. The GIVE-PCC project was devised to introduce the SNAs to an evidence-based care process that they could use to observe immediate undesirable changes of status in a geriatric resident's baseline and report these changes to a licensed nurse or other appropriate health care provider.

Figure 1. The nurse aide geriatric care process. From McDaniel, 2017.

With the resident at the center of the care process, the intervention was implemented to guide the SNAs through the concepts of (a) familiarizing themselves with the geriatric resident's baseline or normal physical and mental status; (b) recognizing and observing potentially harmful changes in the status of at- risk residents; (c) categorizing the change(s) into physical or mental status; and (d) reporting status changes to a licensed nurse and documenting the observation and what was reported. The geriatric care process is similar to the nursing process used by licensed nurses when they assess, diagnose, plan, implement, and evaluate (McEwin & Wills, 2014), except that the process is within the scope of the nurse aide's practice. The project design was a one-group, quasi experimental pretest-posttest approach that provided insight on SNAs'

understanding and knowledge of using the care process to observe and report immediate status changes in geriatric residents.

In Virginia, SNAs must learn a plethora of pertinent information regarding the care of geriatric residents within the constraints of a 120-hour NAEP. Researchers have provided credible data, and stakeholders have spoken before Congress and made suggestions regarding the potential positive impact of improving nurse aide education on outcomes for vulnerable geriatric residents in LTC facilities (IOM, 2008; Kusmaul, 2016). Most of the studies conducted in this area have been focused on CNAs' continuing education and not on what the NAEP curriculum should include to guide NSAs through providing evidence-based care (Han et al., 2014). Although the current NAEP curriculum used in Virginia includes significant data on caring for older adults, it does not include a geriatric nursing process for nurse aides that could potentially assist them in recognizing early warning signs that a geriatric resident may be experiencing a life-altering change of status, or what to do once such signs have been identified. Building a nursing workforce that is educated and appropriately acclimated to the health care needs of the geriatric population residing in LTC facilities is essential (IOM, 2011). Policy makers are in a good position to close the gap on what SNAs are currently learning in NAEPs and what they need to learn to provide evidence-based care to the geriatric population in their routine practice.

Significance of the Project

The significance of ensuring that SNAs have received adequate training prior to caring for the vulnerable at-risk geriatric population cannot be overstated. Preparation

for entry-level roles for nurse aides entering the LTC workforce is minimal. The *American Heritage Dictionary of the English Language, Fifth Edition* defines *entry-level* as "of or relating to a job or position that requires little experience and is low in a hierarchy." SNAs must be able to think critically, be observant, be excellent reporters and documenters, retain pertinent data, and apply knowledge in practice within a complex environment. Residents and their family members are at the center of health care services in LTC facilities. Studies have shown that nurse aides who are appropriately trained in geriatrics increase resident satisfaction and improve care quality (Han et al., 2014; Trinkoff, Storr et al., 2017). The primary focus of stakeholders such as licensed nursing home administrators (LNHAs), directors of nursing (DONs), health care policy makers, and regulatory agencies, as well as frontline staff, should be the provision of safe, quality care.

In the LTC setting, CNAs are in a key position to recognize and report sudden physical and mental status changes in frail older adults, yet many of them admit that their NAEP did not adequately prepare them or give them confidence to provide care to geriatric residents (Kusmaul, 2016). There is an insatiable need for more evidence-based resources to guide CNAs in their practice, and the provision of these resources should begin when they are students. Person-centered observation and report geriatric practice guidelines should be ingrained on the first day of training and throughout the NAEP.

In the LTC environment, more recent care models such as person-centered care (PCC), also called *resident-centered care*, are becoming the gold standard for care of elderly residents because they are derived from evidence-based research (Malone,

Capezuti, & Palmer, 2015). The PCC paradigm is based on acceptance, caring, empathy, sensitivity, and active listening to promote human growth with emphasis on the well-being and quality of life (QoL) of the individual recipient (Brownie & Nancarrow, 2013). The PCC approach encompasses not only the health of the individual, but also the individual's family, culture, and community (Registered Nurses Association of Ontario [RNAO], 2015), and it requires caregivers to familiarize themselves with residents enough to know when there are significant changes in their status that require reporting.

There are several preventive practices that must be provided by CNAs, most of which are included in the nursing home quality measures required to meet CMS standards (Kusmaul, 2016). Because CNAs are responsible for observing and reporting all noticeable status changes in geriatric residents, care must be taken at the student level to provide SNAs with a care process and reporting tool that will guide them in providing care among the geriatric population. A project of this magnitude provides SNAs with the necessary observe-and-report skills to use evidence-based preventive practices in their daily care provision. The project may also be used in geriatric-psychiatric hospitals, home health care, and ALFs, which do not operate on the medical or clinical model (Han, Trinkoff, Storr, Lerner, & Yang, 2017). Educating home health aides, who primarily assist residents in their homes, and personal care aides, who care for the elderly in ALFs, could potentially improve care quality in those environments as well.

Research shows that there are geriatric syndromes linked to approximately 80% of hospitalizations among frail residents in LTC facilities that might be avoided if nurse aides recognize and report potentially harmful changes (Anzaldi, Davison, Boyd, Leff, &

Kharrazi, 2017; CMS, 2012; Wang et al., 2013). Improving the care of geriatric residents across the continuum of care has enormous implications for positive social change. In today's society, many people view NHs as poor quality of care settings, possibly due to undesirable resident outcomes, poor resident satisfaction scores, and inadequately trained frontline staff (OIG, 2014). Espousing an environment of continuous learning and providing reliable evidence-based education to the primary caregivers of the geriatric population not only would foster empowerment, but also might improve how society views LTC facilities.

Summary

The LTC population consists of fragile elderly people, many with multiple chronic illnesses and conditions, also known as geriatric syndromes. In the geriatric setting, CNAs are the primary caregivers, assisting with ADLs, providing for basic daily care needs, and reporting significant symptoms and changes in the status of residents to appropriate staff. The problem is that SNAs do not have a structured care process to guide them through understanding how to recognize early warning signs of status changes in the geriatric population and when to watch for and report such changes to licensed nurses. Nurse aides who lack understanding of how to observe and report immediate undesirable status changes in geriatric residents compromise the safety and well-being of the vulnerable geriatric population. The purpose of this evidence-based DNP project was to guide the NAS in recognizing when there is an undesirable change of status in a geriatric resident that requires observation, and what to immediately report to the licensed nurse while providing care during the SNA's clinical and skills practice

component of the NAEP. The sources of evidence collected for this project met the purpose of the project. A systematic approach was used to organize and analyze the evidence that responded to concerns that newly graduated SNAs lack adequate knowledge of geriatric nurse aide care processes when they enter the LTC workforce. A project of this degree has multiple implications for positive social change because it promotes increased learning and fosters evidence-based care practices that guide new nurse aides in recognizing and reporting potentially harmful status changes in geriatric residents. In Section 2, I discuss concepts, models, and/or theoretical frameworks used to guide the scholarly project, the intervention's relevance to nursing practice, the background of the project problem, and my role as the DNP student.

Section 2: Background and Context

Introduction

Statistics show that geriatric patients are living longer with multiple comorbidities and chronic illnesses (American Geriatrics Society, 2012). In LTC settings, especially NHs, licensed nurses rely heavily on nurse aides to observe and report status changes, maintain patient safety, and provide culturally congruent, high-quality care (Stone & Harahan, 2010). The problem is that nurse aide students do not have a structured geriatric care process to guide them through understanding how to recognize early warning signs of status changes in frail residents with geriatric syndromes, or recognizing the significance of reporting such changes to the appropriate licensed nurse. Training and preparing future CNAs to provide evidence-based care is of paramount importance for improving safety and QoL for geriatric residents. To transform how care is provided in the LTC setting, nursing leaders must ensure that CNAs are more prepared with essential knowledge and skills to provide geriatric-specific care prior to entering the LTC workforce. Nurse aides will not attain the necessary knowledge to provide care to frail geriatric residents without being introduced to interventions that enhance their geriatric competence (Aubry, Etheridge, & Couturier, 2012). The interventions must be tailored in such a manner that they are usable by novice nurse aides. Building a foundation of knowledge and skills empowers nurse aides and fosters a sense of ownership. In Section 2 of this scholarly project, I introduce a conceptual framework, discuss the relevance of this project to nursing practice, address the local background and context, and describe my role as a DNP student as it applies to this scholarly project.

Concepts, Models, and Theories

Knowledge translation is an integral component of the effort to close the gap between health care evidence and practice. The knowledge-to-action (KTA) process model, a conceptual framework developed by Dr. Ian Graham and colleagues at the University of Ottawa (White, Dudley-Brown, & Terhaar, 2016), was used to address the practice problem and guide the translation of this evidence-based project. The KTA model is cyclic in nature and integrates two key concepts with several phases that can be used sequentially or simultaneously. The concepts are a knowledge creation cycle that identifies relevant data to address the practice problem and an action cycle that includes systematic phases that facilitate a guided evidence-based approach to practice change (Haines & Waldron, 2011).

The knowledge creation cycle includes three components reflecting three levels of knowledge: knowledge inquiry, knowledge synthesis, and knowledge tools and/or products (White et al., 2016). Through the first component, *knowledge inquiry*, primary research on the practice problem topic is queried. For example, Tetroe, Graham, and Scott (2011) demonstrated the process of querying unrefined knowledge to seek best practices to fill a fall-prevention gap. Knowledge gaps are filled through *knowledge synthesis*, the second component of the knowledge cycle. Tetroe et al. (2011) and Haines and Waldron (2011) used the KTA cycle to synthesize existing knowledge on best practices for fall prevention within the geriatric population. Through synthesis, existing knowledge is summarized and practices are learned that can fill the gap between current practices and EBPs gleaned from primary research.

The third phase, *knowledge tools and/or products*, is the most significant component of the knowledge creation cycle because it is during this phase that knowledge is most refined (Lockwood et al., 2016). Knowledge tools can be used by health care providers and caregivers to make evidence-based decisions. Tools and products can include algorithms, guidelines, and communication tools such as situation, behavior, assessment, recommendation (SBAR) and other innovative tools that improve patient safety. Knowledge tools are the result of evidence-based strategies gleaned from research, adapted to local content, and then moved into action (Tetroe et al., 2011).

The knowledge creation cycle provides a theoretical foundation upon which to develop methods to improve SNAs' knowledge of care practices in the geriatric population. The KTA model was ideal for this project because the well-defined format allowed me, as a DNP scholar, to meet the essential requirements of doctoral education for advance nursing practice by demonstrating the translation of knowledge as it applied to a new geriatric care process for nurse aides. The steps of the KTA model visually conceptualize the translation process (Figure 2). The developers of the model likened the broad stage of inquiry and research to the wide mouth of a funnel where new knowledge is created, synthesized, and refined, then tailored for use and adoption by end users (Haines & Waldron, 2011; White et al., 2016).

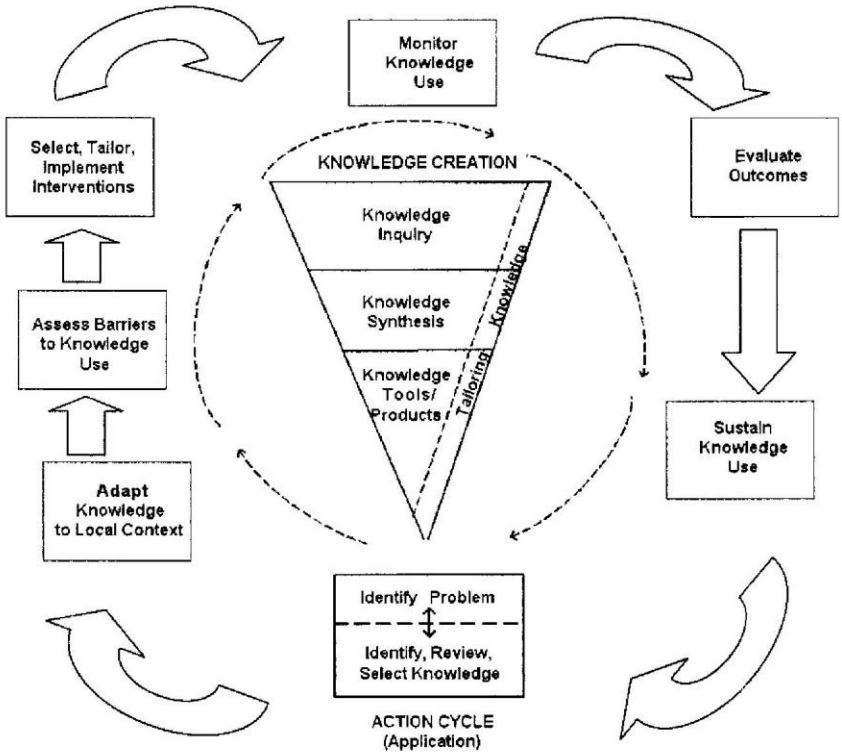

Figure 2. The knowledge-to-action translation model. Adapted from "Lost in Knowledge Translation: Time for a Map?" by I. D. Graham, J. Logan, M. B. Harrison, S. E. Straus, J. Tetroe, W. Caswell, and N. Robinson, 2006, *Journal of Continuing Education in the Health Professions*, *26*, p. 19. Copyright 2006 by the Alliance for Continuing Medical Education, the Society for Medical Education, the Society for Academic Continuing Medical Education, and the Council on CME, Association for Hospital Medical Education. Adapted with permission.

The action cycle of the KTA model articulates processes needed to prepare for change, implementation, evaluation, and sustainability of evidence-based health care practices (Field et al., 2014; Lockwood et al., 2016). There are seven phases in the action cycle. Phase 1 of the KTA action cycle sets the foundation for strategic planning. During the first phase of the cycle, the practice problem is identified, a rigorous search

and appraisal of evidence related to the practice problem are conducted, and most current EBPs are considered for use (Haines & Waldron, 2011). The problem focus for this DNP project was on improving the education and training of SNAs by enhancing NAEP curricula. The next step of the action cycle focuses on adapting knowledge to local context. Knowing what needs to be improved and providing applicable evidence using a method suitable to the user increase the likelihood of adoption and adherence to a new process (Lockwood et al., 2016). In Phase 3, the barriers and facilitators to knowledge use are assessed. Facilitators, and any factors that may potentially impede implementation, are addressed through direct input from the NAEP coordinators, members of the Virginia Board of Nursing (BON), nurse aide instructors, and other stakeholders prior to implementation.

Experiential knowledge and knowledge derived from research are of little benefit unless this knowledge can be translated into practice (White et al., 2016). Selecting, tailoring, and implementing interventions are done in the fourth stage of the action cycle. To guide the tailoring of interventions that will increase SNAs' knowledge of how to recognize and report undesirable status changes in geriatric residents, "Improving Patient Safety in Long-Term Care Facilities: Training Modules" by the Agency for Healthcare Research and Quality were evaluated. In addition, the Nurses Improving Care for Healthsystem Elders (NICHE) model was assessed for best practices in geriatric care. Both resources provide robust interventions that promote best care practices for nurse aides working in geriatric populations.

In Stages 5, 6, and 7, knowledge use is monitored, outcomes are evaluated, and knowledge use is sustained, respectively. Monitoring consisted of measuring the SNAs' knowledge of the recommended new care process. A pretest was conducted before the intervention, followed by a posttest after implementation to determine whether the intervention improved the SNAs' knowledge on how to use the geriatric nurse aide care process, as well as to ascertain the likelihood that SNAs will use the new knowledge. Sustainability of knowledge use will occur over time and will depend on the nurse aides' attitudes toward and usage of the new care process, leadership's decision to integrate the new practice into policy, and whether stakeholders at Virginia BON make the decision to adopt the new geriatric care practice into the NAEP curriculum.

Definition of Terms

The following terms used in this paper are defined for clarity and understanding.

A *certified nurse aide* or *certified nursing assistant* is a nurse aide who has received at least 75 hours of nurse aide education from a state-approved nurse aide education program and who has successfully passed the National Nurse Aide Assessment Program competency program (OIG, 2002).

Frail and *frailty* are long-established expressions used by clinicians and other health care providers to imply concern about an at-risk elderly person's vulnerability and outlook (Clegg, Young, Iliffe, Rikkert, & Rockwood, 2013).

Geriatrics is a subspecialty of internal medicine that focuses on decreasing the effects of aging in elderly persons by promoting health, wellness, and prevention of diseases (IOM, 2008).

Geriatric syndromes are multifactorial conditions common in older adults (Wang et al., 2013) that are usually linked to negative outcomes including morbidity, hospitalizations, and nursing home admissions (Clegg et al., 2013).

Gerontology is the study of the aging process (Hedman, Fuzy, & Rymer, 2018).

A *nurse aide* or *nursing assistant* is an uncertified paid caregiver who has received at least 75 hours of nurse aide education from a state-approved nurse aide training program (OIG, 2002).

Person-centered care or *resident-centered care* involves moving away from a biomedical model of care toward care that allows the caregiver to know the whole person and his or her experience of health over time (RNAO, 2015).

Potentially preventable hospitalizations are hospitalizations that are determined to have been preventable, avoidable, and unnecessary (Maslow & Ouslander, 2012).

Relevance to Nursing Practice

The scholarly project was meant to increase SNAs' knowledge of geriatric care practices prior to their "real-world" clinical practice by providing them an evidence-based care process that would guide them in recognizing undesirable status changes in geriatric residents and reporting these changes to licensed nurses in a timely fashion. According to the IOM (2011), the current LTC nursing workforce is ill-prepared to provide quality care to the geriatric population its members serve. In 2008, Dr. John Rowe, chair for the Committee on the Future of Health Care Workforce for Older Americans, presented an argument before the U.S. Senate's Special Committee on Aging regarding the need for additional nurse aide education. Dr. Rowe urged lawmakers to

consider the significant positive impact the LTC nursing workforce would have on the geriatric population if its members could demonstrate geriatric competence. Geriatric competence is not a random consideration. More than half of adults age 65 and older living in NHs have multiple health care problems, such as diabetes, hypertension, and dementia, which cause their geriatric care to be more complex and costly (Kusmaul, 2016). Failure to recognize early warning signs of harmful conditions in at-risk geriatric residents and to communicate findings immediately shows a lack of geriatric competence that ultimately results in unplanned hospitalizations.

Hospitalizations of NH residents are not only costly, but also may cause stress, anxiety, and confusion for residents (Ouslander, Bonner, Herndon, & Shutes, 2014). Hospitalizations can also cause anxiety and stress in family members, a relevant consideration when employing the PCC model. Adequately educating SNAs by introducing them to paradigms that guide geriatric care practices has implications for improving QoL and quality of end of life (QEoL) in geriatric populations (Zheng & Temkin-Greener, 2010). Nurse aides, who have a better understanding of how geriatric syndromes impact the older resident's QoL and QEoL, may be more receptive to adopting a geriatric care process that teaches them how to observe warning signs that could harm residents. Geriatric-knowledgeable CNAs could potentially transform how care is provided in nursing homes and other LTC settings.

Health care leaders who empower CNAs and foster workforce environments that embrace new knowledge increase the likelihood of novice nurse aides adopting new practices. In a study conducted by the OIG (2014) to evaluate post-acute care for

residents in skilled nursing facilities, a review of medical records by physicians revealed that 37% of preventable events that resulted in harm or hospitalization of geriatric residents were the result of inadequate monitoring of at-risk residents. Nursing leaders may experience a decline in unnecessary hospitalizations if a program such as the GIVE-PCC is sustained. Decreasing unnecessary hospitalizations in the geriatric population would also serve to meet the triple aim of improving better resident outcomes, increasing quality care for better resident care experiences, and lowering the cost of caring for older individuals with multifactorial conditions.

Local Background and Context

The project sites included the Virginia BON and various schools that offer nurse aide education programs (NAEPs) throughout Virginia. The Virginia BON is responsible for ensuring safe and competent patient care by licensing health professionals, enforcing standards of practice, and providing information to health care practitioners and the public (Virginia Department of Health Professions, 2017). The certification of nurse aides falls under Virginia BON's authority. As the lawmakers and regulators for NAEPs and CNA practice, it is incumbent on Virginia BON members to ensure that the curriculum used to teach CNAs aligns with national legislation governing their education, and that this curriculum imparts education and skills that will ensure safe and competent patient care for the vulnerable geriatric population residing in NHs.

After a 1986 study conducted by the IOM revealed an array of inadequate care, abuse, and neglect in NHs, the Nursing Home Reform Act, part of the Omnibus Budget Reconciliation Act of 1987 (OBRA-87), was established to impart quality standards in

NHs nationally (OIG, 2002). The OBRA-87, enacted by federal legislation, and associated regulations (42 CFR483.152), mandated that NHs certified by the CMS only employ CNAs who had been trained through a BON-approved NAEP in their state. Consideration was given to each state, allowing the state's BON freedom to determine the hours of its NAEP if the program was at least 75 hours, with 16 hours allotted for hands-on training, which could be in a skills lab or a nursing home (OIG, 2002). Five of the requirements for nurse aide education imposed by legislation are as follows (Code of Federal Regulations, 2012; Federal Register, 1991):

- Nurse aides must have at least 75 hours of training through a NAEP in their state
- Nurse aides must be taught by a RN with at least 1 year of LTC experience
- Nurse aides must take a competency evaluation if newly trained
- Nurse aides who are currently providing care must pass a competency evaluation
- Nurse aides must be added to a nurse aide registry to identify that they have met the certification requirements

The statutes imposed by OBRA-87 have remained in place and have not been changed since being signed into law in 1987.

Over the course of 30 years, the complexity of providing nursing care to the geriatric population has dauntingly risen (Hernandez-Medina et al., 2006; Trinkoff, Storr et al., 2017). In a seminal IOM (2008) report, *Retooling for an Aging America*, recommendations were made for health care organizations to prepare the future health

care workforce for the influx of the older adult population. The report suggested that the delivery of high quality care for an aging population depended on the development of a nursing workforce skillful in the specialty of geriatrics. The report specifically outlined implications for the education of assistive nursing personnel such as CNAs. Because CNAs are the largest direct care workforce providing care to geriatric residents (Karacsony et al., 2015), LTC administrators, and nursing leaders should be concerned about how SNAs will be prepared to provide care to geriatric residents with challenging chronic illness, and comorbidities.

Role of the DNP Student

Practice demands for the current complex LTC health care system continues to increase in the U. S. (IOM, 2008). It is incumbent of executive nursing leaders to identify and solve the problems plaguing the LTC nursing workforce that negatively impact the care quality among the geriatric population. The academic requirements for the Doctor of Nursing practice (DNP) designation focuses heavily on innovative EBPs "reflecting the application of credible research findings" (American Association of Colleges of Nursing [AACN], 2006, p. 3). As a nursing leader, an advocate for the geriatric population, and a change agent, the successful implementation of interventions gleaned from knowledge discovery will demonstrate critical transformational leadership skills attained from honing DNP competencies. As a transformational leader, my role also includes applying advanced communication processes to lead successful initiatives that improve the well-being of the population I serve (American Organization of Nurse

Executives, 2015; Moran, Burson, & Conrad, 2017). In addition, it is my responsibility to preserve the integrity of the participants throughout the implementation process.

Approval from the Walden Institutional Review Board (IRB) was obtained prior to implementing the scholarly project. Approval was also attained from the Virginia BON sponsor, and the NAEP coordinators at the individual nurse aide schools where the educational interventions was conducted. Although I sought advice from nurse aide instructors, and coordinators of the NAEP, I was responsible for the operational aspects of the project. The project faculty chair and mentor served as a guide and provided constructive feedback throughout the project. According to Magnan (2016, p.117), "the project faculty mentor and the DNP student should have a mutual respect and positive regard towards each other." The project faculty mentor is a member of Walden's graduate faculty, and is well respected by her colleagues, and the students she mentors. In addition, I functioned as the nurse aide instructor during the educational intervention. My preceptor, who oversees Virginia NAEPs, was the sponsor of the intervention. For communication purposes, formal emails were used to develop schedules and timelines, and to inform the project processes and progression. According to Moran et al. (2017), an informed group increases the potential for a successful project. The detailed plan I developed to implement this project included a projected completion time of two weeks.

Summary

Elderly people residing in LTC facilities with multiple chronic illness and comorbidities continue to create challenges in health care provision. Advocates for the aging population have recommended that NAEPs be reevaluated and enhanced to better

prepare SNAs for the complex tasks of caring for the geriatric population. The OIG, IOM, and CMS has called for more geriatric specific education for the staff that provide care to the elderly population. The scholarly project serves to integrate a new practice approach in a systematic manner. The KTA conceptual framework was used to guide the process of creating new knowledge, translating the selected knowledge into practice, evaluating the knowledge use, and sustainability of the knowledge use. The project is relevant to nursing practice because nurse aides are the primary caregivers in LTC settings and licensed nurses rely on their ability to observe and report status changes in geriatric residents. The local background content vividly discusses the impetus for enhancing NAEP curriculums and ensuring geriatric competence in frontline nursing assistive staff. The role of the DNP student in knowledge translation is a diverse and pivotal role in developing evidence-based interventions, and in translating new knowledge into practice. In addition, building a cohesive interprofessional team comprised of stakeholders who share in the goals and outcomes of the project increases the likelihood of success. Section three of this project will include a review of literature, the sources of evidence, evidence generated for the doctoral project, and analysis and synthesis of the scholarly project.

Section 3: Collection and Analysis of Evidence

Introduction

Over the course of 30 years, the complexity of providing nursing care to the geriatric population residing in LTC facilities has risen dauntingly. Many nurse aides enter the LTC environment with minimal or no experience providing care to older, frail people (Kusmaul, 2016) who suffer from multifactorial chronic health conditions, also known as geriatric syndromes (Vetrano et al., 2016). The problem is that nurse aide students do not have a structured geriatric-specific care process to guide them in recognizing and reporting early warning signs of status changes in at-risk geriatrics residents. The purpose of this project initiative was to develop and implement an evidence-based geriatric care process to improve nurse aides' knowledge on how to recognize potentially harmful status changes in at-risk geriatric residents and what to report to a licensed nurse. A seminal report from IOM (2008) outlined implications for enhancing the education of nursing assistive staff, the primary caregivers in the LTC setting, to meet the needs of the vulnerable geriatric population. It is posited that through knowledge creation, knowledge translation, and robust evaluation methods, an evidence-based geriatric care process can be adopted into practice. In Section 3, I identify the sources of evidence to address the practice-focused question and discuss how collection and analysis of this evidence provided the appropriate methodology to address the practice-focused question.

Practice-Focused Question

Licensed nurses have a five-phase nursing process that includes assessment, diagnosis, planning, implementation, and evaluation, which is essential to guiding nursing practice in all settings (Terry, 2015). The expectation is that excellent, patient-centered quality care will result in positive patient outcomes when licensed nurses follow the nursing process. However, in the LTC environment, nurse aides are the primary caregivers, and the five phases of the nursing process are beyond their scope of practice. A standard care process that can be used by nurse aides to guide them in providing care to the geriatric population is of pivotal importance if care quality is to be improved in LTC facilities. More particularly, having a foundation upon which to build SNAs' observation skills prior to entering the LTC workforce, where they will be heavily relied upon to recognize and observe early warning signs of imminent status changes in frail geriatric residents, may improve their propensity to immediately report findings. The principal question was the following: Would including additional hours in the NAEP focusing on "harmful geriatric syndromes" and an evidence-based geriatric care process increase the knowledge of SNAs on how to identify potentially harmful changes in the status of geriatric residents and what changes to immediately report to a licensed nurse?

Sources of Evidence

A comprehensive search of literature was conducted via the Walden University library to identify and critically assess existing studies related to the lack of appropriate geriatric knowledge and skills training in novice nurse aides. The MEDLINE, Cumulative Index to Nursing & Allied Health Literature (CINAHL), the Joanna Briggs

Institute, Ovid Nursing Journals, and ProQuest Nursing and Allied Health Source databases were searched using the following key terms and phrases: *nursing assistant*, *nurse aide care in long-term care facilities*, *nurse aide training hours*; *nurse aide education programs*, *CNA*, *quality of care*, *long-term care facilities*, *geriatric syndromes*, and *preventive care in geriatric residents*. Inclusion criteria consisted of peer-reviewed full-text articles written in English and published between 2011 and 2017. The search yielded 2,429 articles, which were further filtered by excluding articles that did not address specific gaps in nurse aide education and skills training in relation to the geriatric population in LTC, as well as articles published outside the United States and Canada. The exclusions yielded 73 peer-reviewed articles. Ten peer-reviewed articles were selected for this scholarly project. Three seminal articles relevant to the project but outside of the time frame were identified and included in the literature review. One governmental report outside the criteria time range that included systematic reviews was also evaluated and included.

Literature Review

The literature broadly established that SNAs are not adequately trained to provide care to the current vulnerable geriatric population due to the complexity of care necessitated by geriatric syndromes. Over the years, there have been many reports from aging advocates, the Department of Health and Human Services, and other governmental agencies urging legislators and other stakeholders to improve education for staff providing care to geriatric residents in nursing homes (Hernandez-Medina et al., 2006; IOM, 2008; OIG, 2002). In two of the seminal reports (Hernandez-Medina et al., 2006;

IOM, 2008) and one of the governmental reports (OIG, 2002), recommendations were made to improve the education and skills competencies of nurse aides providing care to the geriatric population. Increasing the hours of NAEPs at the state and national level so that curricula include education that provides SNAs with tools to develop geriatric competence may potentially transform how care is provided in the LTC setting.

The need to improve nurse aide education has been articulated and well documented in numerous research studies (Han et al. 2014; Kusmaul 2016; Trinkoff et al., 2013; Trinkoff, Yang et al. 2017). The findings of each study demonstrated a need for additional education on several topics that may improve care and assist nurse aides in meeting the current care needs of complex geriatric residents in LTC facilities. Although all four of the researchers used a cross-sectional design instead of the more robust longitudinal design, their work allowed some understanding of the phenomenon over a period of time (Grove, Burns, & Gray, 2013), and all four studies supported the concept of increasing the number of hours of nurse aide training to include education that improves quality of care in LTC facilities.

Several studies have emphasized the significance of increasing the knowledge of nurse aides and incorporating evidence-based education for nurse aides in the LTC environment for process and quality improvement (Kunte, Johansen, & Isenberg-Cohen, 2017; Lerner, Resnick, Galik, & Russ, 2010; Malik & Chapman, 2017). Kunte et al. (2017) implemented an evidence-based project to improve end-of-life (EoL) communication knowledge for CNAs and licensed nursing staff in LTC settings. The researchers developed a 10-item instrument and used a pretest/posttest method to test

CNAs' knowledge on EoL care among LTC residents prior to and after implementation of an educational intervention. The CNAs (n = 18) demonstrated increases in knowledge (unchanged 33%, increased 67%), and the education intervention resulted in a significant decrease in LTC residents' hospital transfers and an increase in QEoL care. The implication of this study to practice is that evidence-based educational interventions can improve the knowledge and competence of CNAs in providing quality EoL care to geriatric residents. In addition, this study demonstrated how interprofessional education that includes both CNAs and licensed nursing staff in the communication process can reduce unnecessary hospitalizations of geriatric residents (Kunte et al., 2017).

In a similar study, Lerner et al. (2010) implemented an evidence-based training program targeting experienced CNAs using a single group pretest/posttest design to determine if advance education focusing on dementia training would improve participants' knowledge, and to determine the participants' ability to apply the knowledge within the practical setting. The sample consisted of 44 participants. Out of a total possible score of 12.00, the result for the pretest score on the knowledge test was 6.08 correct (SD = 1.8). The mean posttest score was 8.18 (SD = 2.07) correct. A t-test analysis showed significant improvement in test scores [t (43) = 26.19, $p \leq .0001$]. Not only did the results of the intervention show that teaching the participants advanced nurse aide training in EoL care improved their knowledge, but the findings also demonstrated the need for additional and ongoing training for CNAs, in addition to indicating that CNAs were eager to learn how to care for their residents appropriately and safely (Lerner et al., 2010). The study supported the DNP project by demonstrating the need for

advanced geriatric competence among nurse aides who are joining the LTC workforce at the entry level to provide care to complex geriatric residents who may be unable to communicate their needs.

Malik and Chapman (2017) implemented an evidence-based quality improvement project to improve the education and training of CNAs caring for EoL geriatric residents in LTC. To assess changes in the participants' (n = 19) knowledge, participants were administered pretest/posttest education surveys that consisted of five questions. The data were analyzed using ANOVA, which showed improvement in knowledge ($p \leq .05$) in two (pain management, and care at the time of dying) of the six domains introduced to the participants during the educational intervention. The participants identified many additional topics of interest that could potentially meet their learning needs and improve how they provided care to geriatric residents. The results of the study supported the premise that nurse aides who receive additional knowledge and training on geriatric-specific care processes will be empowered to provide better quality care to geriatric residents with multifactorial chronic conditions. The implications of the study for practice were significant because CNAs play an integral role in EoL care in the geriatric population and need a broad understanding of care practices such as observing and reporting changes in the status of residents.

In a qualitative study that used surveys to inquire into how CNAs viewed quality care (n = 23) and CNAs' perception of caring for geriatric residents, Kusmaul and Bunting (2017) reported that only one nurse aide acknowledged that she was familiar enough with her residents to recognize if there were sudden undesirable changes in their

status. Certified nurse aides are the mainstay of LTC residents and the staff most likely to observe and identify early status changes in residents' conditions (Kunte et al., 2017). Providing education on care processes and practices can assist nurse aides in forming stronger bonds with residents assigned to them for care which may improve care quality.

One of the most significant skills that nurse aides can learn is how to identify, observe, and report potentially harmful status changes in geriatric residents (Mihaljevic & Howard, 2016), yet there is limited literature that addresses this topic. Scandrett et al. (2012) employed focus groups to define and expound on the practices that nurse aides used to detect status changes in geriatric residents, and how they communicated those changes to the appropriate nursing staff. The purpose of the evidence-based quality improvement project was to develop, conduct, and evaluate training modules for frontline nursing home staff to improve competencies (Scandrett et al., 2012). The results of the study showed that nurse aides (n = 8) described the importance of establishing an affective bond with the geriatric resident and expressed that doing so contributed to recognizing early warning signs of status changes. Although the small sample size limited the breadth of information collected, the implications for practice were significant. The researchers supported the need for nurse aide training that improves urgent communication between novice nurse aides and licensed nursing staff when reporting status changes in geriatric residents.

In a descriptive, exploratory qualitative study that explored the nurse aide's (n = 49) role in the process of detecting and reporting pain in cognitively impaired nursing home residents, Lui (2014) highlighted the unique role that nurse aides play as liaisons

between the resident and the licensed nurse. The researcher used semi structured individual interviews (n = 37) and semi structured focus groups (n = 8) to determine nurse aides' knowledge of recognizing and reporting pain to the licensed nurse while caring for geriatric residents. The nurse aides in both the individual interviews and the focus groups associated the act of being familiar with residents' daily behavioral patterns with their abilities to recognize increases in pain levels (Lui, 2014). The study supported this scholarly project by demonstrating the significance of recognizing and reporting undesirable status changes in at-risk geriatric residents to the appropriate licensed nurse.

For geriatric residents, one of the geriatric syndromes that places them at risk is urinary tract infection (UTI), which, if untreated, can lead to sepsis. According to Ginde, Moss, Shapiro, and Schwartz (2013), severe sepsis is defined as concurrent bacterial or fungal infection that also involves acute organ dysfunction. Mihaljevic and Howard (2016) implemented an evidence-based process and quality improvement educational intervention to improve communication between CNAs and licensed nurses when CNAs identified early warning signs of sepsis in geriatric residents. A simulation session was implemented using an advanced technological mannequin for the purpose of participants identifying abnormal findings and using an evidence-based communication tool to report the findings to licensed nurses. The study outcomes demonstrated that establishing protocols and standard care processes for CNAs to communicate abnormal findings increases the probability of immediate reporting to licensed nurses.

The commonality between the studies selected for this project was that each article either stated that the 75 hours mandated by the federal government for nurse aide

training were insufficient, or that additional education was required for nurse aides to provide geriatric care in today's LTC setting. The argument that CNAs, the primary caregivers of older adults residing in LTC facilities, need more education and training is broadly discussed in both current (Trinkoff, Yang et al., 2017) and past literature (OIG, 2002). The findings of each of the studies on nurse aide training in this literature review showed that nurse aides were receptive to learning care processes and practices that would prepare them to care for geriatric residents and improve resident outcomes. Study results demonstrated the need to increase nurse aide training and skills in domains such as caring for cognitively impaired residents (Liu, 2014); staff communication during QEoL care (Zheng & Temkin-Greener, 2010); culturally competent patient-centered care (Campinha-Bacote, 2011); and the importance of identifying and observing significant changes in status, and what to report to licensed nurses (Scandrett et al., 2012).

Evidence Generated for the Doctoral Project

Analysis data provided a compelling component of this evidence-based DNP project (Bonnell & Smith, 2014). All evidence and data were generated for the sole purpose of this doctoral project. No component of the data collection for the GIVE-PCC project was implemented before prior approval from the Walden IRB and from the project site. Every effort was taken to assure that the integrity of all evidence generated for this doctoral project would be met. All potential participants were informed of the project's background, purpose, and procedures. In addition, they were told why they had been asked to participate and that they could decline to participate without negative repercussions.

Participants

The target population for this scholarly project included adult male and female nurse aide students between the ages of 18 and 60 who were enrolled in Virginia BON-approved NAEPs and had completed at least 40 hours of didactic training at the time of implementation of the project. Although it is not a Virginia BON requirement, NAEP curricula usually include a minimum of 40 hours of didactic education. A randomized review of a list of NAEPs that provide at least 40 to 50 hours of didactic education was performed at the Virginia BON to determine which programs included participants who met the project inclusion criteria. Student nurse aides were selected from three different NAEPs with at least 10 students enrolled at the time of participant selection to increase the possibility of achieving a sample of at least 30 SNAs. Participants enrolled in NAEPs that offered less than 40 hours of didactic education were excluded. I selected this range of hours to ensure that participants would have a basic knowledge of providing care to the geriatric population prior to the educational intervention.

Procedures

Prior to implementing the evidence-based DNP project, I obtained approval from the Walden IRB. Upon approval from the Walden IRB, a letter (Appendix B) was emailed to nurse aide instructors of three NAEPs selected to participate in the project, in which I asked them to announce the study details to students in their classes. The nurse aide instructors provided a list of the SNAs who were interested in participating in the project along with their telephone numbers. Student nurse aides who met the inclusion criteria were contacted via telephone (Appendix C) for the purpose of educating them on

the nature of the GIVE-PCC project and to explain the length of time of the intervention, as well as what to expect as participants. The educational intervention was conducted on a Thursday in the SNAs' last week of the didactic component of the NAEP. The Thursday was agreed on after collaborating with NAEP coordinators and nurse aide instructors. The rationale was that by Thursday of the last week of didactic instruction, the SNAs enrolled in the NAEP would have received the basic information required to provide care to geriatric residents.

The room that was used to conduct the educational intervention was also the classroom used to teach nurse aides. A project assistant who was familiar with project implementation assisted in preparing the room prior to admitting participants. The project assistant also collected data. There were no visual aids relevant to this project posted in the classroom. Before executing the educational intervention, participants were asked to give their consent to participate in the DNP project by signing a Letter of Consent form. Each Letter of Consent form had a four-digit number (e.g. 0010) written on the top-right area of the page for identification purposes. For confidentiality purposes, participants were instructed to write the four-digit code on the blank piece of paper provided, and on all other forms they received. Participants were also asked to fill out a Participant Background Form (Appendix D) which provided demographic information that included gender, ethnicity, primary language, age, and telephone number. Participants were provided a blank piece of paper, and an ink pen. After the participants signed their Letter of Consent form, and the Participant Background form, the project assistant directed the participants to place both forms in a large envelope labeled

"Participant's Consent to Participate/Participant's Background forms." Once all forms were placed in the envelope, the enveope was sealed and later, locked in the file cabinet in the program coordinator's office.

Next, the participants were given instructions for completing a 10-item pretest called the Nurse Aide Geriatric Knowledge Questionnaire (NAGKQ-10; Appendix E). The participants were instructed to write their confidential four-digit code on the pretest. Participants were given a red ink pen to fill out the pretest. Since the same test was used pre-intervention and post-intervention, participants were instructed to use the red ink pen to circle the word pretest to differentiate between the pretest and the posttest. The pretest took approximately five minutes to complete. Once the participants completed the pretest the project assistant directed them to place the pretest questionnaires in a large envelope labeled "Pretests." The envelope was sealed by the project assistant and the pretests were later locked in the program coordinator's file cabinet.

The GIVE-PCC educational intervention which I developed was reviewed by several doctoral prepared educators and presented in English via PowerPoint. I utilize a mixed teaching methodology that consisted of lecture, a case study, and role play to conduct this educational intervention. The Nurse Aide Geriatric Care Process Model (Appendix F) was introduced to the participants and the concepts briefly described. After introducing the topic and reviewing the session objectives, the educational intervention was implemented in two phases: (1) the introduction of the Geriatric Nurse Aide Care process (Appendix G); and (2) the introduction of the Interact Stop and Watch Early Warning tool (Appendix H). Participants were provided a copy of the Interact Stop and

Watch Early Warning tool to assist them in understanding the importance of communicating the status changes they observe in geriatric residents, and what to report to licensed nurses.

Six geriatric syndromes that can lead to adverse outcomes and potentially preventable hospitalizations were briefly discussed which included falls, pressure ulcers, pain, urinary incontinence, delirium, and weight loss. One case study (Appendix I) was presented and participants were encouraged to be interactive. Explicit directions and guidelines for the role play were provided to the participants to maintain a structured timeline to conduct the various scenarios. Each role play lasted no longer than two to three minutes. Initially, a mannequin was going to be used as the resident, however the mannequin was not used and all participants were encouraged to participate in the role play. During role play, participants were introduced to five scenarios, assigned roles, and instructed to simulate the interaction that should take place between the nurse aide, the resident, the licensed nurse, and other staff members. Under my guidance, one of the participants played the role of the licensed nurse. The role play activities and the case study were completed in approximately twenty minutes and allowed enough time for all participants to role play. Once the intervention was complete, I discussed key points and addressed questions and concerns.

The ten-item posttest (NAGKQ-10; Appendix E) was administered upon completion of all activities. Instructions for filling out the posttest were given prior to distributing the posttest. The participants were issued blue ink pens to complete the posttest and were instructed to record the four-digit number they wrote on the blank paper

on the left-top corner of the posttest, and to circle the word posttest. Participants were directed to re-check their posttest to ensure that posttest has been circled, and the four-digit number had been recorded on the posttest. The participants were allowed ten minutes to complete the posttest but most finished in seven minutes. The participants placed their completed posttests in a large envelope labeled "Posttest" and the envelope was sealed by the project assistant. The participants were thanked for participating in the project initiative and dismissed. The envelopes that contained the pretests and posttests, signed Letter of Consent forms, and Participant Background forms were taken to the office of the deputy executive director at the Virginia BON and locked in a fire-proof file cabinet.

I graded the pretests and posttests. The four-digit number on the right upper page of the pretest that confidentially identified the participants was matched with the same four-digit number on the top right corner of the posttest. The total number of correct answers on the pretest prior to the educational intervention were compared to the total number of correct answers on the posttest after the intervention was implemented to determine if changes in the participants' knowledge occurred. The expected outcome was that the participants would improve their knowledge of the subject matter as indicated by a score of 80% or greater on the posttest.

Instrument

A search for a published validated tool to assess the outcomes of this DNP project yielded no instruments. I developed the 10-item instrument NAGKQ-10 pretest/posttest based on several evidence-based geriatric care models. The NAGKQ-10 instrument was

utilized to evaluate whether the knowledge of the participants on recognizing and reporting potentially harmful status changes was improved, and to determine if the SNAs gained knowledge of what to report to licensed nurses when a status change was observed after implementation of the educational intervention. The instrument was developed to meet the educational needs of the target population and adheres to the concepts of the Interact quality improvement program, the NICHE and PCC models, and the RNAO best practice guidelines (BPGs) for LTC. The 10-item instrument was reviewed by five nursing scholars who are experts in adult education and geriatric nursing care practices prior to implementing the project. One CNA who has provided care to geriatric residents for ten years, assessed the validity of the instrument and suggested re-phasing two of the questions. The evidence-based models of geriatric care, and RNAO BPGs used to develop the 10-item instrument supported its validity and reliability.

Protection of Human Subjects

Ethical approval was obtained from the Walden IRB prior to implementation of the project. No approval beyond participants' consent to participate in the educational intervention was required. Although, the project included human subjects, the nature of the project did not involve any potential risks to the subjects. Furthermore, no private health information (PHI) or Health Insurance Portability and Accountability Act (HIPAA) protected data was collected during this project that would readily identify any subjects. All data obtained from participants was kept in a locked file cabinet in the locked office of the preceptor at the Virginia BON and were only accessible to me and

the preceptor. The data was entered into a double password protected computer system then all documents will be shredded.

Analysis and Synthesis

The purpose of this DNP project was to implement an evidence-based nurse aide care process to guide SNAs in recognizing potentially harmful status changes in geriatric residents, and effectively communicating their findings to licensed nurses. The main objective of the project was to determine if integrating the geriatric-specific nurse aide care process into the NAEP curriculum would improve SNAs' knowledge of how to identify potentially harmful status changes in at-risk geriatric residents and what changes to immediately report to licensed nurses. The specific methodology utilized to guide the data collection and analysis was interpreted using the KTA conceptual framework. The knowledge cycle component of the KTA was used for knowledge inquiry and synthesis and then distilled to develop the tools for implementing the educational intervention. The seven phases of the KTA action cycle were applied to meet the objectives of the project and to facilitate the conversion of the knowledge gleaned from the KTA knowledge cycle into action.

Data was collected at a local NAEP in Richmond, Virginia. A 1-group, quasi experimental, pretest/posttest design was used to analyze the learning outcomes of the participants after the educational intervention was implemented. The instrument consisted of a 10-point multiple-choice pretest/posttest. The pretest results demonstrated participants' baseline knowledge prior to the educational intervention and provided a comparison to assess the effect of the educational intervention post implementation. The

IBM SPSS Statistics software, formerly known as Statistical Package for Social Sciences (SPSS) was utilized to analyze the collected data. Pre-and-posttest scores were examined using paired *t*-test analysis to determine the success of the GIVE-PCC program. A paired *t*-test was conducted to compare the knowledge of the participants before the educational intervention with the participants' knowledge post-intervention. The expected outcome was that there would be a significant difference in the scores for knowledge post implementation compared to scores pre-implementation. Table 1 was used to display the results of the dependent group *t*-tests that show the key outcomes before and after the GIVE-PCC intervention.

Summary

The need for education and training that improves the geriatric competency of novice nurse aides who provide approximately 65% of the care to geriatric residents cannot be overstated. The evidence-based DNP project provides the opportunity to identify the knowledge gaps that currently exist in nurse aide education, to explore the current NAEPs that prepare novice nurse aides to care for the vulnerable, frail geriatric population, and finally, to provide solutions. A robust literature review was conducted via the MEDLINE, CINAHL, the Joanna Briggs Institute, Ovid Nursing Journals, and ProQuest Nursing and Allied Health Source databases. In addition, seminal articles relating to the nurse aide workforce in LTC settings and government reports were used to glean data. The synthesis and analysis of the project was executed to meet the goal of the project. A 1-group quasi experimental pretest/posttest was utilized to analyze the learning outcomes of the educational intervention on utilization of an evidence-based

geriatric nurse aide care process that guides participates to recognize, observe, and report potentially harmful status changes in geriatric residents. Section 4 of this project includes the findings and implications of the evidence-based intervention, recommendations gleaned from the results of the intervention, and strengths and limitations of the implemented project.

Section 4: Findings and Recommendations

Introduction

The complexity of providing nursing care to geriatric residents in the LTC setting has increased continuously over the last 30 years. Unfortunately, education and training for nurse aides have not been enhanced to meet the growing needs of geriatric residents who are living longer with more complex chronic conditions. There is a huge gap in the amount, content, and type of education and training that nurse aides receive prior to entering the LTC workforce. The gap further widens when novice nurse aides are paired with geriatric residents who are diagnosed with multifactorial chronic health conditions that cause various geriatric syndromes. There is a sense of foreboding in relation to the future of LTC residents with geriatric syndromes if nurse aide students do not receive a structured geriatric-specific care process to guide them in recognizing and reporting early warning signs of status changes in at-risk geriatrics residents. The purpose of this project initiative was to develop and implement an evidence-based geriatric care process to improve SNAs' knowledge on how to recognize potentially harmful status changes in at-risk geriatric residents and what should be immediately reported to the licensed nurse. Two seminal reports (IOM, 2008; OIG, 2002) and numerous research studies (Han et al., 2014; Hernández-Medina et al., 2006; Kusmaul, 2016; Trinkoff et al., 2017) have outlined implications for enhancing nurse aide education. Section 4 contains a discussion of the findings and implications that resulted from analysis and synthesis of the evidence that was collected. Additionally, I describe recommendations to address the gap in practice and discuss the strengths and limitations of the doctoral project.

Summary of Findings

The goal of the quality improvement educational intervention was to increase the knowledge of SNAs on how to recognize and observe potentially harmful status changes in geriatric residents and what to immediately report to licensed nurses. The project served to answer the following question: Would including additional hours in the NAEP focusing on harmful geriatric syndromes and an evidence-based geriatric care process increase the knowledge of SNAs on how to identify potentially harmful changes in the status of geriatric residents and what changes to immediately report to a licensed nurse? The first objective was to increase the knowledge of SNAs on how to recognize and observe potentially harmful status changes in geriatric residents using a geriatric-specific care process. The second aim was to increase SNAs' knowledge on what changes to immediately report to a licensed nurse.

To ensure that implementation of the program was conducted in an unbiased manner, nurse aide students (n = 38) were randomly selected from an approved Virginia BON NAEP. The intervention was presented to a diverse population of SNAs enrolled at an urban Virginia BON-approved NAEP in Richmond, VA. The predominant race was Caucasian, with individuals from this group making up 53% of the SNAs, followed by African American (26%), Asian (10%), Hispanic (8%), and other (3%). There were six males (16%) and 32 females (84%), and the ages of the SNAs ranged from 18 to 46 years, with most students identifying as 20 to 30 years old. Although all participants read and understood English, three students reported English as a second language (8%). All SNAs had a high school education, and 23 SNAs (60%) had at least 2 years or more of

college, which was not known prior to the implementation of the project. A paired-sample *t* test was used to analyze the findings of this project to determine if the educational intervention effectively increased the knowledge of the SNAs on how to recognize and observe status changes in geriatric residents and what to immediately report to licensed nurses.

Objective 1: Increase the SNAs' Knowledge on How to Recognize and Observe Potentially Harmful Status Changes in Geriatric Residents

There were two educational class sessions, and all SNAs from each class participated. The first session involved nine students, and the second session consisted of a total of 29 students. The findings of the project were analyzed using a paired sample *t* test to determine whether the educational intervention was effective in increasing the knowledge of the SNAs on how to recognize and observe potentially harmful status changes in geriatric residents. A paired *t* test evaluates the significance of the difference between means of measures taken from the same subject twice (Polit, 2010).

The results of the pretest and posttest scores were entered into an Excel worksheet and then into IBM SPSS Statistics 24 software for analysis. A paired-sample *t* test was conducted to compare the SNAs' knowledge before the educational intervention with the knowledge gained after the educational intervention. There was a statistically significant difference between the pretest scores ($M = 76$; $SD = 16$) prior to the educational intervention and the posttest scores ($M = 86$; $SD = 11$; Table 1). The mean difference between the pretest and the posttest scores showed that there was a 10% increase between

the pretest and posttest scores, which indicated significant improvement in knowledge of how to recognize and observe potentially harmful status changes in geriatric residents.

Table 1

Paired-Samples Statistics Preintervention and Postintervention

Unique ID	Mean	*N*	Std. deviation	Std. error mean
Pretest	76.3158	38	16.17824	2.62446
Posttest	86.0526	38	11.03789	1.79058

The paired-samples test showed a Sig. (2-tailed) value of 0.00; $t(37) = -4.3$, $p = .000$ after the educational intervention (Table 2). Because this value is less than .05 the conclusion is that there is a statistically significant difference between the Mean pretests and the posttest. Since the paired samples statistics show that the Mean number of the posttests was greater than the Mean number for the pretests, the conclusion can be made that the SNAs knowledge increased on how to identify potentially harmful changes in the status of geriatric residents after participation in the educational intervention focusing on harmful geriatric syndromes and an evidence-based geriatric care process.

Table 2

Paired-Samples Test Preintervention and Postintervention

	Paired differences							
				95% confidence interval of the difference				
	Mean	Std. deviation	Std. error mean	Lower	Upper	*t*	*df*	Sig. (2-tailed)
Pair 1 pretest-posttest	-13.84994	13.84994	.2.24676	-14.28920	-5.18448	-4.334	37	.000

Objective 2: Increase the SNAs' Knowledge of What to Immediately Report to the Licensed Nurse When a Geriatric Resident Experiences a Potentially Harmful Change in Status

To determine if there was an increase in the SNAs' knowledge of what to immediately report to a licensed nurse, the results of Question 10 on the pretest and posttest were analyzed (Appendix E). Question 10 was a multiple-choice question structured to determine what the SNA would immediately report to the licensed nurse if a resident experienced a potentially harmful status change. The mean results of a dependent paired-sample *t* test showed a slightly significant difference between the pretest scores (M = 7.1; SD = 4.5) and the posttest scores (M = 9.7; SD = 1.6; Table 3). The mean difference between the results of Question 10 on the pretest and Question 10 on the posttest reinforced the project's objective that the educational intervention would increase the SNAs' knowledge of what to report immediately to the licensed nurse when a geriatric resident experienced a potentially harmful status change.

Table 3

Paired-Samples Statistics Question 10 Preintervention and Postintervention

Unique ID	Mean	*N*	Std. deviation	Std. error mean
Pretest	7.1053	38	4.59606	.74558
Posttest	9.7368	38	1.62221	.26316

The mean scores for the pretest and posttest were paired and entered into a paired-samples *t* test to assess the significance of the scores preintervention and postintervention. The results (p = 0.003) indicated a statistically significant difference in

means that demonstrated that participants scored higher on the posttest (Table 4). Findings suggest that the appropriate education and training improve knowledge. Specifically, the results suggest that education focusing on geriatric syndromes and an evidence-based nurse aide care process do increase the knowledge of SNAs on what to immediately report to licensed nurses.

Table 4

Paired-Samples Test Question 10 Preintervention and Postintervention

	Paired differences					*t*	*df*	Sig. (2-tailed)
	Mean	Std. deviation	Std. error mean	95% confidence interval of the difference Lower	Upper			
Pair 1 pretest-posttest	-2.63158	5.03190	.81628	-4.28552	-.97763	-3.224	37	.003

It was expected that the participants would improve their knowledge of the subject matter as indicated by a score of 80% or greater on the posttest. Overall, of the 38 participants, 32 (84.21%) scored 80% or above on the posttest. The results demonstrate the significance of enhancing the current NAEP program and ensuring that future nurse aides are adequately prepared to provide care to vulnerable geriatric residents.

Discussion of Findings in Context of Literature

The findings of the project are aligned with literature addressing the significance of adequately preparing nurse aides to provide care to frail older adults residing in LTC facilities. The objectives of a project implemented by Kunte et al. (2017) were to

improve LTC resident outcomes and reduce the rate of hospital transfers by improving the knowledge of nurse aides on EoL communication. The results of the educational session showed an increase in posttest scores compared to pretest scores. Educating SNAs on how to familiarize themselves with residents, how to recognize and observe residents who have potentially harmful status changes, and what to immediately report to a licensed nurse may result in improved outcomes for geriatric residents. The increase in the mean from the pretest to the posttest in this DNP project demonstrated that most nurse aide students acquired knowledge during the educational intervention. In addition, during the questions-and-answers component of the educational session after the interactive role play and the review of the geriatric case study, the SNAs provided the following relative feedback about the significance of the nurse aide care process and the use of the Stop and Watch Early Warning tool:

- "I learned how to break down barriers between nurse aides and the licensed nurse."
- "The presentation helped me to understand the significance of getting to know my resident and the resident's family members better."
- "I appreciate the copy of the Interact Stop and Watch Early Warning Tool; without it, I would not have remembered to tell the nurse about the 'bad' blood pressure."
- "I learned that it is okay to speak up and use the chain of command if I am not satisfied that the licensed nurse took me serious when I reported a change that I recognized and observed."

- "It is good that nurse aides have a care process that can be used to report changes to the licensed nurse."

Implications

Policy

The mandate that nurse aide education must consist of at least 75 hours of training was enacted in 1987 with the Omnibus Budget Reconciliation Act legislation. Although the acuity level of geriatric residents in LTC facilities has risen exponentially, the number of hours for nurse aide training has remained stagnant (Trinkoff et al., 2017. The educational intervention that has been implemented for this DNP project has the potential to change nurse aide regulations at the state level. The Virginia BON strongly supports this DNP scholarly project. The stakeholders recognize the significance of increasing SNAs' knowledge about recognizing and observing potentially harmful status changes in geriatric residents and immediately reporting observations to a licensed nurse. Sustainability will depend on whether the Virginia BON adopts the evidence-based Stop and Watch Early Warning tool and the nurse aide care process into the enhanced NAEP curriculum in January 2019. Leaders of the NAEP school where the project was implemented have made the decision to incorporate the nurse aide care process and the Stop and Watch Early Warning tool into the curriculum with the expectation that the Virginia BON will adopt the use of the care process and the communication tool. The findings of this DNP project support the need to increase the number of hours of NAEPs and to incorporate the use of the geriatric nurse aide care process and the Interact Stop and Watch Early Warning tool.

Practice

For the last 20 years, LTC nurse executives have recognized the need to transform how care is provided to the vulnerable population of geriatric residents in nursing homes. The implementation of evidence-based programs such as NICHE interventions, PCC initiatives, and other models of care have resulted in positive outcomes for geriatric residents and patients living with chronic health conditions (Malone et al., 2015). Establishing an interprofessional relationship between the nurse aide and the licensed nurse by providing a structured communication tool to initiate the assessment process has the potential to significantly increase care quality and improve EoL care in the LTC setting. Kunte et al. (2017) demonstrated how interprofessional education that includes both CNAs and licensed nursing staff in the communication process can improve the quality of care and reduce unnecessary hospitalizations of geriatric residents.

Research

There is limited research on communication tools for nurse aides to use to assist licensed nurses in the assessment process or interventions on geriatric-specific education for novice nurse aides, and no data could be located related to a specific geriatric nurse aide care process. There is a plethora of data relating to lack of education among CNAs working in the nursing home environment, but no research on how to improve the NAEP curriculum used to educate SNAs. The seminal IOM (2009) report *Retooling for an Aging America* emphasizes the significance of preparing the LTC workforce to be more competent in geriatrics. Collaborating with nursing researchers in the future to

implement interventions to improve how nurse aides are trained to provide care in the geriatric setting is of pivotal importance.

Social Change

The quality improvement educational intervention conducted for this DNP project may promote social change organizationally and at the state level. It is expected that the number of older adults who will require LTC in the United States will surge to approximately 2.3 million by 2030 (Kunte et al., 2017). Many of those older adults will be geriatric residents with multiple chronic conditions and dementia. Nurse aides have consistently been recognized for being the "eyes and ears" of nursing homes and other LTC environments (Kusmaul, 2016). Providing SNAs with tools that guide them throughout the nurse aide care process not only empowers them, but also allows them a means to collaborate and join forces with licensed nurses in their mission to close the gap between how care is currently being provided in the LTC setting and how care should be provided. The findings reported in this paper demonstrated the significance of improved education for novice nurse aides to better prepare them to care for the vulnerable geriatric population, as well as the need to enhance the NAEP to include more evidence-based guidelines and care models. The Virginia BON is in a position to make the necessary regulatory changes at the state level to ensure that nurse aides receive the appropriate number of hours of training and that the NAEP curriculum is based on the most current research.

Recommendations for Practice Gap

During the first stage of the KTA action cycle, the knowledge-to-action gap was identified through rigorous methods that included evaluating the best available most current research-based evidence, and by engaging stakeholders, including LTC nursing staff, LTC nurse executives, and policy-makers at the local, and national level. Many gaps in knowledge were identified and the GIVE-PCC educational intervention was developed to enhance the education of nurse aides on how to familiarize themselves with geriatric residents enough to be able to recognize and observe potentially harmful status changes. Providing nurse aides with a tool that improved how they recognized potentially harmful status changes in geriatric residents, and what to communicate to licensed nurses, demonstrated improved knowledge for many of the SNAs who participated in this scholarly project.

As a member of the Virginia BON NAEP Curriculum Committee I recognized the importance of providing the appropriate number of hours for educating new nurse aides. I, along with other committee members, have recommended that the Virginia BON increase the number hours for the NAEP from 120 hours to 140 hours. The additional hours should be used for geriatric skills training that better prepares SNAs to care for geriatric residents and build on geriatric competence. Secondly, I think the Virginia BON should mandate that nurse aide instructors require geriatric or gerontology training through a Virginia BON approved curriculum; that nurse aide instructors obtain continuing education units in geriatrics or gerontology every two years while they are teaching the NAEP; and that the NAEP curriculum is continuously enhanced to keep up

with the most current evidence-based practices as they apply to the geriatric population. The Virginia BON should also consider mandating that that nurse aide students have at least a high school diploma or general education diploma (GED) to enroll in a NAEP. Consideration of these recommendations may ensure that SNAs are appropriately skilled to provide care to the growing population of geriatric residents with dementia, and other conditions that increase the number of geriatric syndromes and complex their care.

Strengths and Limitations of the Project

Strengths

The Virginia BON was very supportive of this DNP project and promoted the use of the nurse aide care process developed for this project as well as the Interact Stop and Watch Early Warning tool. The educational intervention successfully met the goals of this quality improvement project by increasing the knowledge of the SNAs on how to observe and report potentially harmful status changes in geriatric residents. The project highlighted the importance of educating nurse aides on getting to know the geriatric residents they care for so they can better identify and prevent potentially harmful status changes from resulting in harm or unnecessary hospitalizations. The nurse aide students showed an eagerness to learn about a process that was modeled for their use. The results also demonstrated the implication for increasing the number of hours of the Virginia NAEP to include education that will improve the geriatric competence of nurse aides. The setting for this DNP project took place in a NAEP that already requires 137 hours of combined didactic and clinical training for SNAs, which is 17 hours more than what is required by the Virginia BON.

Limitations

The biggest limitation was that the 10-item instrument (NAGKQ-10) pretest/posttest developed for evaluation in this project had never been used. It is important to select instruments that have documented reliability and validity (Moran et al., 2017). A search for a reliable and valid tool for this project yielded no instruments so the NAGKQ-10 tool was developed. Another significant limitation of this project was that the presentation for both the afternoon group (n = 29) and the night group (n = 9) was scheduled at the end of their class. The presentation for the afternoon group was conducted into their lunch break and the night group's presentation was from 8pm until 10pm.

Despite the enthusiasm of the NAEP director, and the willingness of the students to participate and learn, some of the poor pretest-posttest scores may be reflective of the hours of the educational intervention. Kunte et al. (2017) showed similar results due to difficulties in finding the appropriate schedule for implementing their project. The classroom was very crowded for the afternoon session which may not have been conducive to learning. In addition, throughout the training, there were people entering and exiting one of the doors in the classroom. One of the unanticipated limitations was that, in addition to being enrolled in the NAEP, 13 (34.21%) out of the 38 participants were also enrolled in a registered nurse program or some other health care program which may have accounted for the high scores on their pretest and posttest.

The quality improvement initiative only tested the knowledge of the participants after the educational intervention. Beyond observing the participants during the

interactive role play and their responses during the case study there was no means to evaluate the translation of knowledge in the LTC setting with actual geriatric residents. The scores of the pretest and the posttest did not demonstrate how the SNAs would actually use the knowledge they acquired from the educational intervention. Though several studies that examined the need for increased education for nurse aides were introduced during the literature review (IOM, 2008; OIG, 2002; Trinkoff et al., 2017), this project is the only one to introduce a nurse aide care process to guide novice nurse aides in providing care to geriatric residents in the LTC setting.

Recommendations for Remediation of Limitations in Future Work

It is recommended that when future nurse aide instructors incorporate the nurse aide care process and Stop and Watch Early warning tool into the NAEP it will not be done during lunch breaks or at the end of an evening class. A more convenient time should be chosen to implement the project. The level of education should be included in the background data to provide better knowledge of who the audience is prior to implementing the project. A questionnaire should be developed to determine if the participants thought the educational intervention was helpful and to determine its usefulness to their practice. In future projects, it would be interesting to compare the knowledge of SNAs who received the educational intervention with SNAs who did not receive the educational intervention as well as a project that observes the nurse aides' use of the knowledge in the LTC setting.

Summary and Conclusion

The purpose of this scholarly DNP project was to educate SNAs on how to identify and observe potentially harmful status changes in geriatric residents, and what to immediately report to a licensed nurse by introducing them to a nurse aide care process and an evidence-based communication tool. The objectives of the project were to determine if an educational intervention that focused on geriatric syndromes, introduced a geriatric specific nurse aide care process, and the Stop and Watch Early Warning communication tool, would increase the knowledge of SNAs on how to recognize status changes and what to immediately report to the licensed nurse. The results demonstrated an increase in knowledge for most of the SNAs who participated in the educational intervention. The strengths of the project were the positive outcomes in increasing the knowledge of the SNAs and the support of the nurse aide care process developed for this project by the Virginia BON. One of the limitations of this project was utilizing an untested instrument. Section five will include my dissemination plan, and an analysis of self.

Section 5: Dissemination Plan, Analysis of Self, and Summary

Dissemination of Plan

The scholarly project has been successfully developed and the implementation process completed. Many of the nurse aides who attended the educational intervention demonstrated increased knowledge on how to recognize and report status changes in geriatric residents, and what to immediately report to a licensed nurse. One of the purposes of the evidence-based project was to provide more effective methods to enhance health care delivery that result in more positive outcomes (Moran et al., 2017).

The findings of this DNP project will be disseminated via an oral presentation using PowerPoint as a visual aid during a Virginia NAEP Curriculum Committee meeting and during a conference with Virginia NAEP instructors. In addition, I will submit a well-organized poster to the Virginia Nurses Association to be presented during its next nursing conference and will seek publishing through the American Association of Retired Persons, *Journal of Nursing Regulation*, and *Journal of the American Geriatric Society*. I have already positioned myself to be recognized as a credible source of knowledge on the matter of improving the geriatric nursing workforce. At the national level, I have been meeting with several congressmen regarding the lack of adequate training of nurse aides and would appreciate the opportunity to present my findings and recommendations on Capitol Hill to the appropriate legislators. I have also established a relationship with the health policy advisors of congressmen and senators.

Analysis of Self

Self-analysis allows me to reflect on what I have gleaned from the course work and how I plan to apply what I have learned. Throughout the DNP program, the various DNP courses and the AACN Essentials have prepared me to be a transformational executive nursing leader, health care change agent, and health policy advocate (AACN, 2006). The DNP program has provided the educational tools required to be an academic scholar, a program developer, and a health care policy writer and advocate.

As a Nursing Practitioner

The Walden DNP program provided the foundation that prepared me to hone my skills as an advance practice nursing executive in the LTC setting. Providing care to the geriatric population has always been complex. The DNP project allowed me experiential opportunities that informed practice decisions and the understanding of how those decisions impact the outcomes of patient care (AACN, 2006). My role as an executive nursing leader was to identify a cost-effective, sustainable change that would improve how nurse aides cared for geriatric residents and introduce it at the structural level. The end product of my DNP project was a nurse aide geriatric care process that propelled me to the forefront of my peers in the LTC workforce and in other disciplines.

As a Scholar

According to the AACN (2006), scholarship is the process of knowledge development and application within a specific discipline. The DNP courses, my practicum experience, and this project have provided a platform for me to translate evidence-based practice knowledge and apply skills to improve population health. The

knowledge that I have obtained has not been solely for my benefit; instead, it may benefit the populations I serve and the future practitioners whom I will mentor and teach. The DNP project is more than a requirement for a degree; it mirrors all of the scholarship and competencies I gained during the whole learning experience (AACN, 2006; Zaccagnini & White, 2014). I am grateful to have had the opportunity to develop scholarship as a DNP-prepared nurse and look forward to impacting future scholars by sharing my knowledge.

As a Project Developer

Although I developed various projects prior to my DNP program, I was never as thorough as I was while developing this project. Perhaps I was more meticulous because I identified a meaningful scholarly project phenomenon of interest that was also valued by my practice setting (Moran et al., 2017). In addition, I was striving to meet the AACN DNP Essentials, and I had the guidance of an expert who was mentoring and advising me throughout the development of the project. As a DNP student and an executive nursing leader, I learned to identify problems that affect populations and develop strategic solutions (AACN, 2006). My practicum experience provided the appropriate platform for me to hone my skills as a project developer.

The various projects assigned to me during my practicum experience provided an opportunity for me to gain better understanding of the needs assessment process and how to use the results to develop this quality improvement project. I learned to be an effective communicator, how to plan strategies to overcome barriers, and how to motivate others to become collaborative partners in developing projects (Moran et al., 2017). In addition,

developing this project laid the foundation for me to develop future projects. While developing this project, I initiated the development of a train-the-trainer program that will provide gerontological education to nurse aide instructors. It is my hope that the train-the-trainer program will better prepare current and future nurse aide instructors the complex world of geriatrics and play a central role in transforming the LTC nursing workforce.

Scholarly Journey—Challenges, Solutions, and Insights

The most significant challenges of my project were meeting the demands of coursework while developing a project; devising an appropriate evaluation instrument; obtaining approval from the IRB; and planning the project implementation schedule. Although I overcame all hurdles, it was notably challenging to remain focused on my coursework when my primary concern was completing my project. As I reflect on this journey, I feel that I should have used different strategies to overcome hurdles. If I could repeat the experience, I would make every effort to meet all deadlines by establishing alternate plans for completion.

Summary

With the growing number of older adults living longer with multifactorial chronic diseases that result in multiple geriatric syndromes, improved nurse aide education must be at the forefront of LTC. As research continues to produce new evidence-based methods for providing PCC in the LTC setting, nursing leaders who specialize in geriatrics and gerontology must develop programs that foster geriatric competence among the nursing workforce caring for this frail and vulnerable population. Nursing staff not

only serve to satisfy the triple aim of improving the patient's experience of care, improving the health of populations, and reducing the per-capita cost of health care; it is also incumbent on them to engage in continuous learning. It is only through knowledge and the translation of that knowledge into practice that LTC facilities will be transformed into an environment where high-quality care is implemented consistently with positive clinical outcomes. I am elated to be able to step into my new role as a DNP-prepared nurse executive.

References

American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice* [Educational standards]. Retrieved from http://www.aacn.nche.edu/publications/position/DNPEssentials.pdf

American Geriatrics Society (2012). Patient-centered care for older adults with multiple chronic conditions: A stepwise approach from the American Geriatrics Society. *Journal of American Geriatrics Society, 60*(10), 1957-1968. https://doi.org /10.1111/j.1532-5415.2012.04187.x

American Organization of Nurse Executives (2015). *Nurse executive competencies: Post-acute care* [Practice standards]. Retrieved from http://www.aone.org/resources /system-cne-competencies.pdf

Anzaldi, L. J., Davison, A., Boyd, C. M., Leff, B., & Kharrazi, H. (2017). Comparing clinician descriptions of frailty and geriatric syndromes using electronic health records: A retrospective cohort study. *BMC Geriatrics, 17*(248). https://doi.org/10.1186/s12877-017-0645-7

Aubry, F., Etheridge, F., & Couturier, Y. (2012). Facilitating change among nursing assistants in long term care. *The Online Journal of Issues in Nursing, 18*(1). Retrieved from http://nursingworld.org/MainMenuCategories/ANAMarketplace /ANAPeriodicals/OJIN/TableofContents/Vol-18-2013/No1-Jan-2013/Articles-Previous-Topics/Facilitating-Change-in-LTC.html?css=print

Bonnell, W., & Smith, K. V. (2014). *Proposal writing for nursing capstones and clinical projects*. New York, NY: Springer.

Brownie, S., & Nancarrow, S. (2013). Effects of person-centered care on residents and staff in aged-care facilities: A systematic review. *Clinical Interventions in Aging, 8,* 1-10. https://doi.org/10.2147/CIA.S38589

Centers for Medicare & Medicaid Services (2012). *Phase one nursing facility initiative to reduce hospitalizations among nursing facility residents FAQ* [Fact sheet]. Retrieved from https://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/InitiativetoReduceAvoidableHospitalizations/PhaseOneClinicalandEducationalInterventions.html

Clegg, A., Young, J., Iliffe, S., Rikkert, M. O., & Rockwood, K. (2013). Frailty in elderly people. *The Lancet*, *381*(9868), 752-762. https://doi.org/10.1016/S0140-6736(12)62167-9

Code of Federal Regulations. (2012). *Title 42—Public health, Part 483: Requirements from states and long-term care facilities*. Retrieved from ttps://www.ecfr.gov/cgi-bin/text-idx?SID=ffcd48862bae618e1fc86d91959a69f6&mc=true&node=se42.5.483_11&rgn=div8

Field, B., Booth, A., Irene, I., & Gerrish, K. (2014). Using the knowledge to action framework in practice: A citation analysis and systematic review. *Implementation Science*, *9*(172), 1-14. http://dx.doi.org/10.1186/s13012-014-0172-2

Grove, S., Burns, N., & Gray, J. (2013). *The practice of nursing research: Appraisal, synthesis, and generation of evidence* (7th ed.). St. Louis, MO: Saunders Elsevier.

Haines, T. P., & Waldron, N. G. (2011). Translation of falls prevention knowledge into action in hospitals: What should be translated and how should it be done? *Journal of Safety Research, 42*, 431-442. https://doi.org/10.1016/j.jsr.2011.10.003

Han, K., Trinkoff, A. M., Storr, C. L., Lerner, N., Johantgen, M., & Gartrell, K. (2014). Associations between state regulations, training length, perceived quality and job satisfaction among certified nursing assistants: Cross-sectional secondary data analysis. *International Journal of Nursing Studies, 51,* 1135–1141. https://doi.org /10.1016/j.ijnurstu.2013.12.008

Han, K., Trinkoff, A. M., Storr, C. L., Lerner, N., & Yang, B. K. (2017). Variation across U.S. assisted living facilities: Admissions, resident care needs, and staffing. *Journal of Nursing Scholarship*, *49*(1), 24-32. https://doi.org/10.1111/jnu.12262

Hedman, S. A., Fuzy, J., & Rymer, S. (2018). *Hartman's nursing assistant care: Long-term care and home care* (3rd ed.). Albuquerque, NM: Hartman.

Hernandez-Medina, E., Eaton, S., Hurd, D., & White, A. (2006). *Training programs for certified nursing assistants* [Executive summary]. Retrieved from The AARP Public Policy Institute: https://assets.aarp.org/rgcenter/il/2006_08_cna.pdf

Houser, A., Fox-Grage, W., & Gibson, M. J. (2009). *Across the states: Profiles of long-term care and independent living* [Reference report]. Retrieved from AARP Public Policy Institute: https://assets.aarp.org/rgcenter/il/d19105_2008_ats_fl.pdf

Horn, S. D., Sharkey, S. S., Hudak, S., Smout, R. J., Quinn, C. C., Yody, B., & Fleshner, I. (2010). Beyond CMS quality measure adjustments: Identifying key resident and nursing home facility factors associated with quality measures. *Journal of*

American Medical Directors Association, *11*, 500–505. https://doi.org/10.1016/j.jamda.2009.10.008

Institute of Medicine (2008). *Retooling for an aging America: Rebuilding the health care workforce* [Report brief]. Retrieved from http://www.nationalacademies.org/hmd/reports/2008/retooling-for-an-aging-america-building-the-health-care-workforce.aspx

Institute of Medicine (2011). *The future of nursing: Leading change, advancing health*. Washington, DC: National Academies Press.

Karacsony, S., Chang, E., Johnson, A., Good, A., & Edenborough, M. (2015). Measuring nursing assistants' knowledge, skills and attitudes in a palliative approach: A literature review. *Nurse Education Today*, *35*, 1232–1239. https://doi.org/10.1016/j.nedt.2015.05.008

Kunte, V., Johansen, M. L., & Isenberg-Cohen, S. (2017). Improving long-term care residents' outcomes by educating nursing staff on end-of-life communication. *Journal of Hospice & Palliative Nursing*, *19*(6), 550-555. https://doi.org/10.1097/NJH.0000000000000386

Kusmaul, N. (2016). The content of education for direct caregivers. *Educational Gerontology*, *42*(1), 19-24. https://doi.org/10.1080/03601277.2015.1059142

Kusmaul, N., & Bunting, M. (2017). Perspectives on caregiving: A qualitative evaluation of certified nursing assistants. *Geriatric Nursing*, *38*(2017), 146-151. https://doi.org/10.1016/j.gerinurse.2016.09.004

Learner, N. B., Resnick, B., Galik, E., & Gunther, K. (2010). Advanced nursing assistant

education program. *Journal of Continuing Education for Nursing, 41*(8), 356-362. https://doi.org/10.3928/00220124-20100401-10

Liu, J. Y. (2014). Exploring nursing assistants' roles in the process of pain management for cognitively impaired nursing home residents: A qualitative study. *Journal of Advanced Nursing, 70*(5), 1065–1077. https://doi.org/10.1111/jan.12259

Lockwood, C., Stephenson, M., Lizarondo, L., Van Den Hoek, J., & Harrison, M. (2016). Evidence implementation: Development of an online methodology from the knowledge-to-action model of knowledge translation. *International Journal of Nursing Practice, 22,* 322-329. https://doi.org/10.1111/ijn.12469

Magnan, M. A. (Ed.). (2016). The DNP: Expectations for theory, research, and scholarship. *The doctor of nursing practice: A guidebook for role development and professional issues* (pp. 117-148). Sudbury, MA: Jones and Barlett Learning.

Malik, M., & Chapman, W. (2017). Educating and training in end-of-life care for certified nursing assistants in long-term care. *The Journal of Continuing Education in Nursing, 48*(2), 81-85. https://doi.org/10.3928/00220124-20170119-09

Malone, M. L., Capezuti, E. A., & Palmer, R. M. (Eds.). (2015). *Geriatric models of care: Bring best practices to an aging America*. New York, NY: Springer International.

McEwin, M., & Wills, E. M. (2014). *Theoretical basis for nursing* (4th ed.). Philadelphia, PA: Wolters Kluwer Health.

Mihaljevic, S. E., & Howard, V. M. (2016). Incorporating interprofessional evidence-

based sepsis simulation education for certified nursing assistants (CNAs) and licensed care providers within long-term care settings for process and quality improvement. *Critical Care Nursing Quarterly, 39*(1), 24-33. https://doi.org/10.1097/CNQ.0000000000000092

Moran, K., Burson, R., & Conrad, D. (2017). *The doctor of nursing practice scholarly project: A framework for success* (2nd ed.). Burlington, MA: Jones & Barlett Learning.

Office of the Inspector General (2014). *Adverse events in skilled nursing facilities: National incidence among Medicare beneficiaries* [Executive summary]. Retrieved from Department of Health and Human Services: http://oig.hhs.gov/oei/reports/oei-06-11-00370.pdf

Office of the Inspector General (OIG) (2002). *Nurse aide training* [Executive summary]. Retrieved from Department of Health and Human Services: https://oig.hhs.gov/oei/reports/oei-05-01-00030.pdf

Ouslander, J. G., Bonner, A., Herndon, L., & Shutes, J. (2014). The INTERACT quality improvement program: An overview for medical directors and primary care clinicians in long-term care. *Journal of the American Medical Directors Association, 15*(3), 162–170. https://doi.org/10.1016/j.jamda.2013.12.005

Ouslander, J. G., Lamb, G., Tappen, R., Herndon, L., Diaz, S., Roos, B. A., ... Bonner, A. (2011). Interventions to reduce hospitalizations from nursing homes: Evaluation of the INTERACT II collaborative quality improvement project. *Journal of the American Geriatric Society, 59*, 745–753. https://doi.org/10.1111/j.1532-

5415.2011.03333.x

Polit, D. F. (2010). *Statistics and data analysis for nursing research* (2nd ed.). Upper Saddle River, NJ: Pearson Education.

Registered Nursing Association of Ontario (2015). *Person-and family-centred care* [Best practices guidelines]. Retrieved from Registered Nurses Association of Ontario: http://rnao.ca/sites/rnao-ca/files/FINAL_Web_Version_0.pdf

Scandrett, K. G., Anichini, M. A., Estabrook, S., Boockvar, K., Saliba, D., Emmanuel, L., & Taylor, S. L. (2012). Patient safety in the nursing home: How nursing staff assess and communicate about change in condition. *Journal of Gerontological Nursing*, *38*(11), 28-37. https://doi.org/10.3928/00989134-20121003-03

Stone, R., & Harahan, M. F. (2010). Improving the long-term care workforce serving older adults. *Health Affairs*, *29*(1), 109-115. https://doi.org/10.1377/hlthaff.2009.0554

Terry, A. J. (2015). *Clinical research for the doctor of nursing practice* (2nd ed.). Burlington, MA: Jones & Barlett Learning.

Tetroe, J. M., Graham, I. D., & Scott, V. (2011). What does it mean to transform knowledge into action in falls prevention research? Perspectives from the Canadian Institutes of Health Research. *Journal of Safety Research*, *42*, 423-426. https://doi.org/10.1016/j.jsr.2011.08.005

Trinkoff, A. M., Johantgen, M., Lerner, N., Storr, C. L., Han, K., & McElroy, K. (2013). State regulatory oversight of certified nursing assistants and resident outcomes. *Journal of Nursing Regulation*, 3(4), 53-59. https://doi.org/1016/S2155-

8256(15)30187-3

Trinkoff, A. M., Yang, B. K., Storr, C. L., Zhu, S., Lerner, N. B., & Han, K. (2017). Determining the CNA training-hour requirement for quality care in U.S. nursing homes. *Journal of Nursing Regulation*, *8*(1), 1-10.

Vetrano, D. L., Foebel, A. D., Marengoni, A., Brandi, V., Collamati, A., Heckman, G. A., ... Onder, G. (2016). Chronic diseases and geriatric syndromes: The different weight of comorbidity. *European Journal of Internal Medicine*, *27*(2016), 62-67. https://doi.org/10.1016/j.ejim.2015.10.025

Virginial Department of Health Professions (2017). Board of Nursing mission statement. Retrieved from https://www.dhp.virginia.gov/nursing/

Wang, S., Shamliyan, T. A., Talley, K. M., Ramakrishnan, R., & Kane, R. L. (2013). Not just specific diseases: Systematic review of the association of geriatric syndromes with hospitalization or nursing home admission. *Archives of Gerontology and Geriatrics*, *57*(1), 16–26. https://doi.org/10.1016/j.archger.2013.03.007

White, K. M., Dudley-Brown, S., & Terhaar, M. F. (2016). *Translation of evidence into nursing and health care* (2nd ed.). New York, NY: Springer.

Zaccagnini, M. E., & White, K. W. (2014). *The doctor of nursing practice essentials: A new model for advanced practice nursing* (2nd ed.). Burlington, MA: Jones and Bartlett Learning.

Zheng, N. T., & Temkin-Greener, H. (2010). End-of-life care in nursing homes: The importance of CNA staff communication. *Journal of American Medical Director Association*, *11*(7), 494–499. https://doi.org/10.1016/j.jamda.2010.01.006

Appendix A: Letter of Permission to Use Knowledge-to-Action Process Figure

From: Vivienne Mcdaniel
Sent: September 22, 2018 3:21:04 PM
To: Graham, Dr. Ian
Cc: Vivienne McD
Subject: Letter of Permission to Use KTA Image for Doctor of Nursing Practice Project

Dear Dr. Graham,

I am a graduate student currently enrolled in a doctor of nursing program in the United States. I developed an evidence-based educational program called the Geriatric Initiative for Vocational Education on Person-Centered Care (GIVE-PCC). The primary aim of the program was to increase student nurse aides' knowledge on recognizing and observing potentially harmful status changes in geriatric patients. The secondary aim was to increase the knowledge of student nurse aides on what to immediately report to the licensed nurse when they observe a status change in geriatric patients.

To translate the knowledge into practice I selected the knowledge-to-action (KTA) process. The KTA process aligned well with my project, therefore, I am requesting permission to use the image of your KTA process diagram for use for this purpose. The source will be properly cited as follows to give credit to all authors:

Lost in Knowledge Translation

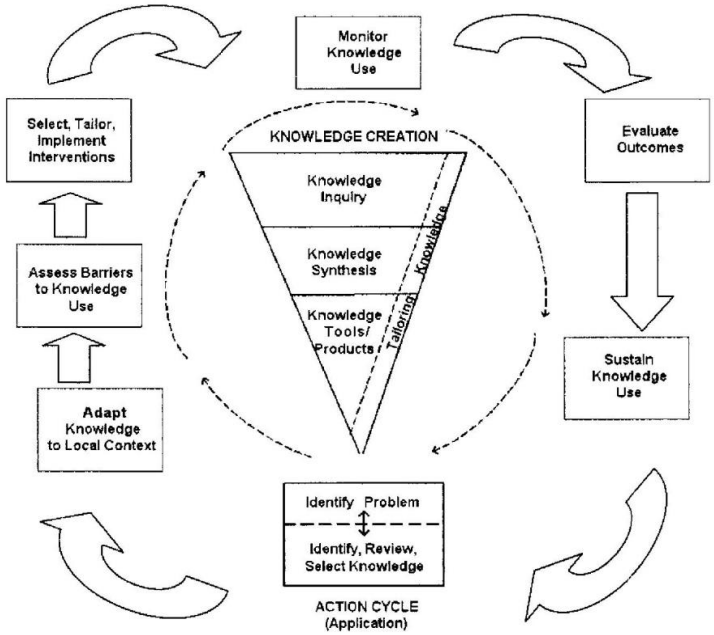

Figure B1. The knowledge-to-action translation model. Adapted from “Lost in Knowledge Translation: Time for a Map?” by I. D. Graham, J. Logan, M. B. Harrison, S. E. Straus, J. Tetroe, W. Caswell, and N. Robinson, 2006, *Journal of Continuing Education in the Health Professions*, *26*, p. 19. Copyright 2006 by the Alliance for Continuing Medical Education, the Society for Medical Education, the Society for Academic Continuing Medical Education, and the Council on CME, Association for Hospital Medical Education. Adapted with permission.

Thank you in advance for your consideration. I will be grateful if my request is given a favorable consideration as my Final Oral Defense is on Wednesday, September 26, 2018.

Sincerely,

Vivienne Pierce McDaniel, MSN, RN

From: Graham, Dr. Ian
Sent: Sunday, September 23, 2018 5:24 AM
To: Vivienne Mcdaniel
Subject: Re: Letter of Permission to Use KTA Image for Doctor of Nursing Practice Project

Hi, happy for you to use the figure. If you plan to publish the figure, you will also need the journal’s permission. This can be done by finding the article on the journal’s website and clicking the permissions button. Good luck with your defense. Please send your papers when you publish them as I am interested in your topic. Ian

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Sep 23, 2018

This Agreement between Mrs. Vivienne McDaniel ("You") and Wolters Kluwer Health, Inc. ("Wolters Kluwer Health, Inc.") consists of your license details and the terms and conditions provided by Wolters Kluwer Health, Inc. and Copyright Clearance Center.

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Licensed Content Publication	Journal of Continuing Education in the Health Professions
Licensed Content Title	Lost in knowledge translation: Time for a map?
Licensed Content Author	Ian Graham, Jo Logan, Margaret Harrison, et al
Licensed Content Date	Jan 1, 2006
Licensed Content Volume	26
Licensed Content Issue	1
Type of Use	Dissertation/Thesis
Requestor type	Individual
STM publisher name	
Portion	Figures/table/illustration
Number of figures/tables/illustrations	1
Figures/tables/illustrations used	Figure 1 Knowledge to action process
Author of this Wolters Kluwer article	No
Title of your thesis / dissertation	Enhancing the Nurse Aide Student's Knowledge of Evidence-Based Geriatric Care Practices
Expected completion date	Sep 2018
Estimated size(pages)	85

Appendix B: Letter to Nurse Aide Instructors

Hello, *nurse aide instructor's name*. My name is Vivienne Pierce McDaniel, and I am contacting you with permission from the deputy executive director who oversees the nurse aide education program. I am following up from our previous conversation regarding my Doctor of Nursing practice project. Please share the following information with your nurse aide class by reading the two paragraphs below:

As student nurse aides providing care on a nursing unit for the first time, and as future certified nurse aides, you will be providing care to aging (older), vulnerable, people with multiple chronic conditions. Because of changes that occur during aging, people in this population with multiple chronic conditions are considered at-risk for a poor quality of life and even death. When they have sudden changes in their normal status, it requires immediate attention from licensed nurses. As a nurse aide, you are the "eyes and ears" of the nursing unit and are relied on heavily by licensed nurses to recognize and report important information about changes in conditions of the residents you care for. We want to ensure you have the appropriate processes and tools that will guide you through recognizing status changes, and what to report to licensed nurses.

Doctor of Nursing Practice student, Vivienne McDaniel will be presenting a two-hour education program in this room on the Thursday before your last day of classroom instruction. The educational program is meant to teach you how to recognize, and observe potentially harmful status changes, and what you should report to the licensed nurse. We hope that you will participate.

Appendix C: Telephone Outreach

Hello, *student nurse's name*. My name is Vivienne Pierce McDaniel, a Doctor of Nursing Practice student at Walden University. I am calling from the Virginia Board of Nursing with permission from your nurse aide instructor, and Dr. Paula Saxby, the deputy executive director who oversees nurse aide education programs.

As student nurse aides providing care on a nursing unit for the first time, and as future certified nurse aides, you will be providing care to aging (older), vulnerable, people with multiple chronic conditions, who reside in nursing homes. Because of changes that occur during aging, people in this population with multiple chronic conditions are considered at-risk for a poor quality of life and even death. So, when they have sudden changes in their normal status, it requires immediate attention from licensed nurses. As a nurse aide, you are the "eyes and ears" of the nursing unit and are relied on heavily by licensed nurses to recognize and report important information about changes in conditions of the residents you care for. We want to ensure you have the appropriate tools to guide you through recognizing status changes, and what to report to licensed nurses.

I will be presenting a two-hour education program in the familiar setting of your classroom, that teaches nurse aides how to recognize, and observe potentially harmful status changes, and what you should report to the licensed nurse. I hope that you will participate. Thank you for your time and enjoy your day.

Appendix D: Personal Background of Participants

SECTION 4: PERSONAL BACKGROUND

Answers to the following questions will be used to described the individuals completing this questionnaire. No individual answers will be reported.

1. What is your gender?
○ Male ○ Female

2. Select below the answer most descriptive of your racial/ethnic background. *(Select only ONE answer)*
○ African American
○ Asian Indian
○ Asian other
○ Hispanic
○ Native American
○ Pacific Islander
○ White - not of Hispanic origin
○ Other, please specify:_____

3. Is English the first language you learned to speak?
○ Yes ○ No

4. What is your age in years? ___ ___ YEARS

SECTION 5: COMMENTS

If we need more information to clarify the results of this study, we may call some persons. If you are willing to be contacted, please ***provide your phone number below:***

Daytime or Early Evening Phone Number with Area Code:

(___) ___ - ___ ___ ___ ___

You may write any comments or suggestions that you have in the space below.

Appendix E: Pretest/Posttest

Nurse Aide Geriatric Knowledge Questionnaire (NAGKQ-10)

The purpose of this pretest/posttest is to evaluate whether an education intervention improved the student nurse aide's knowledge on familiarizing, recognizing, observing, categorizing, reporting, and documenting potentially harmful status changes in geriatric residents, and what to report to licensed nurses.

1. What do you know about status changes in geriatric residents?
   a. A change in a resident's condition can be both, mentally and physically
   b. That all residents have a normal baseline, and normal can change rapidly in elderly people
   c. A change of status is a sign or symptom that is different from the resident's normal baseline that should be closely observed
   d. All the above
   e. I do not know

2. What is the best environment that allows you to recognize and observe a change in a geriatric resident's normal baseline, or a condition?
   a. A workforce setting where nursing staff are familiar with the residents and adapt to the daily routine of the residents to whom they provide care
   b. An environment where supervisors and nurse leaders are the only staff who are allowed to observe changes in residents
   c. A nursing unit where nurse aides are punished for recognizing a change and failing to report it
   d. All the above
   e. Both a, and b

3. Resident A is a new admission. On her second day at the LTC facility, you noticed a red spot (beginning stage of pressure ulcer called Stage 1) on her right heel while you are bathing her. What is your immediate response?
   a. Continue with Resident A's bath, put her clothes and shoes on, and take her to the nurse supervisor so the red spot can be assessed right a way
   b. Finish bathing Resident A, then find a licensed nurse, report your findings, and ask him/her to come assess the red spot as soon as possible
   c. Put barrier cream on the red spot, put the resident's socks on, then float the heels on a pillow, and report findings to the nurse aide at the end of the shift
   d. None of the above

e. Both a, and c

4. Which of the following are a part of familiarizing yourself with a geriatric resident's normal baseline and pattern?
   a. Talking to residents and/or their family members and asking them questions about things that are important to the resident including cultural beliefs and dietary choices
   b. Reviewing the resident's vital sign records to determine what her blood pressures and respirations have been over the last week
   c. Observing how the resident routinely interacts with the staff and other residents
   d. All the above
   e. Neither a, b, or c

5. During the beginning of your shift you observe Resident B who is always up and dressed by 7am, and he appears to be tired, weak, and confused. You have:
   a. Identified and observed a change in status while caring for a resident and should further assess the resident to determine what is wrong before reporting to the licensed nurse that the resident is tired, weak, and confused
   b. Identified and observed a change in status while caring for a resident and should immediately report to the licensed nurse that Resident B is more tired than usual, and appears to be weak and confused
   c. Identified and observed a change of status while caring for a resident and should continue to observe Resident B throughout your shift if vital signs are normal
   d. None of the above
   e. All the above

6. Changes in weight, such as unplanned weight loss and changes in a resident's ability to walk are categorized as what type of status changes?
   a. Physical
   b. Mental or non-physical
   c. Excessive
   d. Cultural
   e. None of the above

7. The INTERACT (Interventions to Reduce Acute Care Transfers) Stop and Watch Tool can be used by nurse aides to improve the quality of care for geriatric residents and guides the nurse aide in observing and reporting a resident who:
   a. Seems different than usual
   b. Talks or communicates less
   c. Overall needs more help
   d. Participated in less activities
   e. All the above

8. The nurse aide providing care to Resident C knows her likes and dislikes, respects her privacy, shows dignity and respect towards her always, and allows Resident C to make her own choices about what she will wear. This is known as:
   a. Primary care
   b. Person-centered care/patient-centered care (PCC)
   c. Activities of daily living (ADLs)
   d. Restorative care
   e. None of the above

9. Identifying, observing, and reporting signs and symptoms, including acute changes in the condition of the geriatric resident may prevent the resident from:
   a. Becoming sicker
   b. Unnecessary hospital admissions
   c. Developing a stage II pressure ulcer
   d. All the above
   e. Only a and c

10. Resident D is sitting in his recliner. At 1pm you notice that Resident D's face is drooping on the left side, he cannot lift his arm, and when he tried to speak, his speech is slurred. What do you report to the licensed nurse?
   a. Resident D just had a stroke
   b. At 1pm, I observed Resident D sitting in a chair. His face appeared to be drooping on the left side, he could not lift his arm, and his speech was slurred
   c. Resident D appeared to be having a stroke at 1pm because he could not lift his arm, and responded in slurred speech
   d. Resident D may have had a stroke, but when I asked if was okay, he said yes
   e. None of the above

Appendix F: Nurse Aide Geriatric Care Process Model

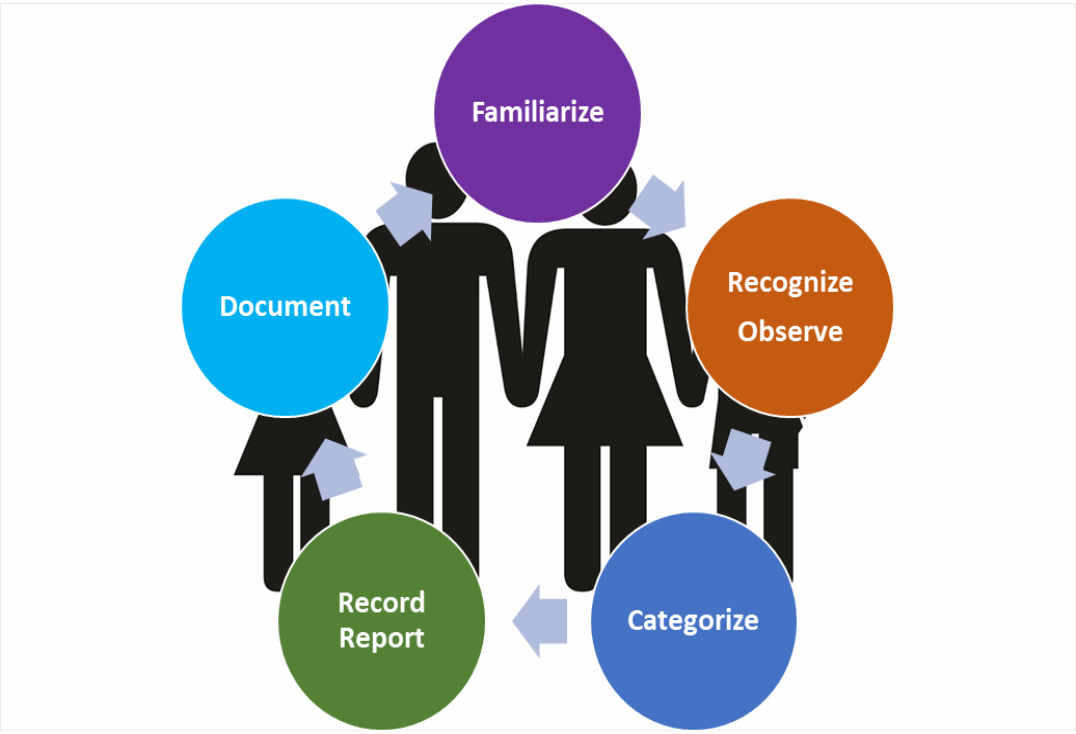


***Figure F1*. The nurse aide geriatric care process. From McDaniel, 2017.**

Appendix G: Nurse Aide Geriatric Care Process

The Nurse Aide Geriatric Care Process

The Nurse Aide Geriatric Care Process (NAGCP) was developed by Vivienne Pierce McDaniel, MSN, RN, to meet the partial requirements of her doctor of nursing practice (DNP) degree at Walden University. The concepts of the NAGCP were developed using three evidence-based care models used in geriatrics: The Nurses Improving Care for Healthcare Elders (NICHE) model, the Person-Centered Care (PCC) model, and the Interact Quality Improvement program as conceptual frameworks. The NAGCP is comprised of five phases to guide novice and seasoned nurse aides in developing their observation and reporting skills during clinical practice: (1) familiarize; (2) recognize and observe; (3) categorize; (4) record and report; and (5) document. The NAGCP phases easily align with the assessment phase of the nursing process, allowing the nurse aide to recognize, observe and report pertinent data to licensed nurses in the LTC environment without assessing, which is outside of the scope of practice for nurse aides. The five phases of the NAGCP, with the resident/client and his or her family members at the center of care, are visually conceptualized in the diagram in Figure 1.

Phase 1: Familiarize

During the familiarize phase, nurse aides **set aside time to acquaint themselves** with the residents/clients they provide care to on the unit. Nurse aides utilize the time to communicate openly with the resident, their family members/significant others, CNAs, and licensed health care providers (nurses) to gather "need to know" information that will assist them in providing the best culturally competent, person-centered, quality care. A

significant component of the familiarize phase is establishing the resident/client's normal baseline vital signs (temperature, blood pressure, pulse, and respirations), the skin integrity, eating habits, urinary/bowel patterns, ambulation and mobility, and cognition. In addition, knowing the resident/client's normal demeanor, sleep pattern, risk for falls, level of weakness will help the nurse aide recognize when an at-risk resident/client's condition changes from normal. Any data gained during the familiarize phase is passed on to other nursing staff or members of the interdisciplinary team on a "need to know" basis. Certified nurse aides are considered members of the interdisciplinary team.

Figure F1. The nurse aide geriatric care process. From McDaniel, 2017.

Phase 2: Recognize and Observe

In phase 2 the **nurse aide plays the role of critical observer.** While providing care the nurse aide watches for physical and non-physical/mental changes in the resident/client. Early recognition and timely intervention is important when at-risk geriatric residents experience any symptom(s), sign(s), or noticeable discomfort different from their normal state or baseline. These changes may be subtle or acute (sudden). Changes in the normal status can signal that a biological change has occurred in the body that may quickly lead to a medical crisis. The nurse aide identifies the change in condition, and after careful observation, collects objective data (what the nurse aide sees, hears, smells, and/or touches) to provide to the licensed nurse.

Phase 3: Categorize

The nurse aide uses **critical details to categorize** the observed finding as either physical, non-physical/mental or both, in phase 3. Some significant physical changes may occur in vital signs, mobility, skin integrity, urination/bowel patterns, falls, facial expressions, and speech. Non-physical/mental changes that may occur include the resident's demeanor, appetite, confusion, pain, agitation, and speech. Categorizing the change makes it easier to record and report the change.

Phase 4: Record and Report

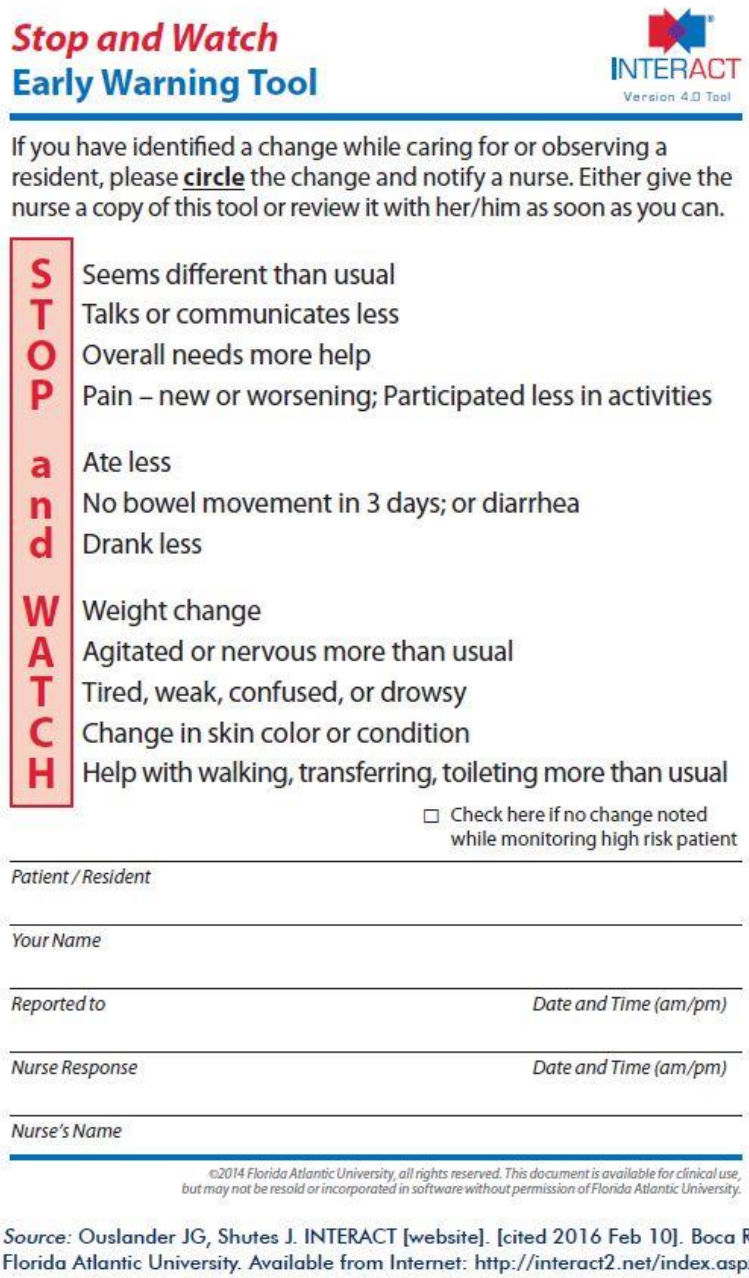
In step 4, the nurse aide utilizes the Interact Stop and Watch tool (Figure 2) to record and communicate observed findings to the licensed nurse. The Stop and Watch tool contains 12 condition and behavior choices the nurse aide may select to communicate a change(s) to a licensed nurse. The nurse aide will need to record what

changed, when it occurred or when the nurse aide first noticed the change, and where it is located (i.e. how is the change categorized; what body part is affected,). If the resident/client provides information, or complains of pain, or other symptoms, the nurse aide should report what was heard to the licensed nurse, playing close attention to details. Providing accurate data will assist the licensed nurse in initiating the assessment of the resident/client's condition.

Phase 5: Document

The final phase of the NAGCP occurs after the nurse aide has communicated the observed findings to the appropriate licensed nurse. Documentation provides clear and complete communication of the nurse aides encounter with the resident/client and what was observed, and reported to the license nurse, as well as an up-to-date record of care provided to the resident/client while assisting the licensed nurse during his or her assessment. The long-term care facility may not utilize a documenting process or require the nurse aide to document in the resident/client's medical record. During the document phase, **the nurse aide must follow the facilities documentation policy for nurse aides**.

Appendix H: The Interact Early Warning Stop and Watch Tool



Stop and Watch
Early Warning Tool

INTERACT
Version 4.0 Tool

If you have identified a change while caring for or observing a resident, please **circle** the change and notify a nurse. Either give the nurse a copy of this tool or review it with her/him as soon as you can.

S Seems different than usual
T Talks or communicates less
O Overall needs more help
P Pain – new or worsening; Participated less in activities

a Ate less
n No bowel movement in 3 days; or diarrhea
d Drank less

W Weight change
A Agitated or nervous more than usual
T Tired, weak, confused, or drowsy
C Change in skin color or condition
H Help with walking, transferring, toileting more than usual

☐ Check here if no change noted while monitoring high risk patient

Patient / Resident

Your Name

Reported to *Date and Time (am/pm)*

Nurse Response *Date and Time (am/pm)*

Nurse's Name

Source: Ouslander JG, Shutes J. INTERACT [website]. [cited 2016 Feb 10]. Boca Raton (FL): Florida Atlantic University. Available from Internet: http://interact2.net/index.aspx

Appendix I: Case Study

Case Study

Ms. C is a pleasant 85-year-old African American female, alert and oriented X 3 (person, place, time) who arrived at the Joyner Ligon Nursing Center two weeks ago after a social worker at Adult Protective Services found her home alone, and malnourished. Ms. C does not have immediate family in the area and has been alone since her husband died five years ago. Ms. C ambulates poorly (does not walk well), and needs assistance with daily living activities due to a previous stroke six months ago. Ms. C has several chronic conditions including hypertension, diabetes, arthritis in both knees and hips, and is incontinent of urine. Ms. C also loves eating, especially foods that are restricted because of her hypertension and diabetes. Yesterday, although Ms. C complained of slight burning upon voiding, she was sitting in her recliner all day listening to her gospel songs and happily singing along. Today, you noticed that Ms. C is more frequently incontinent of urine which has a strong odor, she is eating less food, and she appears confused, and agitated. Her baseline blood pressure (B/P) is 140/90, temperature 97.5, pulse 75, and respirations 16. Today her temperature is 101.9 and her B/P is 90/50.

How did Ms. C's status change seemingly overnight? Are there any changes you may have failed to report to the nurse? Reviewing the Stop and Watch Early Warning tool, are there any status changes that you could have made note of to report to the nurse? Are Ms. C's vital signs a concern?

Developed by Vivienne McDaniel, MSN, RN 2018