

TRANSITIONS OF CARE IN THE VETERAN POPULATION AND THE EFFECTS OF  
PATIENT EDUCATION ON PATIENT OUTCOMES: A SYSTEMATIC LITERATURE  
REVIEW

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**Title**

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SYSTEMATIC LITERATURE REVIEW

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**MASTER OF SCIENCE**

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## **ABSTRACT**

The main focus of this systematic literature review was to assess research on care transitions in the veteran population as well as the effects of patient education interventions. A variety of care transition interventions were discovered in the literature. The majority of the interventions described in the research were based upon earlier research by Coleman, Parry, Chalmers and Min - The Care Transitions Intervention (2006), and Naylor and Keating - Transitional Care Model (2008). The large variety in patient populations, heterogeneity of interventions, and lack of protocols hinders direct comparisons between the care transition interventions. Apparent assessment methods for patient education success were largely absent in the literature reviewed. Improved communication, standardization of interventions, and predictions models are likely to be beneficial in developing successful care transition programs in the future for veterans as well as other patient populations.

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# CHAPTER 1. INTRODUCTION

## Nursing Issue

Transitions in care are very stressful time periods for patients. Patients and their family members are faced with challenges of taking care of themselves at home, sometimes after a lengthy hospital stay. Their ability to deal with follow-up appointments, recognizing symptoms that would indicate worsening of their condition, and managing their disease with new medications they received, is being challenged. Patients often are not strong enough to perform their activities of daily living as they were prior to hospitalization. The decrease in a patient's functioning places a new burden on the family member or caregiver, as well as diminishes the patient's feelings of self-worth. Patients face communication challenges when attempting to contact their medical providers, especially after a care transition where there may be a gap in communication between the hospital medical provider and the patient's primary care provider (Cline, 2016).

Patients are often discharged from the hospital before they are ready to return home. The push for early discharge can be related to financial reasons for the facility, which can drive medical providers to send the patient home at a time when the patient is not well prepared to leave the hospital. Discharge from the hospital may be very complicated depending on the patient's diagnosis. The interdisciplinary team may include a team of medical providers (possibly from a couple of different specialties), social worker, occupational therapist, physical therapist, nutritionist, pharmacist, and the nurse caring for the patient. To coordinate the efforts and ensure that the patient receives all the needed information and services is very challenging. The patient may require education about new equipment needed to safely ambulate around the house. Often the patient is required to daily check his blood pressure prior to taking newly



prescribed medication. Discharge from the hospital is a very high-risk time for the patient. Lim, Jarvenpaa and Lanham discovered that when time is limited or rushed during care transitions, such as at the time of hospital discharge, patients are less likely to understand the information given to them (2015). They also found that providers are less likely to have an opportunity to agree upon a shared plan for the patient at discharge when faced with time pressures to discharge the patient as soon as possible. The time pressures affect other medical providers' ability to educate the patient, which may lead to knowledge gaps and increased stress and uncertainty for the patient (Lim et al., 2015). The medical provider, pharmacist, or the nurse may not have adequate time to assess whether the patient has a solid understanding of his new prescriptions and treatment plan. According to Gonzalez, mutual active involvement by the provider and the patient in the medication reconciliation process is absolutely necessary to avoid adverse medication events (2016).

Failures in care transitions lead to poor continuity of care, medication errors, and in the end, to poor patient outcomes (Cline, 2016). Implementing patient-centered care interventions, like the Veterans Affairs' (VA) Patient Aligned Care Team (PACT) have been found to decrease patient visits to the Emergency Department (ED) (Chaiyachati et al., 2014). Patient-centered coordinated care has been studied and implemented for about ten years. One of the first programs, the Medicare Coordinated Care Demonstration (MCCD), was initiated in 2002 (Stefanacci, 2009). The MCCD program was found to have six effective interventions: 1) screening of high risk patients, 2) in-person contact with patients, 3) access to health information, 4) primary care physician and care coordinator (with a close working relationship), 5) services available to patients (assessment, care planning, patient education, monitoring of patient, and encouraging patient self-management), and 6) interdisciplinary team style of staffing

(Stefanacci, 2009). Stefanacci pointed out that giving patients and caregivers education and tools to be proactive in their own healthcare leads to better decision-making and better patient outcomes.

The VA employed their version of Patient-Centered Medical Home (PCMH) in 2010 and titled it the 'Patient Aligned Care Team' (PACT). The PACT concept was implemented across the nation in the VA system over the following four years (Tuepker, et al., 2014). The Veterans Health Administration (VHA) is the primary location for health care for over five million veterans with 160 hospitals and over 700 primary care clinics across the United States (Werner, Canamucio, Shea, & True, 2014). The PACT consists of a primary care provider: a Doctor of Medicine (MD), a Nurse Practitioner (NP), or a Physician Assistant (PA); a registered nurse (care manager), a licensed practical nurse (clinical associate) and a clerk (unlicensed medical provider) (Solimeo, Ono, Lampman, Paez & Stewart, 2015; Tuepker et al., 2014). The PACT model is team-based and is readily accessible to patients due to improved scheduling; the model ensures care continuity and care coordination for patients (Tuepker et al., 2014; Werner et al., 2014). One of the goals the VA set out to accomplish with the roll out of the PACT concept was to lower the expenditures and improve patient outcomes (Werner et al., 2014). According to Werner et al. over one billion dollars was committed to the implementation of the PACT concept across the VA system.

Another large change to the U.S. health care system also occurred in 2010; the Affordable Care Act (ACA) was signed into law (Silva et al., 2016). The authors expressed concern over possible increased fragmentation of care. The concern is related to differences in the way each state is implementing the ACA and how each state implements Medicaid. Some veterans may now be eligible to receive Medicaid benefits, for which they did not previously

qualify. Medicaid benefits may provide the veteran with a more affordable option, but may lead him away from the VA system and can cause fragmented care (Silva et al.). Silva et al. also noted that some veterans might choose to look for other care providers outside of the VA system because of added options for health insurance coverage now available after the ACA implementation. Choosing additional providers outside the VA system can lead to gaps in communication, increased expenses and duplicate testing (Silva et al.).

### **Aim and Focus**

The author focused on answering the following questions:

- What are major barriers for veterans in transitions of care?
- What have studies found regarding patient education and its effects on patient outcomes during care transitions?
- Has patient education been found to be effective?
- What are the primary educational topics addressed with veterans in transitions of care?
- Which transitional care interventions have used patient education as one of the interventions to improve patient outcomes?
- What is the role of nurses in transitions of care for veterans?

The systematic literature review examined literature for transitions of care in the veteran population and the effects of patient education and patient outcomes. The author of this systematic review assessed what types of patient education interventions were found to be effective, as well as possible gaps in patient education, and barriers to successful care transitions. The review findings can be used to improve the discharge planning process by updating current patient education interventions provided at the time of discharge. The review can also provide

timely input for current research regarding care transitions in the VA Eastern Colorado Health Care System (ECHCS), and other involved facilities. Nurse educators can use the findings from the review to educate undergraduate and graduate-nursing students about successful patient care transitions. Nurse educators can provide continuing education to clinical colleagues about evidence-based patient education interventions during care transitions to improve patient outcomes.

### **Background Information**

Long gone are the times where the same doctor that cared for your parents was the doctor for their pediatric visits and continued into adulthood, until he decided to retire. Continuity of care is much more difficult due to providers moving from one healthcare system to another, patients moving from state to state, and patients seeking care from a variety of non-connected healthcare providers. Transitions of care, which most often is considered to be the transition from inpatient hospital to home, or a home-like entity, are common stressful events in patients' lives. Inadequacies during care transitions hinder "the health and lives of patients and caregivers as well as the fiscal health of insurers" (Hudson, Comer, & Whichello, 2014, p. 208). Since 2010 and introduction of the ACA, healthcare facilities have been strongly encouraged to produce plans to reduce the amount of hospital readmissions.

The VA has implemented redesigned systems for how primary care is delivered to veterans. The PACTs are built around elements of staff coordination and communication, as well as evidence-based interventions to support healthy lifestyles for veteran patients (Stephens et al., 2013). The authors stated that interventions promoting and encouraging partnerships between veteran patients and medical providers are required to successfully reduce rehospitalization. They further suggest that inclusion of a culture of ownership for their own health care, active

engagement, and empowerment are the foundation for creating successful care transitions for veterans in a variety of health care settings (Stephens et al.).

After working in the VA system and talking with veterans, as well as medical providers, this author has been exposed to stories about unsuccessful care transitions. The VA is undertaking pilot projects, and has staff members involved in larger scale research in the realm of care transitions, which puts the VA facilities at the forefront of this type of research. The specific focus for the systematic literature review is on care transitions concerning veterans and patient education. Conducting the systematic literature review gives an opportunity to share effective transitional care interventions with other health care providers. With the findings from the systematic literature review this author hopes that changes in educational interventions in care transitions can be implemented, which would then lead to improved health care outcomes for our veteran patients.

### **Definitions**

The systematic literature review examines transitions of care in the veteran population and effects of patient education on patient outcomes. Professional sources were reviewed to determine effects of patient education to the care transition successes in the veteran population. The following terms are defined: continuity of care, care transitions intervention, discharge planning, transitional care, patient education, and veteran.

*Continuity of care* is described as quality care that is provided to the patient over a time period. Coordination between providers ensures that the patient receives effective care that continues even if the care occurs in different types of settings. Continuity can be achieved by sharing information via electronic health records, phone calls, or via another type of secured electronic method (American Academy of Family Physicians, 2016).

*Care transitions intervention* is described by Coleman, Parry, Chalmers and Min as four pillars for the foundation: “(1) assistance with medication self-management, (2) a patient-centered record owned and maintained by the patient to facilitate cross-site information transfer, (3) timely follow-up with primary or specialty care, and (4) a list of red flags indicative of a worsening condition and instructions on how to respond to them.” (Coleman et al., 2006, p. 1823).

*Discharge planning* is a process where an interdisciplinary team develops an outline of interventions for a patient in the hospital to prepare the person to go home or to another setting after being discharged from the hospital. The team considers the patient’s physical, social, psychological, and financial needs. The team often includes personnel from physical therapy, occupational therapy, social work, respiratory therapy, nursing, chaplain, and a variety of primary care providers depending on the patient’s particular needs. Usually a registered nurse plays an integral part in the discharge planning team and has many roles in the discharge planning process. The nurse communicates with the providers, patient, and family members. The nurse ensures required equipment and services are provided to the patient at discharge. Patient and family education is a fundamental part of discharge planning. The nurse is in a prime position to provide patient and family education (Jack et al., 2009).

*Transitional care* as defined by Naylor, Aiken, Kurtzman, Olds and Hirschman (2011) is: “a broad range of time-limited services designed to ensure health care continuity, avoid preventable poor outcomes among at-risk populations, and promote the safe and timely transfer of patients from one level of care to another or from one type of setting to another.” (p. 747).

There are other descriptions for transitional care that differ from the above. However, definitions

generally mention continuity and coordination of health care as it pertains to patient transfers between care locations or different levels of care.

*Patient education* as described by the Patient Education Institute (2016) is: “defined as any set of planned educational activities designed to improve patients’ health behaviors and health status”. Patient education is aimed to increase patients’ and family members’ active participation in their own care. Educating patients about potential problems will provide tools to assess and act on the situation before the issue becomes worse. Knowledge about the medical diagnoses and medication treatments will empower patients to take control of their own medical care (Patient Education Institute, 2016).

Under Federal Law, *Veteran* is defined as: “any person, who served honorably on active duty in the armed forces of the United States. (Discharges marked GENERAL AND UNDER HONORABLE CONDITIONS also qualify)” (Veterans’ Agent, 2014).

## CHAPTER 2. METHODOLOGY

### PRISMA Framework

Literature was systematically analyzed on the topic of care transitions in the veteran population and the effects of patient education on patient outcomes. The literature review was guided by the framework and guidelines by the PRISMA statement. PRISMA stands for Preferred Reporting Items for Systematic Reviews and Meta-Analyses (Liberati et al., 2009). Liberati et al. (2009) described a systematic review as “attempts to collate all empirical evidence that fits pre-specified eligibility criteria to answer a specific research question” (p. W-65). The systematic methods during the review process are designed to minimize bias and ensure that findings and conclusions at the end are reliable (Liberati et al., 2009). The PRISMA Statement aims to “reduce the risk of flawed reporting of systematic reviews and improve the clarity and transparency in how reviews are conducted” (Liberati et al., 2009, p. W-88). The purpose of the PRISMA statement is to offer direction on significant information to be incorporated in reports of systematic reviews that adopt systems of multiple treatment associations (Hutton et al., 2015). The PRISMA statement has a 27-item checklist and a four-phase flow diagram (Moher, Liberati, Tetzlaff, & Altman, 2009). The checklist is comprised of items that the PRISMA statement recommends to be included in a systematic review or a meta-analysis. Topics are listed as: title, abstract (structured summary), introduction (rationale, objectives), methods (protocol and registration, eligibility criteria, information sources, search, study selection, data collection process, data items, risk of bias in individual studies, summary measures, synthesis of results, risk of bias across studies, and additional analyses), results (study selection, study characteristics, risk of bias within studies, results of individual studies, synthesis of results, risk of bias across studies, and additional analysis), discussion (summary of evidence, limitations, and conclusions),



and funding (Moher et al., 2009). Relevant aspects of the full 27-item checklist were used for the literature review, with the four-phase flow diagram the main reference point for the review.

The PRISMA framework uses a four-phase flow diagram to assist with the literature review progress (see Figure 1.). The Identification phase describes the number of records (research articles) that were identified from database searches, or from other types of sources. The Screening phase includes reporting a number of research articles that were removed from the literature review due to duplication or another reason for exclusion. In the Screening phase, abstracts are read to assess for relevance. Rationale for why certain articles were excluded from the review is provided. The Eligibility phase provides an opportunity to look at the articles in more detail and discover if they contain the information that is searched to find answers to the research questions. At this stage the author looks through full text research articles, and provides explanations for exclusions that occur. The Inclusion phase reports the final number of studies that are included in the review (Liberati et al., 2009).

The PRISMA framework can be used to guide the author with the review process as well as the writing process. The use of PICOS approach can be very helpful in considering the basic information, and getting a quick review of the research article in question, and in developing one's own research questions. PICOS stands for: P – Population or disease being addressed in the study; I – Interventions or exposure; C – Comparator group (control group); O – Outcome or end point; and S – Study design chosen (Liberati et al., 2009). Another recommended step from the PRISMA framework is for the author to provide an overview of the studies that were included in the systematic review. The narrative summary includes information about the study population, interventions, controls, and outcomes, study design, and how each study was relevant to the

questions posed by the author (Liberati et al., 2009). The overview information is usually included in table format within the body of the paper, or as an appendix.

### **Databases**

The author approached the systematic literature review by examining a variety of online databases containing relevant professional sources. The author used the following databases Cumulative Index of Nursing and Allied Health Literature (CINAHL) complete and PubMed with access to biomedical literature articles from MEDLINE, life science journals, and online books. PubMed contains professional sources relevant to research conducted in the Veterans' Health System. Other databases were accessed as deemed necessary to read a full text article of interest. Professional sources did not extend beyond the years of 2007 to 2016 unless a hallmark source was found and judged to be relevant to the literature review. Tables 1 and 2 show the database search terms used for the literature review and limits for the searches conducted. 'CINAHL Headings' was used during the search to narrow the search with specific terms; 'Medical Subject Headings' (MeSH) were used in PubMed to assist the search in that particular database.

Table 1

*Database Search Terms*

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Transitions of care OR Transitional Programs or Health Services needs and demand AND Veterans  
 Continuity of patient care AND Veteran  
 Transitional programs AND Veteran  
 Transitional care AND Veteran  
 Transitions of care AND Veteran  
 Transitional Programs OR Health Transition AND Veteran  
 Discharge planning AND transition AND veteran  
 Rural AND veteran care transitions/  
 Rural AND transitional care  
 Discharge planning AND Veteran  
 Transitional care process  
 Care transitions intervention AND Veteran  
 Transitional care model  
 Transitional care nursing  
 Patient discharge education OR  
 Patient education AND Veteran

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Table 2

*Search Limits for Database Searches*

CINAHL Complete	PubMed
Full text PDF	Full text
Scholarly	PubMed only
References available	Abstract available
2007-2016	2007-2016
English language	English language
Peer reviewed	NDSU Libraries only
	Humans

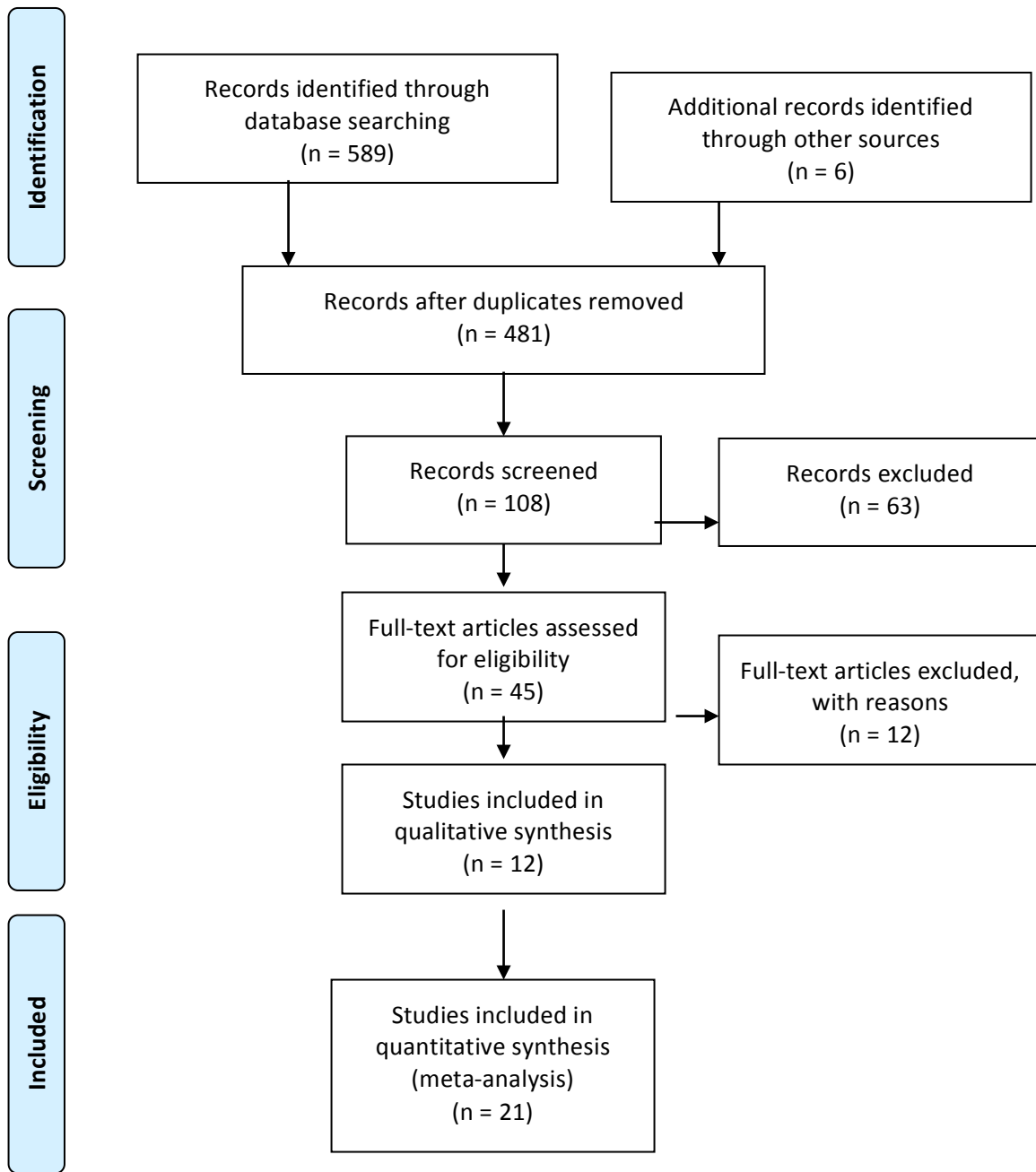


Figure 1. PRISMA 2009 Flow Diagram

## CHAPTER 3. RESULTS

### Overview of Selected Studies

The search for the systematic literature review resulted initially in many studies found with unrelated information. By using additional database search limits via 'CINAHL headings' and 'MeSH' terms in PubMed, and specific word combinations, the results became more effective. The searches via CINAHL complete and PubMed were accomplished by using the following limitations: 'full text PDF' or 'full text', 'scholarly', 'references available', 'Abstract available', 'English language', 'peer reviewed', 'humans', 'NDSU Libraries only', 'PubMed only', and '2007-2016'. Only published studies were used, no attempt to search unpublished studies was made for the systematic literature review. During the search, 63 studies involving specific populations that did not fit the veteran patient picture were discarded from the selection. Pediatric and obstetric patients are rare in the Veterans Health Administration (VHA) system and therefore were not included in the review. Literature discussing adult patients was the main focus for the review, with majority of the studies involving elderly and older adult patient population. Some of the search terms yielded many research articles that had nothing to do with health care, which resulted in a large number of articles of very little relevance to care transitions in the health care system, and patient education. Some of the search terms were too specific to get many results at all. From the resulting list of research articles it appeared that the majority of the research on care transitions had taken place outside of the VHA system. The changes in the U.S. health care system in general, and at the VA, have generated interest in care transitions research. The system changes have led to new research within the VA system, and during the last ten years researchers affiliated with the VA have published more research on the topic of care transitions.

Through personal communications with the VA ECHCS research staff during fall of 2015, specifically with Dr. Cathy Battaglia and Jaime Peterson, RN, this author requested and received six relevant articles outside of those resulting from the online database searches. The particular research articles recommended for review also were often referenced in the newer research articles and were therefore included in the systematic review as a relevant part of the review. The additionally included articles were published prior to 2007 and therefore would not have shown up in the author's searches due to the limitations that were set.

### **Types of Studies**

The studies included in the systematic literature review were articles related to care transitions interventions, transitions of care models, identifying ideal care transition processes, and how to improve the current processes in place. Two case studies (Gunadi et al., 2015; Hendrix et al., 2013), three pilot studies (Ornstein, Smith, Foer, Lopez-Cantor, & Soriano, 2011; Radhakrishnan et al., 2015; Spehar et al., 2005) and two quality improvement projects (Baldwin et al., 2014; White et al., 2014) were included due to relatable study populations or interventions relevant to the review. Three randomized controlled trials on care transitions were included in the review (Coleman et al., 2006; Jack et al., 2009; O'Toole et al., 2015). A large portion of the included articles (ten) were themselves literature reviews, which for the most part included research that had been conducted prior to 2007. Three quality improvement projects were also included since they involved care transition processes (Gunadi et al., 2015; Hendrix et al., 2013; Radhakrishnan et al., 2015). A majority of the included studies were quantitative in nature (21) and the rest (12) were categorized as qualitative. Some of the studies were not strictly quantitative or qualitative but included aspects of both styles.

## **Study Populations**

The research studies included were conducted on a variety of study populations. Some of the studies did not specify a group but generally discussed patients that had been discharged from the hospital within a certain time frame. Three studies specifically talked about patients with heart failure (Feltner et al., 2014; Gunadi et al., 2015; White et al., 2014). Two of the articles concentrated on very specific patient populations, one discussed the challenges of patients with mobility impairments (Dossa et al., 2012) and the other discussed homebound patients (Ornstein et al., 2011). And not surprising, considering the topic of the systematic review, 11 of the 33 studies selected focused on veteran patients. Two of the studies on veterans specifically concentrated on homeless veterans (O'Toole, Johnson, Borgia, & Rose, 2015; O'Toole et al., 2013).

## **Outcomes Studied**

The articles included in the systematic review were studies of outcomes that included: hospital readmission rates, length of stay and patient satisfaction scores. The existing care transition models were also studied in a variety of literature reviews for differences, effectiveness, and patient and caregiver satisfaction. The variability in length of study periods complicated comparison of the interventions. Some studies followed patients for 30 days after discharge (Baldwin, Black, & Hammond, 2014; Gunadi et al., 2015; Jack et al., 2009; Kind et al., 2012; Spehar et al., 2005; White & Hall, 2014). Others followed patients for 60, 90 or 180 days (Coleman, Parry, Chalmers, & Min, 2006; Feltner et al., 2014; Hendrix et al., 2013), with one up to a full year (Radhakrishnan, Jones, Weems, Knight & Rice, 2015), and another two studies for two years (Ornstein et al., 2011; Yoon et al., 2015). One study reviewed assessed

rehospitalization rates at 30, 90, 180 and 365 days after the patient was discharged from the hospital (Ohuabunwa, Jordan, Shah, Fost, & Flacker, 2013).

### **Patient Education**

Research has shown that expertly conducted patient education can considerably improve patient outcomes (Stefanacci, 2009). Registered nurses (RN) are in a prime position to teach patients during hospital stays, as well as during clinic and home visits. One can assume that a wide variety of teaching takes place, however the studies reviewed did not appear to clearly define the teaching methodology. Only one study described a detailed “Education Clinical Pathway” that used evidence-based practice interventions for heart failure patient and caregiver education during hospitalization (White & Hill, 2014, p. 279). White and Hill (2014) mentioned six educational topics to be discussed with the patients: “1) medications, 2) diet, 3) daily weights, 4) warning signs, 5) exercise, and 6) heart failure symptoms (p. 279). None of the 33 articles reviewed described specific methods to assess patient’s understanding of educational materials or their ability to read the educational materials nor their ability to understand the English language. Four studies mentioned that the ‘teach-back’ method was used for teaching patients and caregivers (Burke, Kripalani, Vasilevskis, & Schnipper, 2013; Gunadi et al., 2015; Jack et al., 2009; White & Hill, 2014). Another educational intervention mentioned in five articles was teaching the patient and caregiver about ‘red flags’ (Coleman, Parry, Chalmers, Min et al., 2006; Golden, Ortiz, & Wan, 2013; Kind et al., 2012; Ohuabunwa et al., 2013; Radhakrishnan et al., 2015).

### **Database Search Terms and Results**

CINAHL Complete and PubMed databases were used to search for appropriate articles for this systematic literature review. Table 3 shows the subsequent number of research articles



that were found with each search term within each database. Use of certain search terms were found to be too broad to obtain a manageable amount of articles for review, whereas other terms were far too specific to bring up adequate amount of articles. Using the databases CINAHL Complete and PubMed, 481 duplicate articles were removed during the process to narrow down the search. The use of 'MeSH' in PubMed and 'CINAHL Headings' in CINAHL Complete were used to assist with narrowing down the searches.

Table 3

*Database Search Terms and Results*

Search Term	CINAHL Complete	PubMed
Transitions of care OR Transitional Programs or Health Services needs and demand AND Veterans	16	0
Continuity of patient care AND Veteran	51	422
Transitional programs AND Veteran	16	4
Transitional care AND Veteran	168	38
Transitions of care AND Veteran	111	12
Transitional Programs OR Health Transition AND Veteran	16	4
Discharge planning AND transition AND Veteran	21	108
Rural AND Veteran care transitions/Rural AND transitional care	92	11
Discharge planning AND Veteran	118	45
Transitional care process	32	45
Care transitions intervention AND Veteran	20	11
Transitional care model	343	162
Transitional care nursing	6	60
Patient discharge education OR Patient education AND Veteran	118	135

Table 4 is an alphabetical list summarizing the 33 selected studies for the systematic literature review. The table provides information regarding the authors, title, year of publication, study design, purpose, and findings and conclusions. Information pertaining to patient education and RN involvement and role in care transition interventions in the reviewed studies is included in the findings and conclusions portion of the table.

Table 4

*Summarization of Selected Studies for the Systematic Literature Review*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Baldwin et al.	Developing a rural transitional care community case management program using Clinical Nurse Specialists	2014	Quality improvement project	To develop a transitional care model to reduce number of preventable readmissions by providing telephone case management and treatment by a clinical nurse specialist (CNS).	Transitional care model used. Advance practice nurse/ CNS use can result in reduced readmissions and costs. Money saved by project justifies employment of CNS to lead a telephonic transitional care management program.
Burke et al.	Identifying keys to success in reducing readmissions using the ideal transitions in care framework	2014	Systematic literature review	To identify which parts of the ideal transitions in care framework reduce hospital readmissions.	Domains associated with reduced hospital readmission rates identified in the review: monitoring and managing symptoms after discharge, enlisting help of social and community supports, and educating patients to promote self-management.
Burke et al.	Moving beyond readmission penalties: creating an ideal process to improve transitional care	2013	Description of creating an ideal process to improve transitional care	Creating an ideal transitional care process whereby hospital readmission rates would be decreased.	A ten domain bridge that connects steps as the patient transverses from the hospital back to home describes the process of an ideal care transition. Successful transitions likely include coordinated interventions that involve the inpatient and outpatient medical staff.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Coleman et al.	The care transitions intervention	2006	Randomized controlled trial	To find whether care transition interventions by transitions coach would decrease readmission rates and increase patient and caregiver self-assertion during care transitions.	An advanced practice nurse transitions coach provided patient and caregiver education and encouraged self-management of diagnoses. One home visit and three telephone interventions. Intervention group had less ED visits and readmissions; patients reported improved self-management knowledge and skills.
Donze et al.	Potentially avoidable 30-day hospital readmissions in medical patients	2013	Retrospective cohort study	Derivation and validation of a prediction model to identify patients at high risk for hospital readmissions.	A computerized algorithm using patient data to assist physicians to identify 27% of patients that would be high risk for potential readmission. Seven independent factors identified to be useful for the prediction score. The score could assist in care planning during hospital stay to provide targeted interventions.
Dossa et al.	Care transitions from the hospital to home for patients with mobility impairments: Patient and family caregiver experiences	2012	Qualitative longitudinal interview study	To explore patient and caregiver experiences with care transitions.	Communication was found to be a major hindrance in successful care. Patients and caregivers had problems accessing care and reaching providers after discharge. Providers were not interviewed for this study.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Feltner et al.	Transitional care interventions to prevent readmissions for persons with heart failure	2014	Review of randomized controlled trials	Assessment of how transitional care interventions affected readmission rates, mortality rates and other outcomes measured in CHF patients.	Home-visiting programs and heart failure clinic interventions reduced readmissions and mortality. Telemonitoring and primarily educational interventions were not found to have significant effect on outcomes. Most studies use “usual care” when studying intervention success, “usual care” not described in detail.
Golden et al.	Transitional care: Looking for the right shoes to fit older adult patients	2013	Review of transitional care practice models	Comparison of current transitional care practice models and principles in use.	Difficulty with comparisons due to study heterogeneity, and poor descriptions of interventions used. Future studies needed to determine standardized quality indicators. Systems likely will require a variety of transitional care interventions to find the best match for their patients.
Gunadi et al.	Development of a collaborative transitions-of-care program for heart failure patients	2015	Case study	To study effects of pharmacy-led transitions of care intervention on readmissions and patient satisfaction.	Pharmacy lead transitions intervention program lead to improved patient satisfaction. Medication discrepancies identified and corrected. Nurses’ role: heart failure nurse navigator provided lifestyle education.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Haggerty et al.	Continuity of care: a multidisciplinary review	2003	Multidisciplinary review	Review articles to assess continuity of care across disciplinary and organizational boundaries.	Three types of continuity discussed: informational, management and relational, all of which contribute to better quality of care for the patients.
Hendrix et al.	Transitional care partners: A hospital-to-home support for older adults and their caregivers	2013	Clinical practice case study	Development, implementation and initial study results for a transitional care model designed for older adults and their caregivers.	Naylor's transitional care model used as framework. Nurse as leader, with social worker and occupational therapist as additional partners. Hospital & ED visits were tracked for 90 days. No consistent improvement was noted after the interventions.
Hennessey et al.	The Community-based transitions model	2011	A description of one agency's experience with a community-based transitions model (CBTM)	Assessment of community-based transition model on readmission rates and care quality.	Core elements for the model pulled from Coleman, Naylor and Project RED; medication management, early MD follow-up and symptom recognition and management. Constant in the process – relationship between CBTM nurse and patient. Decrease in readmission rates, increase in patient satisfaction scores post interventions, and increased staff engagement.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Hudson et al.	Transitions in a wicked environment	2014	Literature review of evidence-based research, reports, case studies and literature reviews about transitional care	Finding and putting together the best evidence based interventions for transitions of care when an older patient moves from acute care hospital setting to home. Finding barriers and identifying successful initiatives for optimal transitional care.	Barriers found: communication, physician and nursing challenges, availability of community resources, inconsistency with outcomes measures and lack of leadership support, and inherent vulnerability of care transitions. Improvements suggested: education to staff and patients and caregivers alike, development of benchmarks to better measure success of interventions, adequate nursing staff to educate patients, adaptive interventions to fit local settings for care transition interventions.
Hynes et al.	Veterans' access to and use of Medicare and Veterans Affairs health care	2007	Retrospective cross-sectional study design	Study the use of Medicare and VA medical care by veterans.	As outpatients the veterans were using Medicare only 36% of time, VA only 18% and both Medicare and VA medical services 46% of time. The most vulnerable and highest risk patients were more likely to use both VA and Medicare.



Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Jacob et al.	Systematic review: Predictors of successful transition to community-based care for adults with chronic care needs	2008	Qualitative systematic review	Assessed 10 transitional care studies and discharge interventions and patient characteristics to find successful care transition interventions.	Interventions used: discharge preparation and discharge support (either singly or in combination). The successful transitions helped lower acute care readmissions, ED use and mortality rates. Self-care ability and confidence, as well as adequate social support tend to be associated with successful care transitions.
Jack et al.	A reengineered hospital discharge program to decrease rehospitalization : A randomized trial	2009	A randomized trial	To test effects of intervention that is designed to reduce hospital use after discharge.	(Project RED) Nurse discharge advocate worked with patients while they were hospitalized, arranged follow-up appointments, reconciled medications and educated patients. Patients in the intervention group received individualized discharge instruction booklet. Findings: package of discharge services reduced hospital use within 30 days of discharge.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Kansagara et al.	Transitions of care from hospital to home: An overview of systematic reviews and recommendations for improving transitional care in the Veterans Health Administration	2015	Overview of systematic reviews and recommendations	To assess transitional care interventions and recommendations for future research and transitional care interventions.	Variations in study populations, interventions methods, outcomes and variety of study settings made it difficult to compare care transition intervention success. Developing a standard taxonomy for population descriptors and intervention descriptors would help studies to be more conclusive and repeatable. More studies needed for mental health and surgical patients, and in general comparative studies to assess intervention effectiveness.
Kind et al.	Low-cost transitional care with nurse managers making mostly phone contact with patients cut rehospitalization at a VA hospital	2012	Analysis of C-Trac program	Assess the effectiveness of telephone-based, protocol-driven program on 30-day rehospitalizations.	Patients that were placed on the study protocol experienced about a third less rehospitalization rates than controls (rate was sustained over 18 months). Medication reconciliation performed during post discharge phone call – medication discrepancies corrected. Program was well received by the veterans.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Nayar et al.	Transitions in dual care for veterans: Non-federal physician perspectives	2013	Paper based survey to non-Federal physicians	Develop understanding of barriers and enablers to effective care transitions for dual care veterans.	Barriers: difficult communication with VA providers, non-VA MDs did not have access to VA medication formulary, unclear roles and responsibilities in care, incompatible EHR; informal co-management of dual care veteran patients. Patients often end up coordinating their own care needs.
Naylor et al.	The importance of transitional care in achieving health reform	2011	Systematic review of research literature	To study the transitional care interventions and how they are applied to follow the recommendations of the Affordable Care Act.	Nurse as a leader of the transitional care program and in-person home visits were found to have a positive effect on transitional care outcomes. Substantial amount of heterogeneity between approaches found; populations, settings, interventions and methods differed – difficult to make comparisons. Patient self-management has an important role in successful interventions.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Naylor & Keating	Transitional care	2008	Literature review	To identify gaps in care during care transitions.	Factors identified to contribute to gaps in care transitions: communication issues, incomplete information transfer, limited access to services, health literacy, inadequate education of patients and caregivers, and absence of single contact person to ensure continuity of care in the health care setting.
Ohuabunwa et al.	Implementation of a care transitions model for low-income older adults: A high-risk, vulnerable population	2013	Quasi-experimental study	To examine transitional care program effectiveness in low-income adults.	Interventions started at admission and lasted through 4 weeks after discharge from the hospital. Discharge nurse coach educated about illnesses, medications, and red flag symptoms and what do about them, completed health records, and identified needs at discharge for the patient and caregiver. No differences were seen between intervention and control group in number of ED visits or hospital readmissions. Intervention group used primary care services more than the control group.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Ornstein et al.	To the hospital and back home again: A nurse practitioner-based transitional care program for hospitalized homebound people	2011	Pre-post design study	To assess success of an NP-led transitional care pilot program that was imbedded in an existing home-based primary care program (HBPC).	The NP-led intervention pilot program failed to show a significant decrease in length of stay, and hospital readmissions. Positive outcomes noted were improved availability of staff from the HBPC team, improved patient advocacy, improved information transfer and assistance with discharge planning. Homeless veterans not currently participating in primary care were approached. A tailored outreach program can engage homeless veterans to use primary care services. The most successful intervention was personal health assessment and brief intervention approach.
O'Toole et al.	Tailoring outreach efforts to increase primary care use among homeless veterans: Results of a randomized controlled trial	2015	Randomized controlled trial	To increase health-seeking behavior and receipt of health care among homeless veterans.	Homeless veterans not currently participating in primary care were approached. A tailored outreach program can engage homeless veterans to use primary care services. The most successful intervention was personal health assessment and brief intervention approach.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
O'Toole et al.	New to care: Demands on a health system when homeless veterans are enrolled in a medical home model	2013	Case-control matching with a nested cohort analysis	To assess level of use of health services by homeless veterans when enrolled into homeless medical home model.	The homeless veterans were found to be using health care services more than their non-homeless veteran cohorts; the assumption is that they had more unidentified issues that were now getting addressed due to better access to care. Primary care and medical home services can significantly reduce use of ED services.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Peikes et al.	The effects of transitional care models on readmissions: A review of the current evidence	2012	Literature review	To assess six care transitions models and the populations involved for effectiveness.	Transitional care model (TCM) was the only one out of the six to have long-term effects. All of the six programs had a different way of implementing their interventions. Similarities in programs included: communication across providers, reconciling and medication management, patient and caregiver education, red flag symptom education and management, post-discharge follow-up, plain language instructions and ensuring patients had follow-up set up. Unable to pinpoint which components of interventions made them successful. Heterogeneity of programs, settings, populations and interventions hampers comparisons; lack of taxonomy.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Radhakrishnan et al.	Seamless transitions: Achieving patient safety through communication and collaboration	2015	Quality initiative, pilot transitional care program	To describe a transitional care program implementation process to improve coordination of care for the patients, and share results of quality initiative.	Transitions Across Care Settings (TRACS) program based on Coleman's Care Transitions Intervention. RN transitions coach used to deliver interventions. Encouraging results: readmission rate 0% for acute MI patients, and 4.4% for patients with diagnosis of pneumonia. Improvements in overall patient safety were noted due to improved communication and flow of patient information by transitions coach.
Shi et al.	Communication enhancement and best practices for co-managing dual care rural veteran patients by VA and Non-VA providers: A survey study	2014	Survey to VA and Non-VA medical providers	To research medical provider communication between providers that care for rural dual-care veteran patients.	The survey resulted in the following recommendations: providing the Non-VA providers with VA provider contact information, notifying Non-VA providers when patient is hospitalized at VA, and giving Non-VA providers access to the VA information system.



Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Spehar et al.	Seamless care: Safe patient transitions from hospital to home	2005	Three phase pilot study	To identify methods to amplify improvement in post discharge patient outcomes.	Retrospective data analysis, focus groups and inpatient interviews used for analyzing the study. Patients with diagnosis of pneumonia and heart failure showed that having a secondary diagnosis was a significant predictor for hospital readmission. Some of the themes that emerged from patient interviews: medication issues, family involvement, cultural and language barriers, care coordination and follow-up, patient education and instructions, and home care management.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Stephens et al.	Transitional care challenges of rehospitalized veterans: Listening to patients and providers	2013	Semi-structured interviews with patients and their interdisciplinary health care providers	To better understand the perspectives of rehospitalized patients, their caregivers and medical providers.	Patients were found to defer power to the provider and play a less active role in their own care, the patients also reported lack of knowledge, difficulties with navigating the health care system and complex social and psychiatric needs as reasons for readmissions. Providers stated that readmissions were related to substance abuse and mental illness, lack of support (social and financial), poor communication and nonadherence with follow-up.
White et al.	A heart failure initiative to reduce the length of stay and readmission rates	2014	Process improvement project	To improve multidisciplinary coordination of care, patient education, and encourage self-management behaviors in patients. To assess factors that may contribute to process improvement for heart failure patients.	The results showed improvements in length of stay, 30-day readmission rates and self-management measures. The project results highlighted the successful use of evidence-based guidelines and standardized physician order set, clinical pathways and post discharge call back form.

Table 4. *Summarization of Selected Studies for the Systematic Literature Review (continued)*

Authors	Title	Year	Study Design	Purpose	Findings and Conclusions
Yang & Meiners	Care coordination and the expansion of nursing scopes of practice	2014	Paper	To further explain the role of nurses in coordinated care models.	Improved health outcomes linked to increased nurse involvement. Nurse-led health clinic model has been found to be a more effective model of health care delivery. Nurse as the care coordinator has been shown to reduce cost of overall health care delivery.
Yoon et al.	Early changes in VA medical home components and utilization	2015	Longitudinal study	The VA clinics were surveyed for implementing the patient-centered medical home components.	The mean number of primary care visits decreased by 17% and telephone visits increased by 85%. The model is expected to provide patients with improved access to primary care, increase telephone care, and decrease emergency visits and hospitalizations.

## **CHAPTER 4. DISCUSSION**

### **Barriers**

Care transitions are critical points for the patients as they move through the medical system, and failures in transitions can lead to poor patient outcomes and low patient satisfaction. A total of 33 journal articles were reviewed for this systematic literature review. Patients in a variety of populations, not just exclusively veteran patients, share barriers to successful transitions of care. Barriers in common include: communication, medication discrepancies and problems with health literacy. Naylor, Aiken, Kurtzman, Olds and Hirschman (2011) found that patient handoffs and other care transitions are periods in which patients are placed in a very vulnerable position where increased use of resources and expense may inadvertently occur, as well as cause a decrease in care quality and safety. Challenges with communication have been found to be one of the major barriers to successful care transitions (Dossa, Bokhour, & Hoenig, 2012; Hudson, Comer, & Whichello, 2014). Communication challenges occur between the patient and the medical provider, caregiver and the medical provider, between providers in different facilities, between family care practice provider and the specialist, between the hospital inpatient doctor and outpatient providers, between the patient and the pharmacist, or the physical therapist, or the nurse, and the list goes on.

During the care transitions and provider encounters, the patient and caregiver may not actively participate in their own care. Often the family members and caregivers are not prepared to participate and assist the patient in care transitions (Hennessey & Suter, 2011). Some patients will let the medical provider make all the decisions for them and provide no input or even ask any questions. The findings by Naylor and associates (2011) revealed that interventions found to be effective in reducing the number of hospital readmissions were related to patient self-

management and provider communication. Three studies out of 21 randomized clinical trials that were reviewed by Naylor et al. (2011) showed reduced rates of hospital readmissions when patient self-management was part of the care transition intervention process. Naylor et al. (2011) recommended that processes for transitional care should be integrated into incentive packages to assist public and private health care organizations in implementing care transition interventions. Currently many health care facilities lack the funding for implementation of transitional care intervention programs. Lack of support from leadership was noted to be a barrier in implementation of care transitions interventions programs (Hudson, Comer, & Whichello, 2012). Effective care transition interventions can be time consuming initially, thus leadership needs to support staff education and time spent in these activities to ensure success.

The VA hospital system faces multiple transitional care challenges. Many veterans live in areas where it is not feasible to seek VA care for urgent care needs or for some of their medical specialist appointments. The veteran may be seen in the VA system for primary care provider appointments, and choose to see a specialist outside the VA system in closer proximity to home. The VA system has a unique electronic charting system that is not generally shared with community hospitals. The aforementioned issues create challenges with care transitions for veterans, their caregivers, and medical providers alike. A study by Nayar et al. (2013) targeted medical providers outside of the VA system. Their goal was to improve “understanding of barriers and enablers of effective transitions in dual care for veterans” (Nayar et al., 2013, p. 226). The findings suggested that improvements were needed in the following areas: care coordination, information sharing, medication management, patient transfers, reimbursement for care, and clarity regarding roles and responsibilities for the VA and non-VA medical providers (Nayar et al., 2013). Hendrix et al. (2013) noted similar issues where older adults at the time of

hospital discharge were at increased risk for having medication discrepancies and found that 30% of elderly patients had at least one medication discrepancy at discharge. They also found that missing follow-up appointments due to mishandled discharge processes occurred to 35% of the elderly patient population. Hudson et al. (2012) noted that inconsistent understanding of health care team member roles is a barrier for successful care transitions. They also noted that lack of education on both the provider and patient side can have negative effects in care transitions outcomes due to the fact that the provider may have very little to no experience practicing in the setting to which the patient is being sent (Hudson et al., 2012).

Access to health care due to lack of insurance, or other financial resources is a barrier to many people for accessing health care and other services after discharge from the hospital. The veteran population is in a special position with their access to care in the VA system as well as some veterans being eligible for Medicare and Medicaid, which grants them dual coverage (Hynes et al., 2007). Hynes et al. (2007) studied 1.47 million veterans and found that for inpatient services 24% used VA only for their healthcare services, 69% used only Medicare, and 6% used both VA and Medicare. Access to more than one system can become problematic for patients when communication between providers is deficient (Hynes et al., 2007; Shi, Peng, Erdem, Woodbridge, & Fetrick, 2014).

One of the marginalized patient populations is the homeless. This particular group is known for its high rate of use of the emergency services and lack of insurance coverage as well as other basic needs. The homeless tend not to use preventative medical care, or primary care services. The use of emergency services leads to fragmented care and poor follow up opportunities. The homeless veteran population has a variety of special characteristics. Out of the 185 homeless veterans studied by O'Toole et al. (2015) 72.7% reported having at least one

chronic medical problem, 71.6% reported having a mental health problem, and 69.6% reported active alcohol use. A very specific program by the VA is the homeless PACT that specifically targets the homeless veteran population (O'Toole et al., 2013; O'Toole et al., 2015). PACT aims to reduce the use of emergency services by involving the homeless veterans in primary care. The homeless PACT program also aims to improve continuity of care and provides assistance with housing and other resources to assist the homeless veterans (O'Toole et al., 2013; O'Toole et al., 2015). The PACT implementation in the VA hospitals, in general, not just with the homeless veterans, has shown positive effects. Yoon et al. found that PACT implementation increased telephone patient visits by 85% and visits to specialist medical providers by 7% (2015). The study did not find that ED visits were reduced with the implementation of PACT; instead it revealed a 7% increase in ED visits, as well as a 17% increase in overall costs for primary care patients (Yoon et al., 2015).

Stephens et al. conducted a VA specific semi-structured interview study on transitional care challenges in 2013. Three common themes were discovered specific to rehospitalization for patients: 1) knowledge gaps and deferred power; 2) difficulties with health care system navigation; and 3) generally complex social and mental health needs were reasons for rehospitalization (Stephens et al., 2013). The authors found veterans deferred power to the medical providers and were less likely to take ownership for their own care. Some of the deferment may possibly be related to the veterans' experiences with authority and the military rank structure. Medical providers were also given an opportunity to describe their perceptions of issues related to hospital readmissions of veterans. The providers identified the following issues as themes for readmissions: "1) substance abuse and mental illness; 2) lack of social or financial support, and homelessness; 3) premature discharge and poor communication; and 4)

nonadherence with follow-up" (Stephens et al., 2013, p. 328-329). Other common concerns mentioned in the articles reviewed were noncompliance with medical care, including medication use or misuse, and missing follow-up appointments.

Implementing a care transition program requires financial support and additional staff in many institutions. Demonstrating the benefits of transition intervention programs to hospital administrators, who do not see the programs as economically feasible, is difficult. The current health care system does not provide compensation to nurses, social workers, or other medical providers for coordinating care for patients (Naylor & Keating, 2008). The goal of the research for transitional care is to find interventions that will keep patients from being readmitted to the hospital, and to improve general patient health. The hospital readmissions have been estimated to be about "\$15 billion in annual Medicare spending" (Naylor et al., 2011, p. 747). Hennessey and Suter (2011) noted that reduced hospital readmissions would lower the healthcare related cost to patients and improve overall health outcomes. They also reported that the use of home health services could potentially lower health care spending by approximately \$31 billion in ten years when used by chronically ill patients after an inpatient hospital stay (Hennessey & Suter, 2011). Naylor and Keating (2008) concluded that there is evidence indicating the nurses' role in successful care transitions is essential. Yang and Meiners (2014) report consistent and effective results with nurse-managed clinics that provide care coordination functions.

### **Patient Education and Its Effects on Patient Outcomes**

Detailed information regarding patient education topics was not available in the 33 research studies assessed. General information regarding patient and caregiver education topics was mentioned. Medication management was identified in seven articles (Baldwin et al., 2014; Burke et al., 2014; Burke et al., 2013; Gunadi et al., 2015; Ohuabunwa et al., 2013; Peikes et al.,



2012; White & Hill, 2014). Patient and caregiver education about ‘red flag’ recognition and what to do when symptoms occur was seen in seven articles (Coleman et al., 2006; Golden et al., 2013; Hennessey & Suter, 2011; Kind et al., 2012; Ohuabunwa et al., 2013; Peikes et al., 2012; Radhakrishnan et al., 2015). Jack et al. (2009) conducted a randomized trial to study the effects of an intervention called the ‘Project RED’. They found that patients who received the intervention (personalized discharge information package) were less likely to be rehospitalized within 30 days of discharge. The intervention was found to be statistically significant with  $P = 0.009$  (Jack et al., 2009). The personalized patient education intervention included: “patient-centered education, comprehensive discharge planning, and postdischarge reinforcement” by the nurse discharge advocate (Jack et al., 2009, p. 7). The results of the intervention revealed that patients had a better understanding of their medical conditions, medications and appointments, which lead to improved self-care and reduced number of rehospitalizations. The patients in the intervention group reported a higher rate of follow up with their PCP than the patients that received usual care (62% vs. 44%) (Jack et al., 2009, p. 7). This study was one where patients’ medical literacy was assessed prior to developing the personalized after hospital care plan for patient education.

The importance of patient involvement and active participation in their care has been found to be an essential part of a successful care transition intervention (Baldwin, Black, & Hammond, 2014; Burke, Guo, Prochazka, & Misky, 2014; Burke, Kripalani, Vasilevskis, & Schnipper, 2013; Coleman, Parry, Chalmers, & Min, 2006; Jacob & Poletick, 2008). Baldwin et al. (2014) described that at the very beginning of patient interaction a patient contract is developed where the expectations for the transition program and patient participation are clearly explained. The clinical nurse specialist and the patient become partners in healthcare, and lack of

communication leads to disenrollment from the care transition program (Baldwin et al., 2014). Coleman et al. (2006) discussed the role of the transition coach and how there was a care plan developed in cooperation with the patient and the caregiver. They also found that when the patient and the caregiver assumed active roles in making healthcare decisions and care choices, the patient was less likely to be rehospitalized. The intervention group had a statistically significant reduction in rehospitalization rates at 30 days post discharge ( $P = 0.048$ ), and at 90 days post discharge ( $P = 0.04$ ) in comparison to the control group (Coleman et al., 2006).

Patient education is an essential component of successful care transitions. Researchers in ten out of the 33 studies specifically stated that the education content is about patient medications, 'red flag' symptoms, follow-up appointments and/or discharge instructions (Baldwin et al, 2014; Burke et al., 2013; Coleman et al., 2006; Golden et al., 2013; Hennessey et al., 2011; Jack et al., 2009; Kind et al., 2012; Oluabunwa et al., 2013; Radhakrishnan et al., 2015; White & Hill, 2014). A study by Baldwin et al. (2014) indicated that the Clinical Nurse Specialist educated the patient during care transitions about diet, medications, diseases and physical activity. The majority of studies (nine out of ten) did not share any details about what had been taught to the patients or the caregivers, which makes comparing the outcomes of different interventions difficult.

Hudson et al. (2012) emphasized the importance of education not only for the patient, but also for the medical provider and the entire interdisciplinary team to improve patient outcomes during care transitions. They stressed that the providers should be competent in all aspects of discharge planning and have great communication skills to ensure positive patient outcomes. Assessment of patient readiness to receive education and the delivery of teaching were found to be the most accurate predictors of the patient's readiness for discharge (Hudson et al., 2012).

## **Transitional Care Interventions**

A variety of transitional care interventions have been used with different patient populations. The more commonly known transitional care interventions are Naylor's 'Transitional Care', which she has been researching since 1990's; Coleman's 'Care Transitions Intervention', which he has been working on since early 2000's; and the newer research by Burke et al. (2013), the 'Ideal Transition of Care'. Coleman, Parry, Chalmers and Min (2006) studied the Care Transitions Intervention by a randomized controlled trial. The Care Transitions Intervention is built upon four pillars. The pillars as described by Coleman et al. (2006) are as follows: “(1) assistance with medication self-management, (2) a patient-centered record owned and maintained by the patient to facilitate cross-site information transfer, (3) timely follow-up with primary or specialty care, and (4) a list of red flags indicative of worsening condition and instructions on how to respond to them” (p. 1823). The main aim of the trial was to discover if having a transition coach nurse, who encouraged patients and caregivers in taking a more active role in managing care would decrease the number of hospital readmissions. They concluded that care transitions interventions where older patients and their caregivers receive coaching from an advanced practice nurse (transitions coach) might lower rehospitalization rates. The findings were positive and the researchers indicated that the interventions had been beneficial. They also felt that interventions had been helpful for the patients and their caregivers, but the results were not statistically significant. Coleman et al. (2006) suggested, “the continuity of the coaching relationship fostered a sense of caring, safety, and predictability about the transition, which contributed to greater patient investment in the program” (p. 1826). Haggerty et al. (2003) noted that any type of continuity, be it information continuity, patient management or patient provider relationship continuity, can lead to enhanced quality of patient care.

Over the years health care researchers have published suggestions they proposed as the ideal processes for care transitions. Burke, Kripalani, Vasilevskis and Schnipper's Ideal Transition of Care forms a bridge between the hospital and the community and contains ten domains that assure a successful transition (2013). Burke et al. (2013) used Naylor's transitional care research as their base for the ideal transition in care process and included additional steps to make transition more complete. The ten domains for the process are: discharge planning; complete communication of information; availability, timeliness, clarity, and organization; medication safety; patient education and promotion of self-management; enlisting the help of social and community supports; advance care planning; coordinating care among team members; monitoring and managing symptoms after discharge; and outpatient follow up (Burke et al., 2013).

In a review of literature by Burke, Guo, Prochazka and Misky (2014), the ten domains were further studied for effectiveness. Their findings indicated that out of the ten domains for ideal transition process the average number of interventions used during care transition process was 3.5 (Burke et al., 2014). In the literature review of care transitions they found that the following three interventions were most commonly used: "Monitoring and Managing Symptoms after Discharge (included as part of 74% of interventions), Educating Patients to Promote Self-Management (64%), and Coordinating Care among Team Members (55%)" (Burke et al., 2014, p. 3). Burke and associates also reported that when more of the interventions (out of the ten domains mentioned above) were used in care transitions, more success occurred in reducing readmission rates. Out of the 66 studies reviewed by Burke et al. (2014), 42% of them revealed a statistically significant reduction in rehospitalization rates in the intervention groups in comparison to the control groups. The most successful intervention was "Monitoring and

Managing Symptoms after Discharge”, which was most associated with effective declines in hospital readmissions, and it was included as part of 74% of interventions in the 66 studies (Burke et al., 2014). Patient self-advocacy and self-management of health issues is essential for successful health outcomes, which is a very essential component of the role for the registered or advanced practice nurse in patient care and management (Coleman et al., 2006).

Feltner et al. (2014) discovered that successful care transition interventions for heart failure patients included home visits and a specific multidisciplinary heart failure clinic with moderate and high strength of evidence noted in the studies reviewed. The authors pointed out that comparing the effectiveness of care transition interventions was complicated due to the fact that ‘usual care’ was used in comparison to the intervention group; no detailed explanation was provided for what was meant by ‘usual care’.

### **Nurse’s Role**

Transitions of care, as described previously, usually require teamwork and patient engagement to make them successful. The nurse is often seen taking the role of a leader in care transition programs. The educational background of a nurse can be the bachelors level or quite frequently a masters level advanced practice nurse. The nurse takes on the role of ‘transitions coach’ and leads the team in a multidisciplinary environment to assist the patient and the caregiver through the transitions process.

Transitional Care Model employs a nurse practitioner as the lead for the care transition program (Hendrix et al., 2013). The nurse practitioner works in a team with a social worker and an occupational therapist. This combination of staff members is unique to the ‘TLC Partners’; traditionally the group would not include the social worker or the occupational therapist (Hendrix et al., 2013). In the ‘TLC Partners’ model the nurse practitioner visits patients while

they are hospitalized to initiate care relationship and assess the necessity for home visits. After the patient has been discharged home, the nurse practitioner visits the patient in his home to provide evidence-based care. Hendrix et al. (2013) did not conduct a statistical analysis for their clinical practice research project; therefore no evidence of effectiveness for the interventions was presented.

Nurse managers made follow up calls to veteran patients in the C-Trac program, which was found to reduce rehospitalization rates, and program cost by an estimated \$1,225 per patient, as well as provided veterans with medication reconciliation and enabled correction of medication discrepancies (Kind et al., 2012). These interventions were low cost and well received by the veterans, and the interventions were effective in lowering hospital readmissions for duration of 18 months by a one-third. The C-Trac program intervention used existing staff members to provide the intervention and could be an avenue for financially struggling institutions to provide some type of care transitions intervention to their patients (Kind et al., 2012).

The nurse's role in care transitions has been given a wide variety of titles: 'heart failure nurse navigator', 'health coach', 'transitions coach', 'nurse discharge advocate', 'discharge nurse coach', and 'Clinical Nurse Specialist' (CNS). One program described a specific nurse role, 'heart failure nurse navigator' that provided patient education as part of the care transition intervention (Gunadi, Upfield, Yea, Schmiedeberg, & Stahmer, 2015). Hennessey and Suter described how one health care agency incorporated existing home health agency nurses to address gaps in care that were expected to occur with care transitions (2011). The Community-Based Transitions Model (CBTM) aimed to target all care transitions, rather than just hospital to home transitions. The CBTM was designed based upon three models: Naylor's Transitional Care Model (2004), Coleman's Care Transitions Model (2006) and the Reengineered Hospital Discharge Program

(RED) (2009). The nurse's role was 'health coach' with strong communication skills and expert knowledge of evidence-based practice to support the patient during transitions (Hennessey & Suter, 2011). The nurse's role in the Transitions Across Care Settings (TRACS) Program, which was based on Coleman's Care Transitions Intervention, was 'transitions coach' (Radhakrishnan et al., 2015). The 'transitions coach' targeted specifically patients who had been hospitalized with pneumonia, acute myocardial infarct and congestive heart failure. The 'transitions coach' assessed patients' educational needs and the home environment to assist with patient self-management. Each patient had five encounters with the 'transitions coach', including one visit at the hospital, one home visit and three follow-up phone calls. The 'transitions coach' reconciled patient medications, developed a personal health record in cooperation with the patient, educated the patient about 'red flags' and teamed up with a pharmacist and social worker to assure best outcomes for the patient. The quality initiative study with 104 patients resulted in 0% readmission rate for heart failure patients in 30 days, and an overall readmission rate of 4.8% for all patients in the study (Radhakrishnan et al., 2015).

'Nurse discharge advocate' provides personalized patient education, arranges follow-up appointments, prepares a patient specific discharge package and reconciles medications (Jack et al., 2009). The 'nurse discharge advocate' is a member of the 'Reengineered Hospital Discharge Program' (Project RED) team that was developed to reduce rates of rehospitalization (Jack et al., 2009). Oluabunwa, Jordan, Shah, Fost and Flacker implemented a Care Transitions Model to study a population of low-income older adults (2013). They developed the program based upon Coleman's Care Transitions Intervention (2006). The nurse's title in the Care Transitions Model program was 'discharge nurse coach' (Oluabunwa et al., 2013). Their findings indicated that the interventions did not produce any statistically significant results in relation to hospital

readmissions and emergency room visits. However, they did find an increase in the number of visits to the primary care providers in the intervention group. At 30, 90, and 180 days after the intervention an increase in primary care use was found to be statistically significant with  $P = <0.001$  in the intervention group (Oluabunwa et al., 2013).

A project by Baldwin et al. (2014), described the role of a CNS who provided case management assistance to rural patients during care transitions. The CNS provided the care transition interventions and case management to the patients via phone calls during a period of 30 days. The CNS and the patient established a contract that outlined expectations. The CNS with prescriptive authority was also able to prescribe medications as needed for the patients. The results of the study revealed that in the particular rural hospital the follow-up phone calls by the CNS reduced rehospitalizations and cost for the hospital. Unfunded health care expenses were found to have decreased by 43.5% during the two years of the quality improvement project implementation (Baldwin et al., 2014).



## **CHAPTER 5. RECOMMENDATIONS AND SUMMARY**

This chapter discusses the recommendations for future research in care transitions. The chapter summarizes the systematic literature review findings for care transitions and patient education. It also discusses the limitations to this specific systematic literature review that were discovered during the process.

### **Recommendations**

Transitions in health care have been studied for quite some time. However, no clear-cut solution stating one intervention would be the most beneficial to patients has been published. Most of the studies have been conducted on elderly and frail patients or on patients with specific diagnoses, like chronic heart failure. Many care transition intervention programs have similar properties, yet have enough differences to make it very difficult to identify the specific intervention that lead to the program success and reduced readmissions. The differences in the study populations among the care transition intervention research studies make the comparisons problematic (Golden, Ortiz, & Wan, 2013; Hudson, Comer, & Whichello, 2014; Kansagara, Chiovaro, Kagen, et al., 2015; Peikes, Lester, Gilman & Brown, 2012). Developing a standardized set of transitions of care interventions and outcomes measures would be beneficial in comparing results of studies in the future. This strategy would also improve consistency of care and provide a way to replicate studies in a more reliable manner.

Use of professional resources (i.e. research librarians) to assist with online literature searches prior to embarking on the mission to study a specific topic is highly recommended. Online reference materials for care transitions are easily accessible, however one needs to consider the trustworthiness of the information. A great website, with reliable information to providers and patients alike, was established and maintained by the National Transitions of Care

Coalition, [www.ntocc.org](http://www.ntocc.org). Another reliable source of information to gain further information on care transitions is the Agency for Healthcare Research and Quality, [www.ahrq.gov](http://www.ahrq.gov). This author recommends the two websites mentioned above as reliable additional information sources for care transitions.

### **Limitations**

Making comparisons among the different studies was rather difficult, which was also mentioned in studies included in the systematic review (Golden et al., 2013; Hudson et al., 2014; Peikes et al., 2012). There is no standardized set of interventions that could be compared in different settings with different patient populations. The lack of standardization complicates identifying which interventions are the ones that actually bring about the effect and positive results (Feltner et al., 2014; Golden et al., 2013; Kansagara et al., 2015). Hudson et al., (2014) also mentioned that lack of consistency in outcomes measures made comparing the different care transitions approaches difficult.

Some limitations specific to this paper were related to database searches and tracking of duplicate studies. The CINAHL Complete allowed for removal of Medline (PubMed) articles during the searches. The use of 'MeSH' and 'CINAHL Headings' was helpful in limiting the number of articles during searches. The author feels that some of the inexperience with the use of the specific databases limited the full use of technology to optimize the searches.

### **Future Research**

Patients differ one from another. The patient characteristics, needs, resources, finances, social support, past history, knowledge and so on, vary widely. One care transition model and 'cookie cutter' style interventions are unlikely to be effective for all patients (Golden et al., 2013). More detailed studies are needed on mental health patient and caregiver needs, especially

in the veteran population. Special needs of homeless veterans were considered in some studies (O'Toole et al., 2013 & 2015). Substance abuse, chronic health conditions, mental health conditions, and reports of being a victim of trauma and of poor general health were listed as issues facing homeless veterans (O'Toole et al., 2015). Incorporating existing care coordination components with easily accessible care options to make it more appealing to the veteran patient population would benefit all involved. Standardized protocols and order-sets might allow for easier comparisons of the existing care transition interventions and allow for specific outcomes that could then be used in a variety of patient populations (Kansagara et al., 2015).

Another suggestion found in the literature has been to develop prediction models to point out patients that are more likely to have issues with care transitions. Donze, Aujesky, Williams and Schnipper (2013) developed a prediction score with seven independent factors to calculate the likelihood of readmission to hospital. The authors felt that the prediction model could be helpful with high-risk patient groups, which would enable the care transition team to direct the intensive interventions to these particular patients to improve their outcomes and to avoid hospital readmissions (Donze et al., 2013). Veterans are a vulnerable group of patients since they often have a mental health issue in addition to their poor physical health. Using a prediction model that identifies the mental health needs of the veteran would prompt the provider to offer follow up care with a mental health provider or a counselor. The use of a prediction model could provide an appropriate avenue to identify issues and ensure the veteran receives the proper care from the start.

Successful care transitions require sharing of information, including sharing information electronically (Hennessey & Suter, 2011; Shi et al., 2014). Information sharing has been possible within the VA system for quite some time, but continues to be an issue when the veteran is

hospitalized outside the VA system. Allowing patients access to their health records electronically could provide an avenue to improve electronic communication. Yet a better option would be to find an interface that allows the different systems to communicate and allow providers to access health records across the hospital systems.

### **Summary**

Nurses play a pivotal role in successful transitions of care. Variety of transitions of care interventions have been trialed and found effective for specific patient populations. Patients have diverse needs, as they are being discharged home from the acute care hospital setting or transferred between facilities. Nurses not only deliver direct patient care but also ensure that patients and family members are educated and have the services needed available to them upon return to home. To enable successful transitions of care, effective communication, active patient and caregiver involvement, and thorough education about medications and the care plan is needed. The systematic literature review on transitions of care and patient education revealed that detailed information about specific educational interventions was very sparsely explained in the literature reviewed. In order to compare a variety of transitions of care interventions a more detailed and standardized list of interventions would be helpful. Some authors in the reviewed studies also suggested use of prediction models to find patients in risk groups that would benefit from specific interventions. Patients are individuals. The transitions of care interventions should therefore be individualized for veterans to ensure better patient outcomes. The veteran patient population continues to change, and the transitions of care interventions will continue to evolve with them as time goes by. All parties involved will need further education and continued research to ensure positive outcomes are guaranteed to the future generations of veterans.

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