



## Original Article

# Confronting Challenges in Reducing Heart Failure 30-Day Readmissions: Lessons Learned With Implications for Evidence-Based Practice

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### Key words

nursing practice, care delivery system, cardiovascular care, cardiac care, circulatory, patient outcomes, healthcare outcomes, treatment outcomes, application of theory, quality improvement

### ABSTRACT

**Background:** Heart failure (HF) is considered a condition in which a portion of hospital admissions are preventable if timely and appropriate outpatient care management occurs. Facility readmission rates for HF are reportable and subject to penalty. Both military and civilian healthcare systems have fiscal responsibility and are accountable for successful disease management. Therefore, best practices and evidence-based strategies to reduce readmissions are in critical demand. However, translating best evidence into practice can be challenging due to the complexities of the healthcare system.

**Aims:** This crosswalk paper provides strategies and considerations for nurses planning HF readmission reduction initiatives.

**Methods:** Insight regarding implementation strategies, challenges, successes, and lessons learned is shared through a framework-guided description of two separate but similar HF readmission reduction projects conducted in military and civilian healthcare facilities.

**Results:** Lessons learned suggest defined and attainable outcomes, multidisciplinary inclusivity, redundancy in roles, greater collaboration, and engagement with stakeholders are most beneficial when initiated before dedicating resources and continuously throughout practice change implementation, maintenance, and sustainment.

**Linking Evidence to Action:** The authors advocate for interdisciplinary evidence-based practice consortiums to share lessons learned that may promote success potential and optimize return on invested time and efforts in the same or similar initiatives—in this instance, reducing 30-day readmissions for HF patients.

### BACKGROUND

Heart failure (HF) currently affects 6.3 million adults at an annual cost of \$30.7 billion (Bergethon et al., 2016) and is projected to exceed \$53 billion by 2030 (Fitch, Engel, & Lau, 2017). The burden of HF on the military health system in 2016 resulted in 91,964 hospitalizations at a cost of \$430.7 million (Johnson, personal communication, December 27, 2017). In the Medicare population, admissions for HF generate the highest number (7.1% of the total population), highest cost (2.3% of total population), and the highest rate of 30-day readmissions, accounting for 1.5% of the total costs (Fitch et al., 2017).

Recent healthcare legislation, policies, and guidelines established by the Centers for Medicare & Medicaid

Services serve to promote healthcare reform by way of targeted benchmarks, incentives, and penalties for high cost, high utilization disease, and conditions. Conditions of interest include those designated as ambulatory care-sensitive conditions for which a portion of hospital admissions are considered preventable if timely and appropriate outpatient managed care occurs. Although overall hospitalizations due to HF have decreased for Medicare beneficiaries, unplanned readmissions are problematic, with readmission rates as high as 25% within 30 days of discharge and as high as 50% at 6 months from discharge (Bergethon et al., 2016; Gerdes & Lorenz, 2013; O'Connor, 2017). Many HF patients have inadequate social support networks and often reside in skilled nursing facilities (SNFs), adding to the complexity of HF management. Due to the importance of posthospital care, SNFs are also responsible for tracking and reporting 30-day readmissions and are not immune from penalties.

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The accountability and fiscal responsibility that come along with incentivized programs spurred a drive to reduce readmissions through a focus on shared evidence-based strategies and best practices. National campaigns like the American Heart Association's (AHA) Get With the Guidelines (GWTG; AHA, 2017), complete with comprehensive toolkits and resources, are available to assist institutions and health-care teams with optimizing HF managed care at home, in the clinic, and throughout transitions between inpatient and outpatient settings. Recent systematic reviews investigating the highest quality scientific evidence for reducing HF readmissions highlight the need to develop new and more effective HF management strategies (Chokshi & Chang, 2014; Min Kim & Han, 2013; Ziaieian & Fonarow, 2016), recognize the complexities of HF management and the need for increasingly complex strategies (Chokshi & Chang, 2014), call for consistency in implementing evidence-based practice (EBP; Ziaieian & Fonarow, 2016), and identify the role of patients (compliance and self-care), professional staff (discharge education and planning), and communication between health-care teams (throughout the settings and transitions) in HF care (Min Kim & Han, 2013). Lastly, many of the evidence-based strategies found in systematic reviews and randomized clinical trials are translated from gold standard interventions tested in controlled environments and supplemented with grant-funded manpower and resources. Scientific publications may not reflect all of the variables that should be accounted for to manage the best interventions for the HF population in real-world implementation.

While implementation of best evidence in daily practice is theoretically accepted, a decade of research indicates that the actual translation of best evidence into practice requires the challenging transformation of healthcare organizational culture (Melnyk, Fineout-Overholt, Gallagher-Ford, & Kaplan, 2012). Determining feasible and sustainable evidence-based strategies to adopt can be challenging for clinical nurse specialists (CNS) and advanced practice registered nurses. The majority of HF literature describes interventions to reduce HF readmissions successfully, yet critical details valuable to nurses in the field are lacking. The aim of this crosswalk paper is to share lessons learned and key considerations for implementing practice changes focused on reducing HF 30-day readmissions based on implementation experiences in military and civilian health-care facilities. The projects are first described, and then, using a guiding framework, practice change evidence, context, and facilitation challenges and successes are compared. Next, lessons learned are discussed with the goal of informing future efforts undertaken in similar settings.

## PROJECT DESCRIPTIONS

### Military Healthcare Facility HF Project

The military facility, a 127-bed community hospital located in the northeastern United States, was the setting for the evidence-based quality improvement HF project. The project was

conducted on a medical telemetry unit comprised of 19 beds, a mix of military and civilian nurses and technicians along with a CNS who spearheaded the initiative. The project aim was determined by staff questionnaires and a gap analysis between current practices and recommended best practices. The project PICOT question, EBP model, search strategy, evidence appraisal, and practice changes are listed in Table 1. Nursing staff engagement was fostered by collaboration between the CNS and Unit Practice Council (UPC). Questionnaires targeting staff knowledge and practices of patient HF education were provided for staff to complete before and after the project. Baseline questionnaires were completed by 60% of the staff and revealed an opportunity to (1) standardize HF education throughout the facility, (2) improve processes for transitioning HF patients from inpatient to outpatient settings, and (3) bolster communication between inpatient and outpatient staff caring for HF patients. One practice change was the adoption of the HF clinic's patient education tool for use in both the inpatient and outpatient settings to provide standardized patient education and a transitional care aid for HF patients. The idea was to reduce variances and potential conflicts in information shared with HF patients and families, with staff consistently delivering the same information across the continuum of care. The education tool included the following: instructions on medications, daily weights, diet and sodium intake, exercise, a list of symptoms to report if experienced, follow-up appointment date and time, and the HF clinic phone number.

A second practice change included making a patient follow-up appointment in the HF clinic within 10 days of discharge instead of with a primary care manager. The HF clinic nurse in-serviced over 95% of the medical telemetry nursing staff on utilization of the patient education tool. To actively engage the facility's multidisciplinary HF committee members in practice change strategies and implementation, monthly meetings were hosted. As a result, HF committee members worked directly with the HF clinic nurse to schedule and facilitate follow-up appointments within a 10 day post-discharge period. A standardized HF order set was also initiated by the HF committee. The project practice change implementation occurred over a 3-month period and targeted only patients admitted with a HF diagnosis (not history of HF). During this time, communication between inpatient and outpatient teams increased significantly. Postimplementation questionnaires completed by 55% of the staff suggested an improvement in staff utilization of and satisfaction with the patient education tool. HF 30-day readmission rates, measured through a data pull of inpatient coded data, were not determined due to ongoing internal coding discrepancies. Despite the lack of HF readmission data, the project is ongoing and part of a Lean Six Sigma process improvement and has garnered facility-wide attention for ensured sustainability.

### Civilian Healthcare Facility HF Project

The civilian Magnet facility, a 656-bed community hospital located in the southwestern United States, was the setting

**Table 1.** Military and Civilian Healthcare Facility 30-Day Readmission Reduction Projects

	Military facility project	Civilian facility project
PICOT question	Will a clinical nurse specialist-led multifaceted care transition project for patients admitted with heart failure (HF), as compared to routine care, decrease HF patient 30-day readmission rates?	On a progressive care unit, will implementing an HF handoff protocol for patients transferring to an skilled nursing facilities (SNF), as compared to current practice, decrease 30-day readmission rates?
Evidence-based practice model	Iowa Model	Johns Hopkins Model
Search strategy	Database: CINAHL, PubMed Search terms: congestive heart failure, heart failure, nursing, readmission rates Limits: English only, 2012–2017, peer-reviewed journals	Database: CINAHL Search terms: heart failure, nursing, protocol, readmission rates, skilled nursing facility Limits: English only, 2011–2016
Research evidence	15 articles found, five used; gap analysis conducted	Eight articles found, five used
Research appraisal	High-quality evidence	High-quality guideline Low-quality evidence (SNF/handoff tool)
Practice change	<ul style="list-style-type: none"> <li>- Adoption of the HF clinic's patient education tool by inpatient unit</li> <li>- Follow-up appointment in the HF clinic within 10 days</li> <li>- Standardized HF order set</li> </ul>	Implemented HF handoff protocol: <ul style="list-style-type: none"> <li>- Report phone call to SNF</li> <li>- Patient education handoff tool</li> <li>- Follow-up call in 72 hours</li> </ul>

for the comparison HF readmission reduction EBP project. The setting was a progressive care unit comprised of 32 beds, a mix of civilian nurses, technicians, a unit-based CNS, and a CNS student who spearheaded the initiative in collaboration with the UPC to fulfill an academic capstone requirement and meet the needs of the unit. The primary aim was to reduce 30-day readmission rates for HF patients discharged to an SNF. The project PICOT question, EBP model, search strategy, evidence appraisal, and practice changes are listed in Table 1. Based on the literature search and synthesis, a handoff protocol was established to aid in the transition of care from inpatient to outpatient setting. The protocol included the following: (a) a handoff tool, (b) scripted phone call report for use at time of transfer, (c) posting handoff tools in patient SNF rooms to standardize education, and (d) follow-up phone calls made by the CNS within 72 hr post transfer. The project included patients with a history of HF discharged to participating SNFs. Preliminary meetings were conducted with SNF Directors of Nursing to inform and invite participation and gain SNF staff support for the project. Participating SNF front-line staff and stakeholders involved in the hospital-to-SNF transitions attended HF education and seminars. Outcome measures of staff satisfaction with the handoff protocol and 30-day readmission rates were measured both pre- and postimplementation. Implementation of the handoff protocol resulted in a reduction in 30-day readmission rates during the first 3 months of the project. Due to delays in

official readmission data, the CNS and CNS student calculated readmission rates utilizing chart audits 30 days after discharge to the SNF. Sustainment of the practice change resulted in reduction in HF readmission rates and an overall increase in nursing satisfaction with HF management.

#### METHODS FOR PROJECT COMPARISON

The Promoting Action Research in Health Services (PARIHS) framework (Rycroft-Malone, 2004) was selected as a guide for assessing common challenges between the practice change strategies. Conceptually, PARIHS attributes the success potential for an EBP change as resulting from the interrelationships between three elements: evidence, context, and facilitation, where each element is fixed on a high-low continuum and is comprised of subelements (see Table 2). Hypothetically, the greatest potential for success is generated when all elements are high. Operationally, this means that the evidence is scientifically strong and aligns with clinician expertise and patient preference; context is agile, shaped by transformational leadership, and is culturally sensitive; and facilitators have clear roles, sound knowledge, skills, personal attributes, and experience. The evolution of the PARIHS framework recommends assessing and evaluating evidence and context before determining the best approach for facilitation (Kitson et al., 2008). More recent framework modifications, rebranded as i-PARIHS, include revised elements and subelements with an overarching integrated approach (Harvey & Kitson, 2016). The

**Table 2.** PARIHS Framework Elements and Subelements (Rycroft-Malone, 2004)

Elements	Subelements
Evidence	Research
	Clinical experience
	Patient preference
	Routine data
Context	Culture
	Leadership
	Evaluation
Facilitation	Purpose
	Role
	Skills
	Attributes

basic 2004 PARIHS framework was selected to demystify the implementation process and explore lessons learned, as it was a better fit for guiding comparisons.

## RESULTS OF PROJECT COMPARISONS

### Evidence Comparisons

**Research.** Military project evidence appraisal utilized the American Association of Critical-Care Nurses Evidence Leveling Hierarchy, and the selected publications constituted level B evidence. Literature synthesis indicated that sensitive nursing interventions, use of a patient education tool, and a multidisciplinary team approach were consistent and successful strategies for reducing HF readmissions. The civilian project utilized five publications to develop practice changes. The quality of the literature was not strong—primarily GRADE level V-VI—evidence due to the narrow focus on HF handoff protocols for use with SNFs. However, the handoff protocol tool was based on content and evidence-based recommendations from the AHA's HF guidelines. The authors recommend beginning the literature search by exploring established practice guidelines and toolkits found on professional organization and practice websites such as AHA GWTG HF, or American Association of Heart Failure Nurses (AAHFN) guidelines. Many patient education products, checklists, ICD code lists, follow-up phone call scripts, and other items can be found on the AHA GWTG website. Additionally, consider including “patient preference” in the search strategy to provide insight into practice changes most desired by HF patients. Finally, both projects may have benefited from the assistance of a medical librarian.

**Clinical experience.** Practice change triggers in both facilities evolved from unit level clinical concerns and desires to address variances in HF clinical practice and readmission rates. At the military facility, it was recognized that HF readmission before

30 days of discharge was not uncommon. Hospital leadership, along with the unit level CNS, identified the opportunity to improve HF care transitions between inpatient and outpatient settings. The unit level performance improvement (PI) team, a component of the UPC, conducted a gap analysis identifying opportunities for improvement in standardized care for HF patients, including HF teaching, and patient follow-up after discharge. Similarly, the civilian facility's UPC selected HF readmission as a priority project based on the unit's needs and staff interest. The UPC wanted to build on the success of their most recent initiative, standardization of HF patient education, in which patient education posters were developed and placed on the walls in patients' rooms for use throughout the patient admission. The poster included teaching points related to symptoms, medications, diet changes, and provider follow-up. The UPC determined that adding a tool specifically for patients discharged to SNFs, a source of up to one-third of HF readmissions, was a natural follow-up initiative.

**Patient preference.** Neither HF practice change solicited local patient preferences. Recent HF literature reports that patient preference or goal-related outcomes remain scarce (Blom et al., 2015). The scant evidence revealed that an appointment close to home and a reminder message were the top-rated facilitators for HF follow-up care, closely followed by transportation to the appointment and elimination of a copay (Breathett et al., 2017). To augment the lack of patient preference literature, findings from the literature that summarized barriers to HF management were considered and included the following: (a) lack of knowledge regarding HF diagnosis and prognosis, (b) problems navigating and accessing support services for health and home, and (c) problems related to accessing emergency care (Browne, Macdonald, May, Macleod, & Mair, 2014). Knowledge gaps and follow-up were addressed in both HF projects through education tools, reminder notices, coordinated follow-up appointments, and a 72-hr follow-up phone call to the SNFs.

**Routine data.** The PARIHS framework defines routine data as being “high” when local data are systematically collected, evaluated, and utilized in decision-making processes across all levels of the organization. The Agency for Healthcare Research and Quality (AHRQ) and Hospital Readmissions Reduction Program restrict the definition of HF admission to an ICD 9/10 code of HF in the primary position. Often, comorbidities that worsen HF symptoms result in hospital admissions and preside as the principal admission diagnosis (recoded after discharge), making tracking of HF admissions and readmissions challenging for facilities lacking robust electronic health records, data collection, and analytics support systems, which was the case with both of the projects. As a result, the military project is continuing to procure data that capture HF

readmissions to include recoded diagnoses. Based on project challenges, consider using the AHA GWTG coding sheet and initiating early planning with in-house coders and data-mining experts to include a few trial data requests before implementing any practice change. Trial data pulls allow the data to be reviewed for quality and can provide insight into problems with recoded admissions or any issues with redundancy, discrepancies, or data integrity.

### Context Comparisons

**Culture and community.** It is well known that hospital Magnet designation promotes a culture of utilizing best evidence in daily practice through research, education, and certification standards (Wilson et al., 2015). Moreover, Magnet facilities are noted for reduced nurse workloads and better performance indicators (McHugh & Ma, 2013). Incentives and rewards are embedded in the Magnet culture to transform the perception of EBP as a goal to a requirement. Despite nurses in Magnet facilities reporting positive beliefs regarding the availability of organizational resources and readiness for EBP, they also report their ability to implement EBP as extremely low (Warren et al., 2016).

The overall context of the projects was similar in that both facilities were driven by patient-centered outcomes and organizational metrics, the civilian facility a Magnet facility and the military facility a teaching hospital. Moreover, despite a hierarchical rank structure, the military facility incorporates Magnet principles and shared governance philosophies. The military facility utilizes a specific nursing practice model (Patient Caring Touch Model) that facilitates communication from UPCs to a nurse practice council (NPC), up through an executive committee of nursing as a platform for practice inquiry, policy influence, and communication, similar to the Magnet practice model. CNS councils in both facilities advise on PI and QI projects, policy and nursing practice standards of care, and EBP. Projects are vetted through UPCs, NPCs, and up through the director of nursing services. Research and EBP are supported financially, administratively, and academically by nursing leadership in both facilities.

In contrast, one specific aspect of military context and culture, distinct from civilian Magnet culture, that challenged the practice change implementation of the military project was the consistent and high volume of staff turnover associated with staff deployments, frequent moves, separations, and retirements. For example, throughout the duration of the project, 80% of the nursing staff and 100% of the provider staff turned over. The inconsistency in staff, lost experiential knowledge, and frequent interruptions, impacted project progress and effectiveness. Constant retraining of staff and reestablishing staff and provider buy-in consumed a significant amount of time and contributed to delays in the project progress. Future recommendations for mitigating the effects of staff turnover include intentional

redundancy, selecting dual project leads, or choosing a small cadre of leaders who have at least 18–24 months retainability in their current assignment. Finally, including civilian staff as project leads and facilitators in military projects is critical, as they are often the continuity and corporate knowledge of military facilities.

**Leadership.** Leadership in both facilities inspired a shared vision through a shared governance environment. Leadership promoted autonomy by fostering a culture of clinical inquiry and allowing staff to incorporate EBP, based upon individual unit needs and desires, versus dictating projects and priorities. Evidence of leadership support is demonstrated by the investment of resources for education, training, and course and conference attendance. Transformational leaders were agile and supportive, adapting to the staff turnovers and challenges without becoming autocratic, cynical, or skeptical. Leaders were actively engaged in and had enduring enthusiasm for both project practices changes, which are currently ongoing.

**Evaluation.** Feedback was frequent and informal from unit level teams and committees, as well as from leadership. Both projects aimed to quantify staff knowledge and satisfaction as well as clinical (HF readmission rates) and financial outcomes. Beginning with the end in mind is ideal; however, if measurable outcomes and desired data are not already mined and tracked by the facility, this should raise a red flag. The authors strongly recommend developing partnerships with data informatics staff to learn and understand electronic health records and technology capability and limitations during the practice change planning phase. It is also essential to determine parameters for data extraction in collaboration with institutional data experts. Consider methods to track and follow patients in real time in lieu of retrospective data collection to increase data accuracy.

### Facilitation Comparisons

**Purpose.** Facilitation is concerned with getting all stakeholders on the same page to understand project goals, objectives, and strategies for achievement. Methods for facilitation are most successful if determined based on evidence and context (Kitson et al., 2008). A holistic approach to facilitation, identifying and engaging champions throughout the facility, was an optimal strategy for the military project due to staff turnover and interdepartmental involvement. In contrast, the civilian project specifically focused on facilitators associated with discharges to SNFs, as this was the HF subpopulation of interest.

**Role.** The military facility utilized the medical telemetry CNS while the civilian facility had a unit-based CNS and a CNS student to provide clinical expertise and corporate knowledge

for nursing personnel. Both CNSs acted as project facilitators and were relied on to organize and coordinate practice change planning, network with stakeholders, develop and implement staff education plans, determine and manage timelines, troubleshoot barriers and challenges, and provide enthusiasm and momentum for moving the projects forward.

Providers were instrumental in changing practices at both facilities. As the military facility's project grew in scope, it was recognized that engaging provider champions (e.g., physicians and physician assistants) earlier in the planning phases of the project and deliberately including dual role redundancy might have been advantageous. Additionally, planning a step-wise or phased implementation approach may have been more strategic due to the constant turnover of providers and staff, which required repeated time and effort to garner buy-in and engagement. Furthermore, some of the practice changes were solely dependent upon the actions of the healthcare providers, explicitly ordering specialty referrals for HF clinic follow-up appointments and using standard HF order sets. Identifying critical roles and actions before implementation is vital to achieving objectives in an efficient and timely manner. Similarly, including discharge planners and case managers in practice change planning is critical for project success.

**Skills and attributes.** Clinical nurse specialists competencies include skillful communication, collaboration, coaching, systems leadership, and interpretation, translation, and use of evidence—all instrumental for project success. That said, no single CNS is capable of executing, or expected to execute, complex interdepartmental practice changes independently. While the skills of the CNS are ideal for spearheading EBP, the overall project success is linked to skills and attributes of all involved roles. The passion and commitment of staff to improve the experience for HF patients contributed to both projects' progress. Open communication was integral to bridging inpatient and outpatient strategies and uniting stakeholders, like providers, case managers, discharge planners, and the unit and clinic nurses. Staff perseverance and adaptability were necessary attributes that allowed for project progress. It is highly recommended, although not always possible, to consider the experience and skill set of component roles, especially in teaching facilities, and to include an array of experience with more experienced and competent members in lead roles.

## DISCUSSION AND FUTURE DIRECTIONS

Both military and civilian community hospitals struggle with determining the best utilization of limited resources. Project lessons learned suggest, much like the revised PARIHS framework, that greater collaboration between all practice change stakeholders is essential, both before resources are dedicated and continuously throughout the life

cycle of the project. Inclusivity among disciplines and redundancy in roles are vital to mitigate the effects of staff turnover and to bolster effectiveness of practice changes across the continuum of care. Consistent mentoring by experienced EBP clinicians is necessary to assist EBP novices with locating established EBP guidelines, toolkits, and resources such as those disseminated by professional organizations like the AHA, AAHFN, and AHRQ. Moreover, mentoring to share experiential knowledge for instituting practice changes in community hospital settings is critical. While AHA GWTW for HF contains guidelines, fact sheets, coding assistance, discharge instructions, standard order sets, algorithms, patient education products, and best practice resources, there remains a void in what it looks like to operationalize these products and practices in complex health environments. Transparency in how-to strategies with special attention to context and facilitation is needed. To that end, the authors invoke the philosophy of Newhouse and Spring (2010) to move "from silos to synergy" and advocate for an interdisciplinary evidence-based HF consortium or the addition of a "lessons learned" to AHA GWTG. These actions would bolster transparency, shared knowledge, success potential, and optimal return on invested time and efforts for the same or similar initiatives, in this case, reducing 30-day readmissions for HF patients.

The CNS provides a critical conduit to ensure EBP and QI projects meet patient and facility needs. Ultimately, instituting practice changes entails meeting individuals, teams, and systems where they are with regard to evidence, context, and facilitation. This includes understanding local levels of complexity, leveraging available resources, and sharing outcomes and processes in applicable settings. The authors challenge nursing at all organizational levels to engage in behaviors consistent with transformational nurse leadership and to inspire and support a culture of clinical inquiry by consistently promoting opportunities for practice change. Finally, publishing lessons learned as a standard component of practice guidelines may alleviate some operational and translational challenges frequently encountered in the field. **WVN**



### LINKING EVIDENCE TO ACTION

- HF practice guidelines, toolkits, and established resources available through professional organizations should be reviewed as the first step of the search strategy for HF management, care, and readmission reduction initiatives.
- Despite the lack of HF literature regarding patient preferences, consider including local HF population preferences along with available evidence and clinician expertise when developing practice change strategies.

- Meet with coders and data-mining experts prior to launching practice changes, and test a trial data pull to ensure that accurate, measurable outcomes are able to be captured for evaluating practice change effectiveness.
- Buy-in and active engagement from all disciplines and stakeholders, as well as role redundancy to account for staff turnover, are integral to success of practice change initiatives.
- Interdisciplinary EBP consortiums are a means to increase dialogue regarding shared lessons learned that are integral to success potential and optimal return on invested time and efforts in the same or similar initiatives.

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