Feature Article

Review of current conceptual models and frameworks to guide transitions of care in older adults

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Abstract

Older adults are at high risk for gaps in care as they move between health care providers and settings during the course of illness, such as following hospital discharge. These gaps in care may result in unnecessary re-hospitalization and even death. Nurses can assist older adults to achieve successful transitions of care by taking a systematic approach and individualizing care to meet patient and family health literacy, cognitive, and sensory needs. This article reviews trends in transitions of care, models, partnerships, and health literacy. Models described include the Transitional Care Model, Care Transitions Program, Project BOOST (Better Outcomes for Older adults through Safe Transitions), Project RED (Re-engineered Discharge), Chronic Care Model, and INTERACT II (Interventions to Reduce Acute Care Transfers). Approaches to transitions of care are discussed, and resources for geriatric nurses are provided.

1. Introduction

Until recently, patient transitions across healthcare and residential settings have received little attention. Current research has identified transitions of care for older adults as a priority for improving care outcomes across all settings in our nation’s healthcare system. 1,2 Mounting evidence exposes lapses in care transitions that contribute to increased costs directly related to safety and quality of care issues for older adults. 1 Consequently, prominent institutions including the Joint Commission (JCAHO), Institute of Medicine (IOM), and Centers for Medicare and Medicaid (CMS) are focusing research and practice suggestions on ways to optimize care transitions across units and settings in our healthcare system. 1

Gerontological nursing has identified the need for nursing research, practice, and education to focus on this critical issue of transitions of care for our older adults. Using a conceptual model or framework to guide research, practice, or education can provide a way to unify the complex and diverse issues surrounding transitions of care for the older adult. A review of six of the most common transition of care models or frameworks will help gerontological nurses to integrate the model that works best in their care setting and promote an improved understanding of practitioners’ roles and responsibilities across the continuum of care. 3

2. Background and significance

Transitions of care refer to the multiple transfers patients make between health care practitioners and/or care settings during an episode of illness. 4 Research has shown that older adults are at high risk for negative outcomes of care during these transitions related to the complex organizational practices and culture differences among settings. 3 These differences including communication issues, means of information sharing, patient education processes, medication reconciliation procedures, continuity of care services, and access to essential care services after discharge often result in gaps in care following a transition and compromise patient safety. 5

Language, health literacy, and cultural differences may further exacerbate these issues surrounding care transitions. 6

Transitions occur frequently with resulting serious deficiencies in care. 1 Older adults transitioning between hospital units often
experience inconsistent nursing care and more adverse care incidents such as nosocomial infections, delirium, falls and medication errors. Kanak and colleagues (2008) surmise that minimizing transitions during hospitalization can result in improved quality of care delivered, shorter hospital stays, and lower overall costs. Reports indicate that 19.6% of the 11.8 million Medicare beneficiaries discharged from a hospital in 2009 were rehospitalized within 30 days and 34% within 90 days, while 25% of Medicare patients discharged to long-term care facilities were readmitted to the hospital within 30 days. Improved care of older adults during healthcare setting transitions may help to decrease these readmission statistics.

Acknowledging that care transitions represent a problematic junction in patient care management, the Patient Protection and Affordable Care Act (PPACA) incorporates improved care coordination and patient outcomes for hospitalized individuals as a major goal to reduce fragmentation of care and Medicare costs. The outcomes or goals of the reviewed transitional care models for older adults help health care organizations and providers become more involved in improving care coordination and patient outcomes, integrating care management before and after discharge across settings, and reducing avoidable readmissions and costs. Deciding to use a transition of care model for practice — organizational and provider — can be the first step towards improving the quality and safety outcomes of this increasingly frequent patient experience.

3. Models and frameworks

The Transitional Care Model (TCM) by Mary Naylor is a nurse-developed and nurse-led, multidisciplinary approach to providing comprehensive, holistic care to older adults with chronic illness hospitalized for common medical or surgical conditions. The TCM includes both hospital planning and home follow-up in partnership with the client and family. A major emphasis of this model is client—family understanding and management of health issues, and early identification and response to potential problems to prevent decline in client health status. A unique aspect of the TCM is coordination of care by an APN Transitional Care Nurse, who accompanies the client to the follow-up visit. The TCM is complementary to other care, including case management. The use of the TCM has demonstrated reduced ED visits, hospital readmissions, and hospital costs in three randomized controlled trials. Another hospital-to-home model is the Care Transitions (CTI) Program developed by Eric A. Coleman. The CTI Model is based on a comprehensive care plan and the availability of well-trained practitioners who know the patient’s goals, preferences, and clinical status. This four-week care transitions model begins with a hospital visit, followed by a home visit, and three follow-up calls completed by the Transitions Coach (e.g., advance practice nurses, registered nurses and social workers). The coach models and facilitates new behaviors and communication skills, so that the patient and family will know how to respond to common problems, which might arise during, and following transitions. The program encourages older patients (and their caregivers) to assert not only their own preferences, but also acquire self-management skills needed for transitions across settings. The coach additionally encourages self-management and direct communication with the patient’s primary care provider. Major areas of emphasis are: 1) medication self-management, 2) utilization of a patient-centered record (maintained by the patient; listing medications, medical problems, other vital information), 3) patient empowerment to schedule and complete follow-up visits with physicians, and 4) patient’s understanding of events suggesting that a health condition is worsening. CTI outcomes have demonstrated that discharged patients are significantly less likely to be readmitted, and more likely to achieve self-identified goals around symptom management and functional recovery. Additionally, the model has been found to be cost efficient and self-sustaining.

A third model is Project BOOST (Better Outcomes for Older Adults through Safe Transitions) developed by the Society of Hospitalists and is designed to also help reduce unplanned hospital readmissions. The program and tools are based on principles of quality improvement, and evidence-based medicine as well as personal and institutional experiences. This model provides resources to optimize the hospital discharge process and minimize many of the problems incurred by older patients discharged from the hospital. There are 5 key elements which include: 1) a comprehensive intervention, 2) a comprehensive implementation guide, 3) longitudinal technical assistance (provides face-to-face training and a year of expert mentoring and coaching), 4) the BOOST collaborative (allowing sites to communicate and learn from one another), and 5) the BOOST data center (on-line resource center). Thus far, 60 sites have the year-long mentoring program in place, which provides expert coaching to implement the program. The project was developed through a $1.4 million grant from The John A. Hartford Foundation. Presently contributing organizations fund some sites and some are tuition-based sites paying $28,000 per site. Over 1065 sites have downloaded the BOOST Toolkit. As of December 2010, initial outcomes include: a reduction in 30-day readmission rates, improved communication and collaboration across hospital functions, and perceptions of increased level of service and medical attention by outpatient physicians and patients. Although not available in all locations, developing such a comprehensive, systematic approach to promote care across transitions can help create an environment which is sensitive and receptive to the needs of older adults.

In contrast to the previous models, Project Re-engineered Discharge (RED) designed by Boston University Medical Center is an innovative ‘virtual patient advocate’ discharge approach, using computer-generated patient instructions. Project RED components include diagnosis, education, post-discharge care instructions with an emergency plan, discharge summary transmission, and follow-up telephone reinforcement. Use of Project RED has demonstrated decreased emergency department utilization, hospital readmission and healthcare costs. Benefits of Project RED are promotion of Joint Commission safety standards, and avoidance of litigation through improved documentation. Use of Project RED has also been promoted as a means of addressing health literacy issues, and proposed as preparation for changes in Centers for Medicare and Medicaid Services readmission reimbursement. While a ‘virtual patient advocate’ may initially seem to lack the ‘personal touch’ so important to nursing, its use does not preclude nursing interactions, and there are many advantages for patients such as flexibility of access and tailoring to literacy needs.

The Chronic Care Model (CCM) developed by Edward Wagner (1998) is a physician-designed, patient-centered, systems approach to providing safe and effective care to older adults with chronic disease(s) and fluctuating health status. The CCM includes both care coordination and case management, and has been applied most frequently to outpatient clinic settings. The use of the CCM has demonstrated improved well-being in patients with a variety of chronic conditions including asthma, diabetes, bipolar disorder, and comorbid depression and cancer. Tools for assessment of chronic illness care for both the organization and the patient are available based on the CCM.

The final model is INTERACT (Interventions to Reduce Acute Care Transfers) and is utilized for transitioning from nursing home to hospital. The program was developed to improve the quality of
<table>
<thead>
<tr>
<th>Model</th>
<th>Setting</th>
<th>Tools/components</th>
<th>Key findings</th>
</tr>
</thead>
</table>
| **Transitional Care Model (TCM)**\(^{10,11}\):  
[http://www.transitionalcare.info/index.html](http://www.transitionalcare.info/index.html);  
- Transitional Care Nurse (TCN) coordinator  
- In-hospital evidence-based nursing care plan  
- Home visits + phone follow-up with TCN  
- Holistic focus  
- Patient & caregiver education & support  
- Early identification & response  
- Patient & caregiver on team  
- Physician–nurse Collaboration  
- Open cross-communication  
- TCM hospital discharge screening tool for high risk older adults |  
- Reduced hospital readmissions  
- Decreased emergency room visits  
- Decreased healthcare costs |
| **Care Transitions Intervention (CTI)**\(^{16,17}\):  
[http://www.caretransitions.org](http://www.caretransitions.org) | Hospital to home |  
- Pillars of CTI:  
  - Medication  
  - Personal health record (PHR)  
  - Follow-up  
    - Transition Coach\(^{SM}\)  
    - Hospital visit  
    - Home visit  
    - 3 phone calls |  
- Self-sustaining  
- Re-hospitalization rates Ø 50%  
- Cost effective |
| **Better Outcomes for Older Adults Through Safe Transitions (BOOST)**\(^{16,19}\):  
[http://www.hospitalmedicine.org/BOOST](http://www.hospitalmedicine.org/BOOST);  
[http://www.hospitalmedicine.org/ResourceRoomRedesign/RR_CareTransitions/PDFs/PASS.pdf](http://www.hospitalmedicine.org/ResourceRoomRedesign/RR_CareTransitions/PDFs/PASS.pdf) | Hospital to home |  
- The target  
- Patient preparation to address situations (after discharge) successfully (patient PASS)  
- Teach-back process  
- Risk specific interventions  
- Written discharge instructions  
- Technical assistance |  
- Reduced 30-day readmission rates  
- Tools well-received by healthcare team and patients  
- Hospital and primary care provider communication and collaboration |
| **Project Re-engineered Discharge (RED)**\(^{20–25}\):  
[http://www.bu.edu/fammed/projectred/](http://www.bu.edu/fammed/projectred/) | Hospital to home |  
- Diagnosis-related education  
- Post-discharge appointments, tests, etc.  
- Medications, diet, exercise-related education  
- Discharge plan reconciliation with national guidelines/clinical pathways  
- Emergency plan  
- Discharge summary transmission  
- Written discharge plan  
- Telephone call in 2–3 days |  
- Decreased 30-day re-hospital utilization and emergency room use  
- Reduced costs per subject enrolled  
- Increased revenue per discharge |
| **Chronic Care Model (CCM)**\(^{26–31}\):  
- Community  
- Health care system  
- Self-management support  
- Delivery system design  
- Decision support  
- Clinical information systems  
- Organization assessment of chronic illness care (ACIC)  
- Patient assessment of care for chronic conditions (PACIC) |  
- Improved well-being in patients with asthma, diabetes, bipolar disorder, comorbid depression and cancer |
| **INTERACT**\(^{32}\):  
[http://interact.geriu.org](http://interact.geriu.org) | Nursing home to hospital |  
- Resource binder for champions  
- Case examples  
- Communication tools  
- Care path and change in condition cards  
- Advance care planning tools  
- Quality improvement |  
- 17% hospital admission reduction  
- Medicare savings  
- Further randomized studies to determine: avoidable hospitalizations, morbidity and cost savings |
nursing home (NH) care by providing tools and resources to skilled nursing facility staff to help reduce avoidable acute care transfers. The tools in this model assist in early identification, assessment, documentation, and communication related to status changes of residents in skilled nursing facilities. Components include a number of practical tools which aid in early identification of a resident change of status, a comprehensive resident assessment when change is identified, improved documentation when change in condition occurs and enhance communication between healthcare providers when a resident’s status changes. The tools are easily downloaded from the INTERACT® web site http://caretransitions.tmfn.org/clinician/tools/tabid/1156/Default.aspx. Early recognition and resolution of changes in older adult health status can help prevent the potential complications of hospital admission and its associated costs.

Although differing by design and setting, each of the models described above can provide a framework for managing health conditions across settings of care in collaboration with the older client and his/her family. Benefits in utilizing these models during transitions include early recognition and resolution of changes in an older adult’s health status, thereby preventing potential complications, hospital admission, and its associated costs. Additionally, TCM, CTISM,16 BOOST18 and RED20 have the potential to empower patients and their families in their own care and the advantage of promoting patient-centered care and safety in a variety of transitional situations. The main characteristics of the models reviewed in this article and their websites are summarized in Table 1.

In summary, these models are utilized in a variety of settings which include: hospital to home: CTI16 TCM10,11 BOOST18 and RED20, outpatient clinic to home: CCM26, and nursing home to hospital: INTERACT®. All models contain a number of commonalities (see Table 2), such as: all models contain helpful tools for health professionals, they promote patient-centered care and all report reduced hospital readmissions and reduced overall healthcare costs. Additionally, the hospital to home models all have discharge planning with written discharge instructions, they address medications and provide education to the patient and family members (see Table 2).

4. Partnering and health literacy

Inherent in all of the models reviewed is a “partnership” approach, which actively involves older adults, their families and caregivers in addition to healthcare providers. Underpinning this partnership approach is an awareness of and responsiveness to the unique health literacy needs of the patient, family and caregiver partners.

4.1. Partnering

It is important to realize that frail older adults are at great risk of re-hospitalization after discharge. However with careful planning and partnerships preventable re-hospitalizations may be avoided. Impending national discussions aimed at reducing avoidable re-hospitalization will soon demand that strategies be in place during the discharge process to promote the sharing of health information among the patients, their significant others, and health professionals. One key challenge is the availability of care management programs post-discharge. Not all systems have transitional care models and if they do, there may be differences related to population served, outcome measures, financial constraints, and the degree of patient follow-up. Many transitional care management programs are hospital or health system-based, and others are community-based. However, in the absence of a transitional care management program, challenges and opportunities to ensure a safe transition can be met. It is essential for nurses to partner with the patient to discuss care transitions and potential resources. This has become progressively important as older adults compose a greater percentage of the population, chronic disease becomes the major health issue, and caregiving becomes more common. Once partners are identified, we can work together to provide safe transitions of care from the hospital to the community. Family caregivers provide unpaid care in response to an illness or functional impairment to a family member, partner, friend, or neighbor. The caregiver can assist with a wide range of day-to-day activities and illness-related care. It is important to establish if a caregiver is available before discharge. If a caregiver is identified then the next step is to convene a multidisciplinary team meeting with the patient and caregiver prior to discharge to ensure a safe transition home.

Nursing care strategies include the formation of a partnership with caregivers to identify skills needed to prepare for discharge, address any issues or concerns, and assist in finding and utilizing community and health system-based resources. It is essential to use an interdisciplinary approach when working with caregivers. The

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**Table 2**

Commonalities among transitional care models.

<table>
<thead>
<tr>
<th>Tool/Condition</th>
<th>TCM10,11</th>
<th>CTI16,17</th>
<th>BOOST18,19</th>
<th>RED20 - 25</th>
<th>CCM26 - 31</th>
<th>INTERACT®</th>
</tr>
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<tbody>
<tr>
<td>Hospital to home (or nursing home)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Clinic to home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing home to hospital</td>
<td></td>
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<td></td>
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<tr>
<td>High-risk patients identified</td>
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<tr>
<td>Discharge planning</td>
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<td>Discharge instructions</td>
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<tr>
<td>Medications addressed</td>
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<td></td>
</tr>
<tr>
<td>Early identification of potential problems</td>
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<td>X</td>
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<tr>
<td>Written discharge instructions</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Follow-up appointment prior to discharge</td>
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<td></td>
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<tr>
<td>Tools for health professionals</td>
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<td>X</td>
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<tr>
<td>Patient &amp; family education</td>
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<td></td>
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<tr>
<td>Patient-centered care</td>
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<td>In-hospital visit</td>
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<tr>
<td>Home visit(s)</td>
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<td></td>
<td></td>
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<tr>
<td>Follow-up phone calls</td>
<td>X</td>
<td>X</td>
<td></td>
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<td></td>
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<tr>
<td>Reduced hospital readmissions</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced overall healthcare costs</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Improved patient outcomes</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

BOOST, Better Outcomes for Older Adults through Safe Transitions; CCM, Chronic Care Model; CTISM, Care Transitions Intervention; INTERACT®, Interventions to Reduce Acute Care Transfers; RED, Re-engineered Discharge; TCM, Transitional Care Model.
Table 3


4.2. Health literacy

Health literacy, defined as the “degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions,” is foundational for successful transitions of care. Basic prerequisites of health literacy include articulate oral communication, visual, computer and information literacy, and the ability to calculate numerically. Unfortunately, these skills may be challenging for older adults with auditory, visual, memory, and complex executive functional impairment, as well as limited computer proficiency. Particularly vulnerable populations for inadequate health literacy (and poorer outcomes) include older adults (over 65 years), minorities, immigrants, those with chronic mental and physical health disorders or of low-socioeconomic status.

Nurses must address health literacy needs when partnering with older adults and their families/caregivers during transitions of care. Consideration of visual, hearing and cognitive impairments or challenges is essential for effective communication. Educational, ethnic and cultural backgrounds are also important for meaningful exchanges of health information. Resources available to assist nurses in addressing the health literacy needs of older adults and their families/caregivers are summarized in Table 3.

5. Conclusion

With the ever increasing older adult population, and the growing incidence of chronic and end-stage disease rates among those over 65 years of age, monitoring transitions of care will remain a challenge. Geriatric nurses in key roles across the myriad of healthcare settings will help assure seamless care transitions for their older adult patients. In those roles, the nurse’s use of a setting-appropriate transition of care model may well be one answer to improving the quality of care across settings, decreasing readmissions, controlling costs, and meeting the needs of patients and their families. Further research is needed to evaluate which transition of care model is most effective for older adults considering racial and cultural diversity as well as differing settings. Appropriate and successful transitions of care should be the expected standard of nursing care for all older adults across all healthcare settings.

References