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Research and Theory

Care transitions for older patients with musculoskeletal disorders: continuity from the providers' perspective

Jordache McLeod, MSc, Department of Health Studies and Gerontology, University of Waterloo, 200 University Avenue East, Waterloo, ON N2L 3G1, Canada

Josephine McMurray, PhD (ABD), Department of Health Studies and Gerontology, University of Waterloo, 200 University Avenue East, Waterloo, ON N2L 3G1, Canada

Jennifer D. Walker, PhD, Department of Health Studies and Gerontology, University of Waterloo, 200 University Avenue East, Waterloo, ON N2L 3G1, Canada

George A. Heckman, MD, MSc, FRCPC, Department of Health Studies and Gerontology, University of Waterloo, 200 University Avenue East, Waterloo, ON N2L 3G1, Canada

Paul Stolee, PhD, Department of Health Studies and Gerontology, University of Waterloo, 200 University Avenue East, Waterloo, ON N2L 3G1, Canada

Correspondence to: Dr. Paul Stolee, Associate Professor, Department of Health Studies and Gerontology, University of Waterloo, 200 University Avenue East, Waterloo, ON N2L 3G1, Canada, Phone: +(519) 888-4567, Fax: +(519) 888-4362, E-mail: stolee@uwaterloo.ca

Abstract

Introduction: Care transitions are a common and frequently adverse aspect of health care, resulting in a high-risk period for both care quality and patient safety. Patients who have complex care needs and undergo treatment in multiple care settings, such as older patients with musculoskeletal disorders, may be at higher risk for poor care transitions.

Methods: Key informant interviews were used to gather in-depth information on transitional care issues, particularly those which impact informational continuity, from the perspective of a range of health professionals ($n=17$) in care settings relevant to the care continuum of older patients with hip fractures.

Results: Three transitional care themes were identified; medical complexity impacts care trajectories, larger circles of care can be both beneficial and challenging, and a variety of channels and modes are required for meaningful information exchange. Many issues cut across each care setting, and address challenges to informational continuity among and between health care providers, patients, and caregivers.

Conclusions: Medical complexity enlarges the circle of care which challenges care continuity. There may be fundamental elements which, regardless of care setting, strengthen transitional care quality. Standardized transitional care processes might help to offset informational discontinuity across care settings as a result of this population's larger circles of care.

Keywords

care transitions, musculoskeletal disorder, information exchange, care continuity

1. Introduction

The American Geriatrics Society Health Care Systems Committee (AGSHCSC) has proposed a definition of transitional care as being the actions carried out to ensure coordination and continuity of care for patients who are transferring between different care settings or care levels [1]. Despite this goal of care continuity between care levels and settings expressed in the definition of transitions, in reality transitions from one care setting to the next are plagued with discontinuity and a lack of coordination [2]. The responsibility of care shifts from the hospital-based physicians to the primary care physician and patient [3]. Often the necessary medical information, generally in the form of a patient discharge summary, is inadequate or incomplete [4], or unavailable when needed [5]. Furthermore, the acute health care system is increasingly designed to discharge patients quickly which may lead to poor transition planning, care co-ordination, and post-discharge intervention [6]. Paradoxically, some patients are staying in acute care settings for longer than is appropriate; slow transitions are influenced by a number of factors, however they are often affected by inadequate exchange of information and poor communication amongst health care providers, patients, caregivers, administrators, and other pertinent stakeholders [7]. These systemic problems often serve to exacerbate an already difficult time for the patient and caregiver, and demonstrate the importance of identifying ways to improve care transitions.

Recent research has shown that information transfer and communication between and with health care providers across the continuum of care are substantial health system issues [8–10] and that the inadequate exchange of information amongst various stakeholders is a major risk factor for poor care transitions [11–14]. For instance, a deficit in information and training for seniors and their caregivers upon discharge from hospital to home has been identified [15]. Correspondingly, patients, caregivers, and home care practitioners feel that education regarding medications, treatment protocols and diet is insufficient [6]. Patients, as well as their caregivers, often feel unprepared and have insufficient information for their more active role in the health care setting they are transitioning to [13–14], and are often unable to contact the appropriate practitioner when guidance is required [16]. The lack of preparedness, education, and exchange of information for patients and caregivers is especially disconcerting as oftentimes they are the only source of continuity throughout the care transitions [17]. The transition itself can introduce risk for the patient both in terms of patient safety and care quality. A poor transition can lead to medication errors [18], a return to a higher-intensity health care setting [19], increased use of hospital, ambulatory and emergency services

[17, 20–21], and a subsequent increase in the cost incurred by the health care system [12].

Patients with complex care needs who undergo treatment from multiple care settings may be at a greater risk for poor care transitions [12]. Older patients diagnosed with musculoskeletal disorders often have complex needs requiring care from multiple practitioners across multiple settings, and therefore represent a population at a heightened risk of experiencing a poor transition [22]. Determining the rehabilitation needs of older patients is often complicated by medical complexity and multiple morbidities [23–25], and requires management by multiple health professionals over many settings [26]. Older persons with hip fractures rarely present without co-morbidities [27], therefore their transition from acute care to residence will often involve multiple care settings and a variety of providers from different disciplines [17]. Within three months of discharge from an acute hospital stay, a large proportion of older patients will experience at least two to three transitions across institutions [28]. As they make transitions between services and their needs change, timely and accurate communication of information across settings is critical. A primary risk factor for poor transitions, inadequate knowledge sharing between patients and practitioners, has been found to be a common experience for older patients with musculoskeletal disorders and likely affects their outcomes following rehabilitation [29].

The complexity surrounding both the patient and the co-ordination of care they receive makes older hip fracture patients, and the settings in which they receive care, highly relevant in an examination of care transition quality. Poor care co-ordination is correlated with poor functional outcomes amongst patients with musculoskeletal disorders [30]; improving transitional care may result in a more effective health care system and better quality of life for a population which is vulnerable to functional impairment [31]. During transfers of older adults to home care, essential clinical information is often missing [32] and during transfers between hospital and rehabilitation facilities there are information transfer problems, such as rehabilitation staff not knowing about a patient's surgery results, history and special conditions or needs [30]. Better use of information could result in better identification of rehabilitation clients and their needs, and more effective communication of rehabilitation goals and plans as clients are transferred from one setting to another [33].

Haggerty and colleagues [34] have proposed three components to care continuity: informational, management and relational (see Figure 1). Informational continuity occurs when all relevant patient events and circumstances are known to providers. Management continuity

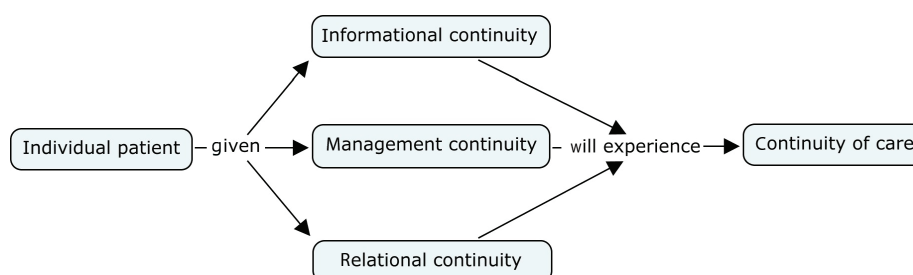


Figure 1. Haggerty's continuity of care framework.

refers to the provision of timely and complementary care by all of a patient's providers, and relational continuity refers to the quality and consistency over time of the relationship between patients and their care providers. It has been suggested that continuity of care is a highly subjective phenomenon experienced by a patient over time, and that it is not an attribute of providers and organizations [34]. Yet providers are embedded in the concept of care continuity and as such have an important role to play in what Rogers and Curtis call the 'continuity environment' [35]. When conducting research into care transitions, it is anticipated that providers would have a unique and insightful perspective on dimensions that impact patients' experience of care continuity.

1.1. Aim

The purpose of this study was to explore the provider's perspective on transitions experienced by older hip fracture patients across the care continuum. The factors which influence the transition and the information exchanged during transitions were of particular interest.

2. Methods

2.1. Participants and procedure

This exploratory study was conducted in 2010 to inform the development of data collection methods for use in a larger ethnographic field study examining older hip fracture patients' transitions across the continuum of care. Patients and informal care providers who also participated in key informant interviews will be documented separately; this article focuses exclusively on the perspective presented by the providers.

Qualitative methods and analysis are particularly suited to exploratory research studies such as this, and help to ensure that a variety of perspectives are considered, and issues are not overlooked [36]. A total of 13 in-depth qualitative interviews lasting an average of 24 minutes were conducted with a range of health care professionals ($n=17$) in various care settings relevant to the continuum of care for older patients with hip fractures. All

interviews were one-on-one except for two where, for a number of reasons, the interviewing site requested that more than one person participate in the interview. Interviewing processes were adjusted accordingly. All interviews were carried out in private rooms within the specified health care settings in a smaller city in Ontario, Canada. Each of the settings represented potential stops along an older hip fracture patient's continuum of care, and included an acute care hospital, a hospital providing inpatient rehabilitation and complex continuing care, a long-term care and retirement home, and an organization providing regional coordination of home care service delivery. Table 1 lists the health care providers interviewed within each care setting.

The providers were recruited using a snowball sampling technique. Key informants, namely managers in each care setting, were asked to identify other informants who were knowledgeable about transitional care issues, particularly related to the admission and discharge of older patients with musculoskeletal disorders [37]. Interviews were semi-structured and used a number of broad open-ended questions to direct the conversation and encourage participants to talk and express their thoughts, namely:

- What is your role in the admission and discharge process for hip fracture patients at your organization?
- Who else is involved and how?
- During admission and discharge of hip fracture patients, can you provide more detail on what information is exchanged between health care providers, patients and caregivers or family members? How is this information sent or received?
- What are the most common places these patients are discharged to and how does this change the information exchange process?

Interviewer discretion was used to pose additional questions to probe for greater clarity or depth of response.

2.2. Data analysis

The analysis of collected data followed a constant comparative method consistent with a grounded theory

Table 1. Breakdown of care providers interviewed by role and care setting in which they practice

Acute care	Inpatient rehabilitation	Long-term care and retirement home	Home care delivery coordination
<ul style="list-style-type: none"> • Director • Clinical manager • Two resource nurses • Community care access centre case manager* 	<ul style="list-style-type: none"> • Clinical manager • Physiotherapist • Occupational therapist • Resource nurse • Community care access centre case manager* 	<ul style="list-style-type: none"> • Director of long-term care • Director of retirement home • Kinesiologist • Resource nurse 	<ul style="list-style-type: none"> • Senior director • Two community care case managers*

*Note: The two community care case managers are employed by the home care coordination organization, but work primarily out of a listed care setting and therefore are accounted for twice, once within their respective health care settings and once under the umbrella of home care.

approach [38]. Throughout the analysis, insights and other relevant information were noted. The analysis of the interviews was also guided by the content analysis framework developed by Graneheim and Lundman [39]. The unit of analysis was the care setting due to observable and consequential differences between institutional processes and personnel. Digital recordings of all interviews were transcribed verbatim. Transcripts were read carefully three times to achieve a thorough understanding of the material. Significant statements were identified; based on these statements codes were formulated to capture meaning units. Through constant comparison of similarities and differences, meaning units were categorized and then grouped together into themes; where necessary sub-themes were created. Relationships between themes were also conceptualized to better explain the phenomena under study. This process of conceptualization was emergent and iterative, with repeated reference back to the data until new insights were exhausted. In an effort to strengthen the quality of the analysis and prevent bias, collaborative meetings with colleagues knowledgeable in qualitative methods, the patient population, and healthcare setting were held throughout the analysis process [39]. Where interpretation varied, discussion was used to achieve consensus.

3. Findings and interpretations

Three themes and a number of sub-themes were identified. Although the themes cut across all the health care settings examined, some subthemes were only pertinent in a single care setting; this is discussed in detail below. Where appropriate, participant quotes are used to illustrate an issue or event. Table 2 provides a legend of the quoted participants' codes, roles and care settings.

3.1. Multiple morbidities impact patient care trajectories

Providers from each setting described a *range* of patients from those who were healthy and transi-

tioned home from acute care, to those with multiple morbidities who transitioned from acute care, to inpatient rehabilitation, to supportive care and perhaps to their previous residence. Approximately 30% of elderly patients fracture their hips in a long-term care facility [40]. Patients from long-term care in this study, returned to long-term care after a short (usually 3 day) stay in acute care, their trajectory the shortest of most scenarios. However, any patients who require some degree of in-hospital rehabilitation following acute hospitalization for hip fractures are necessarily complex patients:

“I would say that if they come to this setting there’s likely, it’s been a complicated situation...People who come here tend to have co-morbidities such as arthritis that’s affecting their overall movement and their healing or you know an older person may have more trouble healing. So I would say on average the people who come here are not as straight forward. There are usually other things going on...Otherwise they’ll go home from the acute site with home care and what not.”
[FP14]

“Long standing weakness deconditioning, you know, lack of activity, I mean you don’t really break a hip

Table 2. Participant codes, roles and care setting

Participant code	Care setting	Role
FP12	In-patient rehabilitation	Nurse practitioner
FP13	In-patient rehabilitation	Physiotherapist
FP14	In-patient rehabilitation	Occupational therapist
FP15	In-patient rehabilitation	Resource nurse
FP21	In-patient rehabilitation	Nurse manager
FP22	In-patient rehabilitation	Nurse case manager
AC1	Acute care	Nurse
AC2	Acute care	Nurse manager
AC5	Acute care	Nurse case manager
AC6	Acute care	Resource nurse
RH1	Retirement home	Nurse manager
LTC2	Long-term care	Nurse manager
HC1	Home care coordination	Nurse case manager

if your bones are strong and your balance is good.”
[FP13]

In both acute care and inpatient rehabilitation, these complex patients' health is often fluctuating, resulting in an ever changing discharge plan. An acute care provider remarked,

“It kind of works out that nobody is for sure going anywhere”.
[AC6]

3.1.1. 'Complex' patients may not follow regular care trajectories

In each care setting examined, the complexity of the patient was cited as a major determinant influencing their care trajectory. Most commonly, the patient's advanced age, frailty, previous care setting, multiple comorbidities, and cognitive impairment were used to characterize the patients, and were also mentioned as factors leading to more challenging care. Furthermore, these complex patients are often discharged quickly out of acute care facilities; patients transitioning from acute care to inpatient rehabilitation or home care have an average length of stay of 7–10 days in this region. Rapid discharge rates, coupled with medical complexity, lead some health care providers to express concerns about their patients' ability to recover post-discharge:

“The thing is, the patients when they come here are supposed to be medically stable so that we can focus on their function. Well, are patients really that medically, you know when you have a lot of chronic disease it doesn't take much to tip you. And I can't send people back to acute care every time they go in heart failure because now I'm pushing them and maybe they have some respiratory disease, and I'm pushing them to walk 6 meters and now they're short of breath or their blood sugars are a little off because they haven't been eating properly.”
[FP21]

“But if you're 85 and you have all these other problems, plus then you break your hip, you're not going to recover in 6 weeks, it's just not, it's not a realistic time frame and you're really not going to recover in the 10 days the hospital gives you to recover. It's just not possible.”
[FP22]

3.1.2. Cognitive impairment is perceived as a pivotal determinant of care needs

The presence of some form of cognitive impairment was perceived by some providers to be the most pivotal patient characteristic influencing care:

“And with maybe a quarter of them there is some cognitive impairment that really, really limits what you can do. It's the whole learning and carrying over information that is not there and that is a huge issue.”
[FP13]

Furthermore, the very nature of the encounter may induce cognitive changes which impact on the patient's ability to understand and follow instructions:

“Sometimes they suffer some kind of confusion post anesthetic, so we get the team involved of course.”
[AC5]

3.2. Larger 'circles of care' can be both beneficial and challenging

It is common practice for organizations to use multi-disciplinary teams to manage the care of the frail older person both in and out of hospital [41–42]. In both the acute and in-patient rehabilitation facilities in this study, a multidisciplinary team comprised of community-based case managers, nurses, physiotherapists, occupational therapists and physicians, is used to treat the patient; to varying degrees they determined the date and location for discharge. The goal is to facilitate a more comprehensive view of the patient and therefore a more effective and appropriate care plan. As a patient's complexity grows, so too does the provider 'circle of care', the care network which provides the patient with healthcare services. Not surprisingly, the two hospital settings differed in how they operationalized multi-disciplinary teams.

In acute care, the size and complexity of the ward was mentioned as a challenge by the providers. The acuity of the patients requires physiotherapists and nursing staff to work shifts which patients experience as an ever-changing rotation of unfamiliar caregivers. This can challenge effective handoffs, and negatively impact discharge planning and patient care:

“That is a difficulty in planning because today the physio I was working with yesterday for discharge planning is not there so now I have to wait for that other physiotherapist to get on board...it hinders the flow of discharge for sure...especially for a fracture or orthopedic perspective because they're very important in getting them ready to where they have to go.”
[AC5]

At the inpatient rehabilitation facility the care needs are less urgent. Although the nurses work shifts, the physiotherapists are consistent and always on the unit during the day. Nursing staff are responsible for gathering information daily to update the rest of the team; this, along with a more apparent team-based culture, caused the providers from this facility to espouse the benefits of team work and the value of other's expertise:

“I mean the therapists of course have the most pull when it comes to function. The doctor of course from the medically stable or not point of view, the nurses of course their opinion is vital as far as can the person get themselves washed and dressed and out of bed

in the morning, transfers, that kind of thing. But it's kind of more of a team. It really is. [We] work really well as a team so when we have those team meetings, we as a team come to a conclusion before we even go to the family meeting. So we all know what each other is thinking and we're always on the same page.” [FP22]

The community-based case managers embedded in each facility spoke of the impact of different organizational priorities on team-based culture. Both facilitate discharge and home care planning, however at the acute care facility, the pressure for highly valued acute care beds is intense and places enormous pressure on providers and case managers to balance the needs of the patients with those of the organization and the system. The result can be inter-disciplinary friction:

“We do have challenges sometimes with [case managers] only because we are in acute care and we just want to move people through here and they are transitioning people into the community and the speed is a little different sometimes it does not match ours and what we think it should be.” [AC2]

Team meetings, known as ‘bullet rounds’, are held weekly to update the extended team on patients’ status. The inclusion of more staff, to include physicians, nurses and allied health professionals, has the benefit of including more perspectives in the care discussion, however staff describe meetings which become unwieldy, time-pressured and of limited value resulting in post-meeting informal hallway gatherings between providers needing additional details or wanting to discuss concerns about a specific patient.

Beyond the multidisciplinary team, family members are increasingly involved with transitions and care planning for hip fracture patients who are frail or medically complex. Their role was mentioned by providers across care settings, both for their ability to augment the patient’s accounts of their social or medical history, and because of their role in providing social and instrumental support once the patient has been discharged. Providers from the in-patient rehabilitation facility in particular pointed out that the patient and their family has the ultimate decision regarding where and how their needs would be met after they left the hospital, even if their decision conflicted with the recommendations of their health care team.

“At the end of the day as long as a client is competent they can choose where to go. They can choose to go home against anybody’s advice. Right, so we may recommend that they go to a retirement home to at least convalesce while they are healing and you know they may say I don’t have the money, I don’t want to, I want to go home and you know at that point you know we’ve educated their risk of falls and what could happen if they choose to go home...we try to give them as much

education as we can to facilitate them going home as safe as possible even though it is not the safest option.” [FP14]

Each additional person added to the patient’s wider circle of care contributes to an exponential increase in the information exchanges necessary to facilitate care and effect a successful transition across care settings. While the patient may benefit from the input and support of more medical experts and informal caregivers, the enlarged network challenges the system’s ability to deliver coordinated care.

3.3. A variety of data and channels of communication are required for meaningful information exchange during care transitions

To facilitate information transfer between care settings, both structured (‘fill-in-the blank’) and unstructured (free text) entries on forms, as well as formal (such as an electronic medical record entries) and informal (such as a phone call) modes of communication occurred both within and between care settings. The acuity of the care delivery setting clearly impacted the pace of the environment, and the complexity of the patient necessitated the use of these varying modes and forms of information transfer.

3.3.1. Despite some challenges, health care providers using interoperable electronic records are generally more satisfied with information transfer

One of the primary facilitators of information exchange between care settings was the use of linked electronic information systems according to many of the providers interviewed. The acute and inpatient rehabilitation hospitals interviewed in this study are governed by the same corporate parent; an electronic medical record aggregates much but not all of the activities in both facilities. Embedded community case managers are employed by a separate organization and have access to the hospital electronic record, yet must separately document entries in their employer’s electronic record. There are plans for future interoperability but these were not in place at the time of writing. Health care professionals with access to electronic information systems were in general much more positive about the information they are able to gather from a previous care setting:

“The case managers that I work with over at the acute site, we have a charting system that they chart what they do and I can pull it up. So I know exactly what they’ve done and I just add to it. And same with the community case managers... It’s all the same system.” [FP22]

By contrast, staff in the long-term care facility, who do not have access to electronic hospital records, were less happy about the amount of information they received:

“There is sometimes a lot of information that’s missing, sometimes we don’t even get a verbal report from the nurse so all of a sudden the patient just shows up and we’re like, ok we had no idea that they were coming.”
[LTC2]

There are also some challenges associated with the use of electronic information systems. While health care providers from the sending care setting may assume that all of the required information can be obtained by accessing the electronic medical record, some information was difficult to find. As well, the record did not always reflect the latest discharge plan causing staff to resort to less formal modes of communication:

“Because often when they send a referral over they send it over very skimpy thinking that we can pick up all our information off the computer. Sometimes we can’t, sometimes we can.” [FP15]

“Usually, 9 times out of 10 the information is there but it’s not easy to find it always. It’s not as obvious, it’s not written necessarily where I would write it and the sheet that we get, the initial sheet has some tables and lines where things should be written but they’re not always there.” [FP13]

“So sometimes we get it electronic but because things change so quickly we may choose to talk directly so we know what plan we’re working with.” [AC5]

Providers reported that all modalities suffered from the challenge of patients in person being quite different from their charted profile. This presented points of tension between care settings and often left the receiving unit feeling ‘dumped on’. The long-term care facility resolved this issue by implementing a face-to-face assessment process which consequentially became a key component of their intake process.

“Sometimes there is a bit of a push to get people out of the hospital, so we find it very helpful to make that [face to face] visit to ensure that someone is safe and that we are interpreting things the same way. When we say we can’t provide assistive toileting, I mean someone has to get up off the chair and go to the bathroom themselves. Sometimes in the hospital they’re interpreting that differently so you know, they might say ‘well, as long as you’re just standing beside them it’s okay’... so that face-to-face is definitely the key to making sure that we have a good smooth transition.” [RH1]

3.3.2. Core information elements are required to support transitions across any care setting

Providers identified a core set of information which was required from all previous care settings: an admission patient profile (both personal information and medi-

cal history), medication records, and any pertinent rehabilitation or follow-up care instructions. Discharge information from one care setting becomes admission information in another. The perceived importance of other shared data varied by care setting and discipline of the interviewee.

“I look for information about themselves, like background history, who they are, home situation, environmental situation, functional and physical capability, if they need any kind of medical treatment, wound care, nursing, antibiotics.” [AC5]

“I’m a field OT, so I what I do is I assess clients who come in for all different diagnosis as I’m sure have and we create goals together and we look at our length of stay and what kind of goals we can accomplish in that short of time period. We look at ADL, so dressing, toileting, kitchen activities, and cognitive perceptual activities”. [FP14]

Other information exchange between providers, patients and their caregivers is crucial for effective transitions. These communications are often multi-modal and must be adapted to each patient’s individual situation to ensure that detailed information about medications and follow-up doctors’ appointments are understood:

“So if they’re younger or if they’re fairly cognitively intact, the meds aren’t very different, sometimes just give them prescriptions...For an older person whose got very complex meds maybe who cognitively is a little borderline. You know, or there has been lots of changes then we get pharmacy to do a written list for them. So they take prescriptions to take to their pharmacy, but we also do like a handwritten list in layman’s terms...so when they get home they can see-well I’m taking this for this, and that’s how much I take, you know.” [FP12]

“Often if there’s an orthopaedic surgeon follow-up, some not for weeks. Post discharge we always ask them to see their family doctor within a couple of weeks. And then we do have a written sheet that we give them with all those instructions too, but I always make sure I’ve told them verbally, right?” [FP12]

3.3.3. Smooth transitions are thought to be facilitated by trusted relationships and information flow

A strong working relationship between care providers in sending and receiving care settings was perceived to foster trust and appropriate information exchange.

“To be honest if there is something significant that they really want us to know right away they will call us. We do, we meet with the other site periodically for different practice events so we know who they are right and they feel comfortable calling.” [FP14]

Information exchange with the patient and family was mentioned more often by inpatient rehabilitation

providers than acute care providers. Whether due to diminishing lengths of stay, higher patient acuity and caregiver churn in the acute care setting, or care models more conducive to building rapport in the inpatient rehabilitation setting, patient-provider or inter-provider relationship-building appeared to be less of a priority in the former, so too did the likelihood of effective information transfer:

“Like we might have a patient today that we know everything about. They’re gone 3 days later, oh boy. Can’t remember that patient.” [AC1]

“Unfortunately there’s not much time for education at the acute care site so they [the patients] bring all their questions and frustrations here and everything needs to be answered yesterday.” [FP13]

The importance of engaging the patients and their caregivers as partners in care to prepare for the next care setting was an important focus for providers:

“Sometimes they would like to know how can I help my mom or how can I help my dad you know go up the stairs, do this, do that and then you just show them. They’re usually invited to observe a therapy session and that’s when they learn and if they ask ok can I try to do that then by all means we spend time teaching them how to do things.” [FP13]

In the inpatient rehabilitation setting this partnership was fostered by the assignment of a primary contact in the care team. This person ensured the patient and family could communicate easily with the care team and helped to avoid inconsistent messaging:

“The primary contact usually the role is to kind of be one contact person for the whole family. So you don’t have the son in-law calling the doctor and the daughter in-law calling the therapist and the patient is talking to the nurse practitioner so it’s a little bit easier to handle it that way.” [FP13]

By contrast, in the acute care setting there was no primary point of contact but a distributed system determined by the type of information and nature of the inquiry:

“If a family called in and said how my mom is doing today, the primary nurse would be the direct person to get that, if their family is wanting to know how the patient is progressing with their fractured leg, the physio-therapist might be the best person to get that information. If they want to know that they physician has seen them, is there orders written, what’s written, the reason; the resource nurse might be that person. If they want to know what is the next plan for home or where I might be that person so it depends on what information they’re seeking.” [AC5]

There is a clear need to convey important information to the patient and their family to facilitate a smooth transition to another care setting; preparing patients

and families for their more active role at home and giving them the tools to manage their own or their loved one’s health is clearly a priority for staff in rehabilitation facilities, and consistent with their organizational missions and goals.

4. Discussion

While other studies have explored information exchange across two care settings, such as from hospital to home [42, 43] or hospital to long-term care [44], to our knowledge few have followed the flow of information across multiple care settings. This exploratory study provides a unique, system-level view of information exchange during care transitions for the older hip fracture patient; care settings are examined through the lens of participating healthcare providers. There were over 502 hip fractures per 100,000 people aged 65 and over in Canada in 2005–2006 [45]. As the population ages over the next three decades, *ceteris paribus* the number of older hip fracture patients will continue to rise [46]. While prevention is important, greater insight into the issues of those who experience a fracture, and improving information flow between those participating in patients’ ‘circles of care’ as they transition across settings, may help to improve outcomes [17].

Haggerty and colleagues’ framework states that informational continuity is one of three components of care continuity [34]. While all three are important and interconnected, the provider perspectives explored in this study suggest that information exchanged between the care settings has a considerable impact on a patient’s experience of coordinated care. A number of themes were identified in the collected data for this exploratory study. The relationship between these themes is illustrated in Figure 2. Informational continuity is challenged by the expanded circle of care necessary to care for older patients with hip fractures where the trilogy of medical complexity, multiple morbidities and cognitive impairment is commonplace.

Each care setting described in this study mitigates information losses during transitions across care settings differently. In the case of the incorporated acute and inpatient rehabilitation settings, a jointly accessible electronic medical record allowed care providers to access patient information from both care settings. However, not all components of a patient’s stay are recorded electronically, which results in some information being unavailable online, and some users having less confidence in navigating the system to find what they need. Thus a parallel paper record system is maintained, adding incrementally to the volume of patient information and locations for it to be stored and adding to the search burden. Further, providers

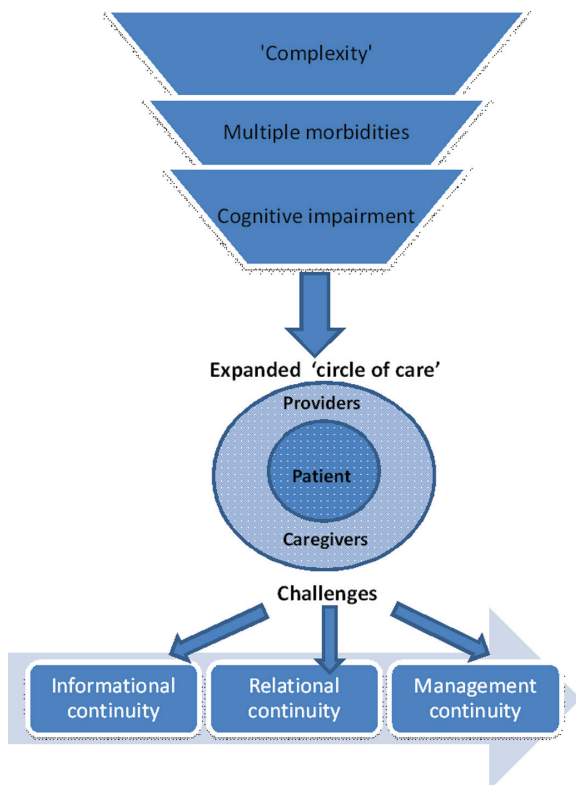


Figure 2. The impact of complexity, multiple morbidities and cognitive impairment on care continuity.

are still required to manually enter information into an electronic system; in dynamic environments, such as these where vacated beds initiate a cascade of lightning-quick decisions around patient priorities and care needs, the electronic medical record may not reflect the patient's current admission or discharge status. Providers describe work-arounds using informal communications by phone or in-person, to compensate for this. Clearly, electronic records are viewed as opportunities to address historic issues related to the accuracy, legibility and timeliness of information exchanged at the boundaries of health care organizations, however until their use is pervasive, systems are interoperable across settings, and access is available to all providers across the continuum, they cannot contribute their expected value to care coordination.

Informational continuity is closely linked to management continuity; this was never more evident than in the descriptions provided by care providers from the in-patient rehabilitation facility. Here patients with complex care requirements, and their families, are prepared to cope with increasingly larger roles in self-care and management after discharge. Information exchange and education of patients and caregivers to assist with self-management of their condition and medications has historically been inadequate [6, 13–15]. Providers from the inpatient rehabilitation facility described

how patients and their families are assigned a primary contact to enhance communication and education, and ensure consistent messaging between team members and with external providers and family. This person has an important role to play in developing a trusted relationship between the care setting, and the patient and their family. Within the acute care setting examined, a case manager is identified to coordinate care beyond the organization yet not within the hospital; despite the presence of multi-disciplinary team meetings and the case manager, information exchanged with other care settings is generally distributed, discipline specific, and not always collaborative. The data suggests that trusted relationships between multi-disciplinary teams in different care settings may also be important; future research might examine the effectiveness of 'primary points of contact' between teams on improving information flow and smoothing patient transitions. Haggerty and colleagues [34] found this relational continuity between care providers, and also with patients and family, to be an important contributor to overall continuity of care.

The subjects of this study, older more medically complex and multi-morbid patients, are more likely to be cared for by multiple specialties over numerous disciplines, experience many care settings and require the assistance of numerous community caregivers in their journey across the care continuum. The added complication of age-related cognitive decline, in the opinion of our respondents, challenged patients' lived experience of care continuity. Further research is warranted to examine how much impact these factors have on the size of the network required to support older hip fracture patients, and how best to ensure that the right information is available to the right person at the right time to optimize care decisions and outcomes as they move from primary to secondary and tertiary care, and back to their residences.

5. Conclusions

Overall, the findings of this exploratory study provide a unique system-level perspective of care continuity for older hip fracture patients. Consistent with the literature, participating providers indicated that factors, such as multiple morbidities and cognitive decline contribute to medical complexity and thus less predictable care trajectories. Expanded circles of care due to multiple specialties addressing numerous concurrent diseases, multiple care settings due to complex recoveries, and the need for family interventions and informal support, place enormous pressure on the healthcare system to ensure information exchange is relevant, timely and accurate. Patients' acuity changes across care settings, as do the goals and priorities of the provider organizations and the needs of the patient and their

families. While the strategies to optimize informational continuity and care coordination vary accordingly, this study suggests there are fundamental elements which contribute to high quality transitions from the care providers' perspective. Further examination of standardized transitional care processes across the spectrum of possible care transitions, might help to identify the necessary elements of a high quality transition which need to be present regardless of the care settings involved.

Reviewers

Eva Denison, Associate Professor, RPT Department for Caring and Public Health Sciences, Mälardalen University, Västerås, Sweden

Adria E. Navarro, LCSW, ABD, Davis School of Gerontology, University of Southern California, Los Angeles, USA

One anonymous reviewer

References

1. Coleman EA, Boult C. Improving the quality of transitional care for persons with complex care needs. *Journal of the American Geriatrics Society* 2003;51(4):556–7.
2. Coleman EA. Falling through the cracks: challenges and opportunities for improving transitional care for persons with continuous complex care needs. *Journal of the American Geriatrics Society* 2003;51(4):549–55.
3. Manian FA. Whither continuity of care? *New England Journal of Medicine* 1999;340:1362–3.
4. Kripalani S, LeFevre F, Phillips CO, Williams MV, Basaviah P, Baker DW. Deficits in communication and information transfer between hospital-based and primary care physicians: Implications for patient safety and continuity of care. *The Journal of the American Medical Association* 2007;297(8):831–41.
5. Van Walraven C, Seth R, Austin PC, Laupacis A. Effect of discharge summary availability during post-discharge visits on hospital readmission. *Journal of General Internal Medicine* 2002;17(3):186–92.
6. McWilliam CL, Sangster JF. Managing patient discharge to home: The challenges of achieving quality care. *International Journal for Quality in HealthCare* 1994;6:147–61.
7. The Change Foundation. Having their say and choosing their way project. “I don’t know”. Report 1: People’s experience receiving home care after being hospitalized. Toronto: Ontario; 2008. [cited 2011 10 March]. Available from: <http://www.changefoundation.ca/docs/HTSfinalreport.pdf>.
8. Naylor MD. Transitional care of older adults. *Annual Review of Nursing Research* 2002;20:127–47.
9. Schoen C, Osborn R, Huynh PT, Doty M, Zapert K, Peugh J, et al. Taking the pulse of health care systems: experiences of patients with health problems in six countries: patients’ voices can provide policy leaders with a window onto what is happening at the front lines of care. *Health Affairs* 2005;24:5–25.
10. Spragins W, Lorenzetti D. Public expectation and patient experience of integration of health care: A literature review. Toronto: The Change Foundation; 2006.
11. Naylor MD, Stephens C, Bowles KH, Bixby MB. Cognitively impaired older adults: From hospital to home. *The American Journal of Nursing* 2005;105(2):52–61.
12. Coleman EA, Fox PD. One patient, many places: Managing health care transitions, Part 1: Introduction, accountability, information for patients in transition. *Annals of Long-Term Care* 2004;12(9):25–32.
13. Weaver FM, Perloff L, Waters T. Patients’ and caregivers’ transition from hospital to home: Needs and recommendations. *Home Health Care Services Quarterly* 1998;17(3):27–48.
14. Von Eigen KA, Walker JD, Edgman-Levitan S, Cleary PD, Delbanco TL. Carepartner experiences with hospital care. *Medical Care* 1999;37:33–8.
15. Graham CL, Ivey SL, Neuhauser L. From hospital to home: Assessing the transitional care needs of vulnerable seniors. *The Gerontologist* 2009;49(1):23–33.
16. Coleman EA, Parry C, Chalmers S, Min S. The care transitions intervention. *Archives of Internal Medicine* 2006;166:1822–8.
17. Coleman EA. Falling through the cracks: Challenges and opportunities for improving transitional care for persons with continuous complex care needs. *Journal of the American Geriatrics Society* 2003;51:549–55.
18. Moore C, Wisnivesky J, Williams S, McGinn T. Medical errors related to discontinuity of care from an inpatient to an outpatient setting. *Journal of General Internal Medicine* 2003;18:646–51.
19. Coleman EA, Smith JD, Frank JC, Min SJ, Parry C, Kramer AM. Preparing patients and caregivers to participate in care delivered across settings: The care transitions intervention. *Journal of the American Geriatrics Society* 2004;52(11):1817–25.
20. Forster AJ, Murff HJ, Peterson JF, Ghandi TK, Bates DW. The incidence and severity of adverse events affecting patients after discharge from the hospital. *Annals of Internal Medicine* 2003;138(3):161–7.
21. Weissman J, Ayanian J, Chasan-Taber S, Sherwood MJ, Roth C, Epstein AM. Hospital readmissions and quality of care. *Medical Care* 1999;37:490–501.

22. Simpson P. Clinical outcomes in transition program for older adults with hip fracture. *Outcomes Management* 2002;6(2):86–92.
23. Knoefel F, Helliwell B, Seabrook JA, Borrie MJ, Stolee P, Wells JL. A comparison of functional independence and medical complexity in geriatric and physical medicine rehabilitation inpatients. *Geriatrics Today: Journal of the Canadian Geriatrics Society* 2003;6:90–4.
24. Wells JL, Seabrook JA, Stolee P, Borrie MJ, Knoefel F. State of the art in geriatric rehabilitation, Part I: Review of frailty and comprehensive geriatric assessment. *Archives of Physical Medicine and Rehabilitation* 2003a;84:890–7.
25. Wells JL, Seabrook JA, Stolee P, Borrie MJ, Knoefel F. State of the art in geriatric rehabilitation, Part II: Clinical challenges. *Archives of Physical Medicine and Rehabilitation* 2003b;84:898–903.
26. Borrie MJ, Stolee P, Knoefel FD, Wells JL, Seabrook JA. Current best practices in geriatric rehabilitation in Canada. *Geriatrics Today: Canadian Journal of Geriatric Medicine and Geriatric Psychiatry* 2005;8:148–53.
27. Marengoni A, Rizzuto D, Wang HX, Winblad B, Fratiglioni L. Patterns of chronic multimorbidity in the elderly population. *Journal of the American Geriatrics Society* 2009;57(2):225–30.
28. Ma E, Coleman EA, Fish R, Lin M, Kramer AM. Quantifying post hospital care transitions in older patients. *Journal of the American Medical Directors Association* 2004;5(2):71–4.
29. Olsson L, Nyström AEM, Karlsson J, Ekman I. Admitted with a hip fracture: Patient perspectives of rehabilitation. *Journal of Clinical Nursing* 2007;16:853–9.
30. Weinberg DB, Gittel JH, Lusenhop RW, Kautz CM, Wright J. Beyond our walls: Impact of patient and provider coordination across the continuum on outcomes for surgical patients. *Health Research and Educational Trust* 2007;42(1):7–24.
31. Lin PC, Hung SH, Liao MH, Sheen SY, Jong SY. Care needs and level of care difficulty related to hip fractures in geriatric populations during the post-discharge transition period. *The Journal of Nursing Research* 2006;14(4):251–60.
32. Brown EL, Raue PJ, Mlodzianowski AE, Meyers MS, Greenberg RL, Bruce ML. Transition to home care: Quality of mental health, pharmacy, and medical history information. *International Journal of Psychiatry in Medicine* 2006;36:339–49.
33. Stolee P, Hillier LM, Webster F, O'Callaghan C. Stroke care in long-term care facilities in Southwestern Ontario. *Topics in Stroke Rehabilitation* 2006;13:97–108.
34. Haggerty JL, Reid RJ, Freeman GK, Starfield BH, Adair CE, McKendry R. Continuity of care: A multidisciplinary review. *British Medical Journal* 2003 Nov 22;327(7425):1219–21.
35. Rogers J, Curtis P. The concept and measurement of continuity in primary care. *American Journal of Public Health* 1980;70(2):122–7.
36. Axinn WG, Pearce LD. Mixed method data collection strategies. New York, NY: Cambridge University Press; 2006.
37. Rossi PH, Lipsey MW, Freeman HE. Evaluation: A systematic approach. 7th edition. California: Sage Publications Ltd; 2004.
38. Strauss A, Corbin J. Basics of qualitative research. Thousand Oaks, California: Sage Publications; 1998.
39. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today* 2004;24(2):105–12.
40. Crilly RG, Tanner DA, Kloseck M, Chesworth BM. Hip fractures in long-term care: Is the excess explained by the age and gender distribution of the residents? *Journal of Aging Research [serial online]* 2010 (Article ID 291258), 1–6. doi: 10.4061/2010/291258.
41. Kodner DL. Whole-system approaches to health and social care partnerships for the frail elderly: An exploration of North American models and lessons. *Health and Social Care in the Community* 2006;14(5):384–90.
42. Vedel I, Stampa MD, Bergman H, Ankri J, Cassou B, Mauriat C, et al. A novel model of integrated care for the elderly: COPA, coordination of professional care for the elderly. *Aging* 2008;21(6):414–23.
43. Hellesø R, Lorensen M, Sorensen L. Challenging the information gap—the patients transfer from hospital to home health care. *International Journal of Medical Informatics* 2004;73(7–8):569–80.
44. The Change Foundation. Having their say and choosing their way project. “Catch 22”. Report 2 People’s experience going to long-term care after being hospitalized. Toronto, Ontario; 2009. [cited 2011 10 March]. Available from <http://www.change-foundation.ca/docs/HTSLTCHfinal.pdf>.
45. Statistics Canada. Canadian Institute for Health Information. Health Indicators, 2007. Ottawa, Canada; 2007.
46. Papadimitropoulos EA, Coyte PC, Josse RG, Greenwood CE. Current and projected rates of hip fracture in Canada. *Canadian Medical Association Journal* 1997;157(10):1357–63.