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Clarifying Model for Continuity of Care: A Concept Analysis

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Abstract

Aim

The aim is to clarify the use of the term *continuity* in the specific context of acute care hospitalization and discharge.

Background

The meaning of “continuity” is often co-mingled with other concepts, specifically coordination and communication. To increase usefulness for contemporary concerns with the hospitalization-postdischarge continuum, continuity of care is examined from the specific context of acute hospitalization and discharge.

Design

Concept analysis.

Data Sources

Medline via Ovid, Cochrane Library, Cinahl, and Google Scholar. Search years encompassed 2001–2016.

Review Methods

Rodgers evolutionary concept analysis method.

Results

A total of 50 papers were included in this concept analysis. Synthesis of findings from these papers resulted in a model of continuity of care that illustrates the hierarchical and interdependent relationship between time and setting, patient-provider relationships, communication, and coordination in the context of discharge transitions.

Conclusion

The continuity model provides a framework to assist in the design of multicomponent, interdisciplinary, integrated interventions that can then be tested for their effect on patient care practices and outcomes.

1 INTRODUCTION

Continuity of care has been an omnipresent concept in discussions of health-care transitions. However, clear delineation from related concepts and examination of contextual variation across health care settings is needed (Holland & Harris, **2007**). In the context of the discharge transition from hospital to home, the term *continuity* is often used synonymously or in conjunction with *coordination* and *communication*, leading to confusion of meaning and difficulty in developing measures of continuity (Health Quality Ontario, **2013**; Holland & Harris, **2007**). The impetus for this article emerged during a preliminary exploration of the concept of continuity of care in the context of hospital discharge, where it became apparent that continuity was not distinct from the terms coordination and communication. Defining and operationalizing continuity is a necessary requisite for evaluating its impact on health-care delivery and outcomes.

Improving the hospital discharge transition and postdischarge outcomes are international health-care priorities (Health Quality Ontario, **2013**; Naylor, Aiken, Kurtzman, Olds, & Hirschman, **2011**). Hospital discharge is often associated with a lack of continuity that results in fragmented care and suboptimal outcomes (Biem, Hadjistavropoulos, Morgan, Biem, & Pong, **2003**; Forster et al., **2004**). During the transition from hospital to home, discontinuity caused by changes in location, providers, and level of care (Naylor et al., **2011**) can lead to adverse events (Forster, Murff, Peterson, Gandhi, & Bates, **2003**; Moore, Wisnivesky, William & McGinn, **2003**), readmissions (Forster et al., **2004**; Institute of Medicine (IOM), **2001**), and even death (Forster et al., **2004**). From the patient's perspective, fragmented care can result in dissatisfaction, lack of preparedness for self-managing care, and conflicting advice from caregivers (Bodenheimer, **2008**; Coleman, Parry, Chalmers, & Min, **2006**). Many factors contribute to the lack of continuity of care: poor communication, incomplete transfer information (Balaban, Weissman, Samuel, & Woolhandler, **2008**; Coleman, **2003**; Kripalani et al., **2007**), limited access to

care, and lack of a professional leader to ensure continuity (Coleman, **2003**; Naylor, **2003**). As patients progress through health-care experiences over time, they frequently receive care from multiple providers and organizations. By virtue of these circumstances, clearly defining continuity of care with contextual specificity has become a priority (Haggerty, Roberge, Freeman, & Beaulieu, **2013**; Tarquini, Coletta, Mazzocchi, & Gensini, **2013**).

2 BACKGROUND

There are numerous conceptualizations of continuity in patient care. In the context of the hospital setting, Stifter et al. (**2015a**) considered continuity as a nurse staffing variable (frequency nurses are assigned to the same patient). Others have conceptualized continuity as consistency of provider assignment, the degree of coordination, and quality of communication (Gulliford, Naithani, & Morgan, **2006**). In addition, patients have identified continuity as a relationship, while providers believe it is coordination of activities (Soler et al., **2009**). In the general ambulatory practice setting, continuity of care has recently been conceptualized as involving the concept of time with the provider and “the right nurse” (Desborough et al., **2018**; Desborough, Banfield, Phillips, & Mills, **2017**). In the broader context of continuity of care over time across care episodes, continuity has been described as the extent to which services are connected and consistent with patient needs (Haggerty et al., **2013**). Each of these conceptualizations of continuity points to consistency of assignment and coordination of care as defining characteristics of continuity.

In the 1970s, continuity in nursing care was operationalized in the primary nursing model, by assigning a “primary” or lead nurse to oversee care over the course of hospitalization who would know the patient's needs and assure effective communication and coordination (Manthey, Ciske, Robertson, & Harris, **1970**). A lack of research connecting primary nursing to outcomes (Stifter et al., **2015b**) and cost control efforts contributed to development of team-based staffing models rather than staffing focused on the individual nurse-patient relationship (Bostrom, Tisnado, Zimmer, & Lazar, **1994**). In a systematic review (Sparbel & Anderson, **2000a**, **2000b**), no consensus definition of continuity of care was found, and few nurse staffing models and no standardization in measurement of continuity were evident.

A resurgence of interest in continuity of care emerged in the early 2000s when shifts in postdischarge services and the need for postdischarge planning became predominant concerns (Holland & Harris, **2007**). In a review of the concept of continuity across disciplines, Haggerty et al. (**2003**) identified 3 types of continuity: management continuity (consistent approach that responds to changing needs), relational continuity (provider-patient relationship), and informational continuity (information transfer and use of past events for decision-making). Numerous authors have since used this framework (Biem et al., **2003**; Hadjistavropoulos, Biem, Sharpe, Bourgault-Fagnou, & Janzen, **2008**; Soler et al., **2009**; van Servellen, Fongwa, & D'Errico, **2006**; van Walraven, Oake, Jennings, & Forster, **2010a**; Waibel, Henao, Aller, Vargas, & Vasquez, **2011**).

Holland and Harris (**2007**) attempted to further clarify the meaning of continuity in relation to the terms “transitional care,” “discharge planning,” and “coordination of care” through examination of white papers and recent literature reviews. The main attributes that differentiate continuity from the other related concepts were a focus on the patient and a temporal nature. Throughout this historical examination of the concept of continuity, it became clear that the descriptions of continuity,

communication, and coordination are co-mingled and often grouped together. To increase usefulness for contemporary concerns with the hospitalization-postdischarge continuum, the aim of this concept analysis was to clarify the use of the terms *continuity*, *coordination*, and *communication* in the specific context of acute care hospitalization and discharge, with synthesis of a visual model to display distinctiveness and interrelatedness.

3 METHODS

3.1 Design

The concept analysis was conducted using Rodgers' evolutionary approach (Rodgers, **2000**). Rodgers' approach is an inductive process of exploring the concept through its common use to reveal defining attributes. Clarification of concepts through the analysis of common uses is an important step in the process of developing concept descriptions and definitions (Rodgers, **2000**, p. 80). The resulting concept descriptions then provide a structured classification for testing for contemporary relevance. Consistent with Rodgers' evolutionary approach, following the initial historical review of the concept of continuity and the identification of the lack of conceptual differentiation, the literature exploration and analysis expanded to include sources on continuity, coordination, and communication related to hospital discharge.

The concept analysis followed the 6 steps of the evolutionary approach: (1) Identify the concept of interest and associated or surrogate terms; (2) identify and select the appropriate realm (sample and setting) for data collection; (3) collect data relevant to identifying the attributes of the concept and the contextual basis; (4) analyse data regarding the attributes and interdisciplinary, sociocultural, and temporal contexts as appropriate; (5) identify an exemplar; and (6) identify implications, hypotheses, and future development opportunities (Rodgers, **2000**).

3.2 Search Methods

The literature search and selection strategy (Figure 1) reflected the need for clarification of the term continuity with communication and coordination as used in the discharge transition process. The search terms included "continuity of care," "coordination," "coordination of care," "communication," "relational continuity," "informational continuity," and "management continuity," "transitional care," and "coordination of care." The following databases were used: MEDLINE via Ovid, Cochrane Library, and CINAHL. An additional search was done using GOOGLE Scholar, limiting to peer-reviewed, professional journal articles. The inclusion criteria included published in English during the last 15 years (2001–2016), adult and paediatric population, discharged from hospital to home, or review articles capturing the role of continuity. The exclusion criteria include duplicate articles, non-English sources, articles from the disciplines of obstetrics and psychology where the context of hospitalization and discharge is different than for acute medical care. Further relevant articles were identified by ancestral (hand) searching of the reference lists of retained studies.

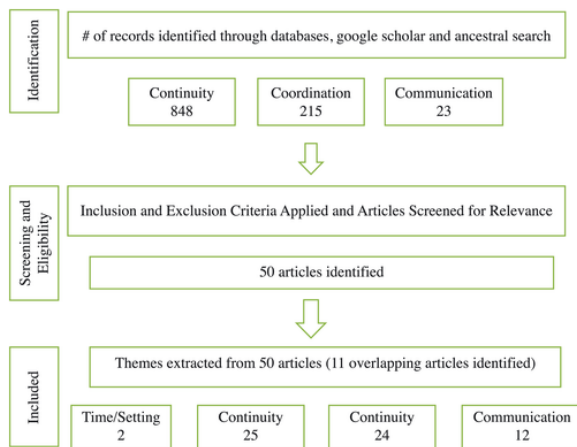


Figure 1 Flow chart of search strategy

3.3 Search Outcome

Initial results yielded 848 articles for continuity, 215 for coordination, and 23 for communication. After applying inclusion and exclusion criteria, 50 articles with relevant content were identified for inclusion in the analysis (Table 1).

Table 1. List of included articles by key concepts

Concept	Author and Date	Type of Source
Continuity	Agency for Healthcare Research and Quality (AHRQ) (2013)	Website
	Biem et al. (2003)	Case study
	Bostrom et al. (1994)	Correlational, nonexperimental
	Burge et al. (2011)	Instrument comparison
	Coleman et al. (2006)	Randomized control trial
	Coleman et al. (2004)	Quasi-experimental
	Curley (2007)	Quality improvement
	Curley and Hickey (2006)	Presentation of a model
	Haggerty et al. (2013)	Qualitative
	Haggerty et al. (2003)	Integrative review
	Kelley et al. (2013)	Descriptive qualitative study
	Naylor et al. (2011)	Systematic review of the literature
	Naylor et al. (2013)	Prospective (cohort)
	Naylor et al. (2004)	Randomized controlled trial
	Pandhi and Saultz (2006)	Integrative literature review
	Siow et al. (2013)	Secondary analysis of existing data
	Snow et al. (2009)	Consensus of American College of Physicians
	Stifter, Yao, Lodhi, et al. (2015a)	Presentation of a conceptual model
	Stifter, Yao, Lopez, et al. (2015b)	Secondary analysis of data
	Uijen et al. (2012)	Historical overview of a concept
	Uijen et al. (2010)	Discussion paper

	van Walraven, Oake, et al. (2010a)	Systematic review
	Waibel et al. (2011)	Descriptive, qualitative meta-synthesis
	Yakusheva et al. (2016)	Retrospective longitudinal analysis
	Zolnierrek (2014)	Integrative review of the literature
Communication	Agency for Healthcare Research and Quality (AHRQ) (2013)	Website
	Balaban et al. (2008)	Randomized controlled study
	Hadjistavropoulous et al. (2008)	Testing psychometric properties of an instrument
	Kripalani et al. (2007)	Systematic review of the literature
	National Quality Forum (2010)	Consensus report
	National Quality Forum (2014)	Technical report
	Radwin et al. (2015)	Description of theoretical framework
	Roughead et al. (2011)	Secondary analysis of claims data
	Snow et al. (2009)	Consensus of American College of Physicians
	Soler et al. (2009)	Longitudinal, prospective, and observational
	van Walraven, Taljaard, et al. (2010b)	Prospective cohort study
	Waibel et al. (2011)	Descriptive, qualitative meta-synthesis
Coordination	Biem et al. (2003)	Case study
	Bodenheimer (2008)	Health policy report
	Cawthon et al. (2012)	Follow-up survey to original RCT
	Coleman (2016)	Program website
	Coleman et al., 2004	Quasi-experimental
	Dyrstad et al. (2015)	Qualitative-participant observational design
	Efraimsson et al. (2004)	Qualitative
	Fitzgerald et al. (2011)	Qualitative constructivist Design
	Gardner et al. (2014)	Quasi-experimental cohort
	Graumlich et al. (2008)	Instrument psychometric testing
	Hachem et al. (2014)	Retrospective cross-sectional
	Harrison et al. (2012)	Cross-sectional postal survey
	Hirschman et al. (2015)	Summary of evidence for a program
	Holland and Harris (2007)	Review of use of terms
	Jack et al. (2009)	Randomized controlled trial
	Naylor et al. (2013)	Prospective (cohort)
	Naylor et al. (2004)	Randomized controlled trial
	National Quality Forum (2010)	Consensus report

	National Quality Forum (2015)	Executive summary
	Radwin et al. (2015)	Description of theoretical framework
	Reid et al. (2002)	Canadian health series report
	Uijen et al. (2012)	Historical overview of a concept
	Waibel et al. (2011)	Descriptive, qualitative meta-synthesis
	Weiss et al. (2015)	Presentation of a model
Time/setting	Coleman et al. (2006)	Program website
	Naylor et al. (2011)	Systematic review of the literature

3.4 Data Analysis and Synthesis

Each article was read once by the first author to understand the general tone and then read at least one more time with emphasis on specific key words and phrases describing attributes and contextual variations. These key words and phrases were documented and clustered together. Multiple iterative sessions of analysis followed; words and phrases were tabulated and clustered within and across the concepts of continuity, communication, and coordination to identify commonalities and uniqueness. The process ended in the development of 4 themes that described the attributes of continuity of care related to hospital discharge. A visual model was developed for visualization of the relationships among the attributes.

4 FINDINGS

The results of the analysis revealed an overlapping and hierarchical relationship among the 3 dimensions of continuity: patient-provider relationship, communication, coordination. These dimensions relate to the 3 types of continuity identified by Haggerty et al. (2003) (relational continuity, informational continuity, and management continuity). In addition, the need for continuity only exists in the presence of changes in time and setting and is therefore foundational to the 3 dimensions of continuity. The relational continuity of the patient-provider relationship creates the necessity for communication of information across time, settings, and providers. Further, the patient-provider relationship and the communication to exchange information (informational continuity) lead to the ability to coordinate by linking and sequencing care (management continuity). The dimensions of continuity were synthesized into a conceptual model; the pyramid form demonstrates that each component is foundational to the next in the hierarchy (Figure 2).

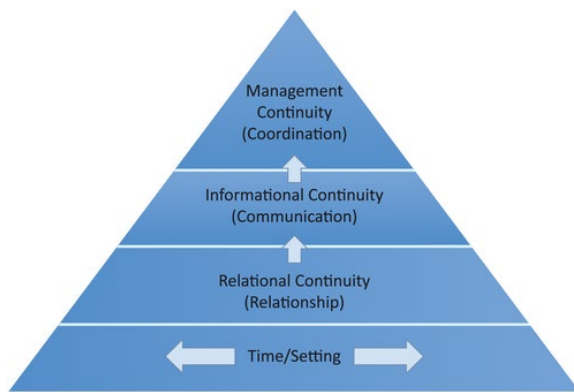


Figure 2 The continuity model

4.1 Time and setting

“Time and setting” refers to the connectedness across time and setting in patient-provider relationships, communication, and coordination. Over time, a patient may visit multiple providers and receive care in several locations (eg, hospital, home health, and clinics), relying on communication of updated information between providers for optimal care and coordination to link care services in the best and timely sequence. Patients who experience care across time and settings are vulnerable to fragmented and omitted care in the absence of consistent professional support for optimal communication and coordination (Coleman et al., **2006**; Naylor et al., **2011**). These vulnerable periods provide unique opportunities for developing and testing interventions in varying settings over different durations to enhance levels of continuity of care.

4.2 Patient-provider relationship (relational continuity)

Continuity requires that care is connected over time and place through a patient-engaging relationship with providers (Naylor et al., **2004**; Snow et al., **2009**; Waibel et al., **2011**). Consistent relationships between patients and providers afford the opportunity for timely and complete information transfer. Continuity in the patient-provider relationship is foundational to communication (informational continuity) and coordination (management continuity). This relationship can occur with the same provider over time and/or across settings. Embedded in the patient-provider relationship is engagement, an attribute essential to both communication and coordination. Engaging the patient and family promotes a safe and effective discharge transition (AHRQ, **2013**). Even if the provider is consistent, a high, quality patient-provider relationship will have difficulty developing if the patient and/or family are not actively involved.

Relational continuity transpires in the context of a relationship with a patient. This therapeutic relationship must be patient-centred and driven by the needs of the patient. Curley (**2007**) identified the contribution of nursing to continuity of care as an increased awareness, understanding, and competence for patients, families, and nurses accomplished through a reciprocal knowing that develops by spending time together. In the reality of the practice environment, the process of patients and providers coming to know each other, which requires time, availability, sustained contact, and continuity, is often not supported or prioritized (Zolnierek, **2014**).

The importance of the patient-provider relationship, specifically the nurse-patient relationship, was identified in a meta-synthesis of qualitative studies examining continuity of care. The results suggested

that patients emphasized the importance of experiencing a continuing relationship with the same person and that assignment of the same person fosters relational continuity (Waibel et al., **2011**). The comfort provided by ongoing relationships with nurses was found to influence decision-making, appointment attendance, discussion of sensitive issues, and adherence to discharge plans, patient knowledge development (Pandhi & Saultz, **2006**), and an accumulation of provider knowledge centred on the patient's unique needs (Burge et al., **2011**). Nurses identified knowing the patient both clinically and personally as essential to providing care for the patient as a unique person with individual needs (Kelley, Docherty, & Brandon, **2013**).

Patient-centred care with consistent, engaged relationships between providers and patients is consistently listed as a key attribute of relational continuity (Haggerty et al., **2013**; Snow et al., **2009**; Waibel et al., **2011**). Patient-centred refers to individualized, patient-defined care developed around patient preferences (Naylor et al., **2013**; Uijen, Schers, Schellevis, & van den Bosh, **2012**; Uijen, Schers, & van Weel, **2010**). Patients place value on providers knowing what has happened throughout the continuum of care, establishing a mutually agreed upon care plan, recognizing the detail of their individual situations, and thinking forward to future needs (Haggerty et al., **2003**; van Walraven, Oake, et al., **2010a**).

The patient-provider relationship is an essential link across settings. Continuity can occur in situations that involve single or multiple providers (Coleman et al., **2004**; Coleman et al., **2006**), but fundamental to continuity is an element of consistency in personnel as well as communication and coordination among these personnel (Biem et al., **2003**; Naylor et al., **2011**; Siow, Wypij, & Berry, **2013**; Waibel et al., **2011**). Successful health system design to promote continuity of care assumes that there is a care provider in every setting that has a relationship with and knows the patient as an individual (Uijen et al., **2012**; van Walraven, Oake, et al., **2010a**). A consistent relationship allows the provider to make the patient “known” to other providers in connecting care within and across practice settings.

Continuity in nursing assignment is rarely studied; in the acute care nursing literature, there are only 5 studies focusing on nursing continuity and its effect on patient outcomes (Bostrom et al., **1994**; Curley & Hickey, **2006**; Siow et al., **2013**; Stifter, Yao, Lodhi, et al., **2015a**; Yakusheva, Costa, & Weiss, **2016**). When measuring continuity as constancy (consecutive care days with the same RN) and consistency (number of shifts with the same nurse), it was found that, while patients were rarely cared for by the same nurse, continuity was related to several aspects of patient satisfaction, including nursing skills, compassion, patient involvement in care, instruction, and promptness (Bostrom et al., **1994**). Using the Continuity of Care Index (amount of continuity expressed by dividing the number of different nurses caring for a patient by the number of nursing shifts during a hospitalization), greater continuity contributed to increased mutual knowledge between patients, families, and nurses (Curley & Hickey, **2006**). Patients with greater disease burden were more likely to receive increased nurse continuity, but nurse continuity was not associated with a significant reduction in adverse events or ICU acquired infections (Siow et al., **2013**).

Using the percent of consecutive days cared for by the same RNs over the care episode as a continuity index, continuity was generally low on all study units and no significant association with pressure ulcers was found (Stifter, Yao, Lodhi, et al., **2015a**). However, these studies may have been biased toward an underestimate of the role of continuity for patient outcomes because patients with a longer length of

stay have a better chance of being cared for by the same nurses and are at greater risk for poorer outcomes (Yakusheva et al., **2016**). In a study design addressing these biases, discontinuity, defined as assignment of the patient to a nurse with no prior assignment to the same patient, was high in acute care nursing assignments and negatively impacted the patient's clinical condition, measured using a composite clinical condition index (Yakusheva et al., **2016**). Inconsistent definition and measurement of continuity in the nurse-patient relationship has produced limited evidence to date linking nurse relational continuity to patient outcomes (Stifter, Yao, Lopez, et al., **2015b**).

4.3 Communication (informational continuity)

The patient-provider relationship is foundational to the exchange of information. Communication is the sharing of information relevant to patient care. It encompasses communication between patients/families and providers, as well as between providers, and considers the relevance of a patients' past, present situation, and plans for the future (NQF, **2014**; Radwin, Castonguay, Keenan, & Hermann, **2015**; Soler et al., **2009**). Sharing of information has been described as a necessary component of continuity and a requisite activity of coordination (National Quality Forum [NQF], **2010**); lack of communication between providers and patients and families results in a lack of continuity in care (Kripalani et al., **2007**). The National Quality Forum has identified preferred practices for information transfer related to the discharge transition (NQF, **2010**) and the Agency for Quality and Healthcare Research has developed an IDEAL (Include, Discuss, Educate, Assess, Listen) discharge plan that promotes effective communication during the discharge planning process (AHRQ, **2013**).

To achieve informational continuity of care, there must be timely (Kripalani et al., **2007**; Roughead, Kalisch, Ramsay, Ryan, & Gilbert, **2011**; Snow et al., **2009**), complete, and accurate (Balaban et al., **2008**; Kripalani et al., **2007**) transfer of discharge summaries or information among all providers and settings (Balaban et al., **2008**; Kripalani et al., **2007**; Waibel et al., **2011**). This transfer of information allows care providers to make care decisions based on an accurate picture and timeline of past events (Hadjistavropoulos et al., **2008**; van Walraven et al., **2010b**; Waibel et al., **2011**). Communication is the link between the patient-provider relationship and coordination of patient care.

4.4 Coordination (management continuity)

Coordination is fundamental to the provision of high quality health care. Poorly coordinated care can result in errors, readmissions, and avoidable medical visits (NQF, **2015**). As the number of health-care professionals and settings involved in the care of a patient increases, the coordination of care becomes more difficult, and at the same time more necessary in order to avoid duplication and confusion (Bodenheimer, **2008**).

Historically, coordination has been generally understood, but more than 40 definitions have been identified by numerous stakeholder groups (NQF, **2010**, **2015**). Coordination has been described as care integration through the linking, planning, and sequencing of care (Holland & Harris, **2007**; Reid, Haggerty, & McKendry, **2002**) and the “deliberate synchronization of activities and information to improve health outcomes by ensuring that care recipients' and families' needs and preferences for health care and community services are met over time” (NQF, **2015**). Discharge coordination, an exemplar of care coordination, involves “implementation of actions targeted to smoothing the transition from hospital and diminishing problems after discharge through arranging, linking, and/or

sequencing transition support services across providers and care delivery systems” (Weiss et al., **2015**, p. 609). Coordinating actions by the care team are related to managing the components of care aligned to the patient's needs over time and creating reliable communication mechanisms to promote continuity.

The attributes of coordination overlap with those of patient-provider relationship and communication (Radwin et al., **2015**). Coordination involves engagement and empowerment of the patient and family in order to ensure effective care coordination (Dyrstad, Laugaland, & Storm, **2015**; Fitzgerald, Bauer, Koch, & King, **2011**; Waibel et al., **2011**). Patient contributions must be considered so patients feel in control and not pressured to follow a plan they did not develop (Efraimsson, Sandman, Hyden, & Rasmussen, **2004**; Graumlich, Novotny, & Aldag, **2008**). Coordinated care requires a foundation of patient-centred care, individualized and planned based on patient preference and expectations (Dyrstad et al., **2015**; Hachem, Canar, Fullman, Gallan, & Hohmann, **2014**). The discharge plan must be developed and negotiated with collaborative solutions developed by health-care providers, patients, and families (Efraimsson et al., **2004**; Hirschman, Shaid, McCauley, Pauly, & Naylor, **2015**). For example, patients and caregivers are integral in the development of a contingency plan with their providers for worsening symptoms (Gardner et al., **2014**; Jack et al., **2009**).

Communication, built on the patient-provider relationship, is also a necessary prerequisite for coordinated care. If a relationship is not developed and communication is poor and inaccurate, it leads to poorly coordinated care (NQF, **2010**). To effectively coordinate care, communication in the form of open-ended dialogue among the health-care team, which includes patient and family, supports the development of a shared plan of care (NQF, **2010**).

Coordinated care must involve the appropriate resources (Coleman, **2016**; Harrison et al., **2012**), include continued and ongoing support (Dyrstad et al., **2015**), and incorporate multiple perspectives (physician, nurses, patient, caregiver, etc.) (Cawthon et al., **2012**; Naylor et al., **2013**) to effectively meet the needs of patients. Coordination fosters collaboration in working to develop a common goal between providers and patients (Biem et al., **2003**; Coleman et al., **2004**) and between providers themselves (Coleman et al., **2004**; Naylor et al., **2004**; Uijen et al., **2012**).

5 DISCUSSION

The concept of continuity has evolved as postdischarge planning services have become primary initiatives. The continuity model (Figure 2) findings extend the work of prior authors by structuring a hierarchical model of continuity that identifies changes in time and setting as a definitional requisite, patient-provider relationship as foundational to communication, and both as necessary for effective coordination. Continuity of care for discharge transitions includes all 3 types of continuity as described by Haggerty et al. (**2003**) but linked together hierarchically. Continuity only occurs when all dimensions are aligned and integrated; deficiencies and poor outcomes occur when all components are not aligned.

In the specific exemplar situation of hospital to home transitions, nurses take on roles in planning, coordinating, and teaching in preparation for discharge (Weiss et al., **2015**) and in follow-up after discharge (Naylor et al., **2004**) that require the relationship, communication, and coordination dimensions of the continuity model. The function of the nurse in relation to continuity of transitional

care is to act as a leader, advocate, and coach (Coleman et al., **2006**; Jack et al., **2009**; Naylor et al., **2011**) in order to make connections with providers and services across the times and settings of the health-care experience of a patient. The identification of the characteristics of continuity as patient-provider relationships, communication, and coordination highlights specific areas of patient care, each with different but complementary strategies for targeted nursing interventions.

This new hierarchical conceptualization of continuity has important implications for the design of nurse continuity in health-care systems. Assurance that all components of the model are in place should increase the likelihood of cohesive care and impact the plan of care, patient safety, readmission, and satisfaction. For example, continuity of care in inpatient acute care nurse staffing assignments needs to be paired with communication of information between and across shifts and with coordination of discharge preparation tasks to fully prepare the patient for discharge. Continuity from hospital to home or to other levels of care is maximized when there is planning for provider continuity, information exchange, and seamless coordination of services in the transitional period. Quality measurement and research related to continuity should include all key attributes to adequately evaluate its impact on outcomes during and after hospitalization.

5.1 Limitations

This concept analysis was limited to the context of discharge following hospitalization for acute care. Continuity is a concern that occurs across the care continuum and other attributes of continuity might emerge in searches of other contexts, such as obstetrical care, psychiatric/mental health settings, or ambulatory nursing practice (Desborough et al., **2016**). Linking the terms patient-provider relationship, communication, and coordination to Haggerty's description of continuity may have obscured the expression of more subtle aspects of continuity. All relevant research and nonresearch-based articles meeting literature search criteria were included in the review. Reviews using other methods, such as systematic reviews, may include a more restricted set of articles based on quality criteria and result in different syntheses of findings.

6 CONCLUSION

Continuity of care is an important process of care to achieve desired care transition outcomes specifically related to the hospital/postdischarge continuum. This concept analysis clarifies the use of the term continuity in relation to other commonly and jointly used terms in the discharge transition, specifically communication and coordination. The continuity model provides an organizing framework to clearly delineate the hierarchical and interdependent relationship of the 3 components of continuity of care (patient-provider relationship, communication, and coordination) in the context of the hospital discharge transition. The model provides a framework for the design of multicomponent, interdisciplinary interventions to prevent fragmented care. Each component can be mobilized to contribute to continuity of care and can be measured and evaluated for its effect on patient care practices and outcomes.

AUTHORSHIP STATEMENT

SJB conceived the topic, conducted the literature review, performed the syntheses, and developed the model in addition to drafting the article, revising it, and handling final approval. MEW assisted in the

literature review and syntheses as well as critically revising the article for important content, and issuing final approval of the version to be published. All authors approved the final version of the manuscript for submission.

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This was not human subjects' research and did not require IRB approval.

DECLARATION OF CONFLICTING INTERESTS

The authors declare no conflict of interest.

REFERENCES

- Agency for Healthcare Research and Quality (AHRQ) (2013). Strategy 4: Care transitions from hospital to home: IDEAL discharge planning. <https://www.ahrq.gov/professionals/systems/hospital/engagingfamilies/strategy4/index.html>
- Balaban, R. B., Weissman, J. S., Samuel, P. A., & Woolhandler, S. (2008). Redefining and redesigning hospital discharge to enhance patient care: A randomized controlled study. *Journal of General Internal Medicine*, **23**(8), 1228– 1233. <https://doi.org/10.1007/s11606-008-0618-9>
- Biem, H. J., Hadjistavropoulos, H., Morgan, D., Biem, H. B., & Pong, P. W. (2003). Breaks in continuity of care and the rural senior transferred for medical care under regionalization. *International Journal of Integrated Care*, **3**(29), 1– 13.
- Bodenheimer, T. (2008). Coordinating care—a perilous journey through the healthcare system. *New England Journal of Medicine*, **258**(10), 1064– 1071. <https://doi.org/10.1056/NEJMHpr0706165>
- Bostrom, J., Tisnado, J., Zimmer, J., & Lazar, N. (1994). The impact of continuity of nursing care personnel on patient satisfaction. *Journal of Nursing Administration*, **24**(10), 64– 68. <https://doi.org/10.1097/00005110-199410000-00012>
- Burge, F., Haggerty, J. L., Pineault, R., Beaulieu, M. D., Levesque, J. F., Beaulieu, C., & Santor, D. A. (2011). Relational continuity from the patient perspective: Comparison of primary healthcare evaluation instruments. *Health Policy*, **7**, 124– 138. <https://doi.org/10.12927/hcpol.2011.22637>
- Cawthon, C., Walia, S., Osborn, C. Y., Niesner, K. J., Schnipper, J. L., & Kripalani, S. (2012). Improving care transitions: The patient perspective. *Journal of Health Communication*, **17**, 312– 324. <https://doi.org/10.1080/10810730.2012.712619>
- Coleman, E. A. (2003). Improving the quality of transitional care for persons with complex care needs. *Journal of the American Geriatrics Society*, **51**(4), 556– 557. <https://doi.org/10.1046/j.1532-5415.2003.51186>
- Coleman, E. A. (2016). The care transitions program. Retrieved from <http://caretransitions.org/about-the-care-transitions-intervention/>
- Coleman, E. A., Parry, C., Chalmers, S., & Min, S. (2006). The care transitions intervention: Results of a randomized controlled trial. *Archives of Internal Medicine*, **166**(17), 1822– 1828. <https://doi.org/10.1001/archinte.166.17.1822>
- Coleman, E. A., Smith, J. D., Frank, J. C., Min, S., Parry, C., & Kramer, A. M. (2004). Preparing patients and caregivers to participate in care delivered across settings: The care transitions model. *Journal of the American Geriatrics Society*, **52**(11), 1817– 1825. <https://doi.org/10.1111/j.1532-5415.2004.52504>

- Curley, M. (2007). Synergy: The unique relationship between nurses and patients, the AACN synergy model for patient care. Indianapolis, IN: Sigma Theta Tau International, American Association of Critical-Care Nurses.
- Curley, M., & Hickey, P. A. (2006). The nightingale metrics. *Advanced Journal of Nursing*, **106**(10), 66– 70. <https://doi.org/10.1097/00000446-200610000-00036>
- Desborough, J., Bagheri, N., Banfield, M., Mills, J., Phillips, C., & Korda, R. (2016). The impact of general practice nursing care on patient satisfaction and enablement in Australia: A mixed methods study. *International Journal of Nursing Studies*, **64**, 108– 119. <https://doi.org/10.1016/j.ijnurstu.2016.10.004>
- Desborough, J., Banfield, M., Phillips, C., & Mills, J. (2017). The process of patient enablement in general practice nurse consultation: A grounded theory study. *Journal of Advanced Nursing*, **73**(5), 1085– 1096. <https://doi.org/10.1111/jan.13199>
- Desborough, J., Phillips, C., Mills, J., Korda, R., Bagheri, N., & Banfield, M. (2018). Developing a positive patient experience with nurses in general practice: An integrated model of patient satisfaction and enablement. *Journal of Advanced Nursing*, **74**(3), 564– 578. <https://doi.org/10.1111/jan.13461>
- Dyrstad, D. N., Laugaland, K. A., & Storm, M. (2015). An observational study of older patients' participation in hospital admission and discharge—Exploring patient and next of kin perspectives. *Journal of Clinical Nursing*, **24**, 1693– 1706. <https://doi.org/10.1111/jocn.12773>
- Efrimsson, E., Sandman, P. O., Hyden, L., & Rasmussen, B. H. (2004). Discharge planning: “fooling ourselves?”—Patient participation in conferences. *Journal of Clinical Nursing*, **13**(5), 562– 570. <https://doi.org/10.1111/j.1365-2702.2004.00900.x>
- Fitzgerald, L. R., Bauer, M., Koch, S. H., & King, S. J. (2011). Hospital discharge: Recommendations for performance improvement for family carers of people with dementia. *Australian Health Review*, **35**(3), 364– 370. <https://doi.org/10.1071/AH09811>
- Forster, A. J., Clark, H. D., Menard, A., Dupuis, N., Chernish, R., Chandok, N., ... Walraven, C. V. (2004). Adverse events among medical patients after discharge from hospital. *Canadian Medical Association Journal*, **170**(3), 345– 349. <https://doi.org/10.1053/cmaj.1040215>
- Forster, A. J., Murff, H. J., Peterson, J. F., Gandhi, T. K., & Bates, D. W. (2003). The incidence and severity of adverse events affecting patients after discharge from the hospital. *Annals of Internal Medicine*, **138**(3), 161– 167. <https://doi.org/10.7326/0003-4819-138-3-200302040-00007>
- Gardner, R., Qijuan, L., Baier, R. R., Butterfield, K., Coleman, E. A., & Gravenstein, S. (2014). Is implementation of the care transitions intervention associated with cost avoidance after hospital discharge? *Journal of General Internal Medicine*, **29**(6), 878– 884. <https://doi.org/10.1007/s11606-014-2814-0>
- Graumlich, J. F., Novotny, N. L., & Aldag, J. C. (2008). Brief scale measuring patient preparedness for hospital discharge to home: Psychometric properties. *Journal of Hospital Medicine*, **3**(6), 446– 454. <https://doi.org/10.1002/jhm.316>
- Gulliford, M., Naithani, S., & Morgan, M. (2006). What is ‘continuity of care. *Journal of Health Service Reserve Policy*, **11**(4), 248– 250. <https://doi.org/10.1258/135581906778476490>
- Hachem, F., Canar, J., Fullman, F., Gallan, A. S., & Hohmann, S. (2014). The relationships between HCAHPS communication and discharge satisfaction items and hospital readmissions. *Patient Experience Journal*, **1**(2), 71– 77.

- Hadjistavropoulos, H., Biem, H., Sharpe, D., Bourgault-Fagnou, M., & Janzen, J. (2008). Patient perception and validity of a patient continuity of care questionnaire. *International Journal for Quality in Health Care*, **20**(5), 314– 323. <https://doi.org/10.1093/intqhc/mzn030>
- Haggerty, J. L., Reid, R. J., Freeman, G. K., Starfield, B. H., Adair, C. E., & McKendry, R. (2003). Continuity of care: A multidisciplinary review. *British Medical Journal*, **327**(7425), 1219– 1221. <https://doi.org/10.1136/bmj.327.7425.1219>
- Haggerty, J. L., Roberge, D., Freeman, G. K., & Beaulieu, C. (2013). Experienced continuity of care when patients see multiple clinicians: A qualitative metasummary. *Annals of Family Medicine*, **11**(3), 262– 271. <https://doi.org/10.1370/afm.1499>
- Harrison, S. E., Watson, E. K., Ward, A. M., Khan, N. F., Turner, D., Adams, E., ... Rose, P. W. (2012). Cancer survivors' experiences of discharge from hospital follow up. *European Journal of Cancer Care*, **21**, 390– 397. <https://doi.org/10.1111/j.1365-2354.2011.01312.x>
- Health Quality Ontario (2013). Continuity of care to optimize chronic disease management in the community setting: An evidence-based analysis. *Ontario Health Technology Assessment Series*, **13**(6), 1– 41. <http://www.hqontario.ca/Portals/0/Documents/evidence/reports/full-report-continuity-care-ocdm-130906-en.pdf>
- Hirschman, K. B., Shaid, E., McCauley, K., Pauly, M. V., & Naylor, M. D. (2015). Continuity of care: The transitional care model. *The Online Journal of Issues in Nursing*, **20**(3), Manuscript), 1.
- Holland, D. E., & Harris, M. R. (2007). Discharge planning, transitional care, coordination of care, and continuity of care: Clarifying concepts and terms from the hospital perspective. *Home Health Services Quarterly*, **26**(4), 3– 19. https://doi.org/10.1300/J027v26n04_02
- Institute of Medicine (IOM) (2001). *Crossing the quality chasm*. Washington, DC: National Academy Press.
- Jack, B. W., Chetty, V. K., Anthony, D., Greenwald, J. L., Sanchez, G. M., Johnson, A. E., ... Culpepper, L. (2009). A reengineered hospital discharge program to decrease rehospitalization. *Annals of Internal Medicine*, **150**(3), 178– 187. <https://doi.org/10.7326/0003-4819-150-3-200902030-00007>
- Kelley, T., Docherty, S., & Brandon, D. (2013). Information needed to support knowing the patient. *Advanced Nursing Science*, **36**(4), 351– 363. <https://doi.org/10.1097/ANS.0000000000000006>
- Kripalani, S., LeFevre, F., Phillips, C. O., Williams, M. V., Basaviah, P., & Baker, D. W. (2007). Deficits in communication and information transfer between hospital-based and primary care physicians. *Journal of the American Medical Association*, **297**(8), 831– 841. <https://doi.org/10.1001/jama.297.8.831>
- Manthey, M., Ciske, K., Robertson, P., & Harris, I. (1970). Primary nursing: A return to the concept of “my nurse” and “my patient.”. *Nursing Forum*, **9**(1), 65– 83. [https://doi.org/10.1016/S0020-7489\(03\)00064-6](https://doi.org/10.1016/S0020-7489(03)00064-6)
- Moore, C., Wisnivesky, J., Williams, S., & McGinn, T. (2003). Medical errors related to discontinuity of care from an inpatient to an outpatient setting. *Journal of General Internal Medicine*, **18**(8), 646– 651. <https://doi.org/10.1046/j.1525-1497.2003.20722.x>
- National Quality Forum (NQF) (2010). Preferred practices and performance measures for measuring and reporting care coordination: A consensus report. Retrieved from http://www.qualityforum.org/Publications/2010/10/Preferred_Practices_and_Performance_Measures_for_Measuring_and_Reporting_Care_Coordination.aspx
- National Quality Forum (NQF) (2014). NQF-endorsed measures for care coordination: Phase 3 technical report.

- National Quality Forum (NQF) (2015). Priority setting for healthcare performance measurement: Addressing performance measure gaps in care coordination. Retrieved from http://www.qualityforum.org/Publications/2014/08/Priority_Setting_for_Healthcare_Performance_Measurement__Addressing_Performance_Measure_Gaps_in_Care_Coordination.aspx
- Naylor, M. D. (2003). Nursing intervention research and quality of care: Influencing the future of healthcare. *Nursing Research*, **52**(6), 380– 385. <https://doi.org/10.1097/00006199-200311000-00005>
- Naylor, M. D., Aiken, L. H., Kurtzman, E. T., Olds, D. M., & Hirschman, K. B. (2011). The care span: The importance of transitional care in achieving health reform. *Health Affairs*, **30**(4), 746– 754. <https://doi.org/10.1377/hlthaff.2011.0041>
- Naylor, M. D., Bowles, K. H., McCauley, K. M., Maccoy, M. C., Maislin, G., Pauly, M., & Krakauer, R. (2013). High-value transitional care: Translation of research into practice. *Journal of Evaluation in Clinical Practice*, **19**, 727– 733. <https://doi.org/10.1111/j.1365-2753.2011.01659.x>
- Naylor, M. D., Brooten, D. A., Campbell, R. L., Maislin, G., McCauley, K., & Schwartz, J. S. (2004). Transitional care of older adults hospitalized with heart failure: A randomized, controlled trial. *Journal of the American Geriatrics Society*, **52**(5), 675– 684. <https://doi.org/10.1111/j.1532-5415.2004.52202.x>
- Pandhi, N., & Saultz, J. W. (2006). Patients' perceptions of interpersonal continuity of care. *Journal of the American Board of Family Medicine*, **19**, 390– 397. <https://doi.org/10.3122/jabfm.19.4.390>
- Radwin, L. E., Castonguay, D., Keenan, C. B., & Hermann, C. (2015). An expanded theoretical framework of care coordination across transitions in care settings. *Journal of Nursing Care Quality*, **00**(00), 1– 6. <https://doi.org/10.1097/NCQ.0000000000000165>
- Reid, R., Haggerty, J., & McKendry, R. (2002). Defusing the confusion: Concepts and measures of continuity in healthcare. Final Report. Canadian Health Services Research Foundation.
- Rodgers, B. L. (2000). Concept analysis: An evolutionary view. In B. L. Rodgers, & K. A. Knafl (Eds.), *Concept development in nursing* (2nd ed.) (pp. 77– 117). Philadelphia, PA: W.B. Saunders.
- Roughead, E. E., Kalisch, L. M., Ramsay, E. N., Ryan, P., & Gilbert, A. L. (2011). Continuity of care: When do patients visit community healthcare providers after leaving the hospital. *Internal Medicine Journal*, **41**(9), 662– 667. <https://doi.org/10.1111/j.1445-5994.2009.02105.x>
- Siow, E., Wypij, D., & Berry, P. (2013). The effect of continuity in nursing care on patient outcomes in the pediatric intensive care unit. *Journal of Nursing Administration*, **43**(7/8), 394– 402. <https://doi.org/10.1097/NNA.0b013e31829d61e5>
- Snow, V., Beck, D., Budnitz, T., Miller, D. C., Potter, J., Wears, R. L., ... Williams, M. V. (2009). Transitions of care consensus policy statement American College of Physician-Society of General Internal Medicine-Society of Hospital Medicine-American Geriatrics Society-American College of Emergency Physicians-Society of Academic Emergency Medicine. *Journal of General Internal Medicine*, **24**(8), 971– 976. <https://doi.org/10.1007/s11606-009-0969-x>
- Soler, R. S., Canal, D. J., Noguer, C. B., Poch, C. G., Motge, N. B., & Gil, N. B. M. (2009). Continuity of care and monitoring pain after discharge: Patient perspective. *Journal of Advanced Nursing*, **66**(1), 40– 48. <https://doi.org/10.1111/j.1365-2648.2009.05136.x>
- Sparbel, K. J. H., & Anderson, M. A. (2000a). A continuity of care integrative literature review, Part 1: Conceptual issues. *Journal of Nursing Scholarship*, **32**(2), 17– 24. <https://doi.org/10.1111/j.1547-5069.2000.00017.x>

- Sparbel, K. J. H., & Anderson, M. A. (2000b). A continuity of care integrative literature review, Part 2: Methodological issues. *Journal of Nursing Scholarship*, **32**(2), 131– 135. <https://doi.org/10.1111/j.1547-5069.2000.00131.x>
- Stifter, J., Yao, Y., Lodhi, M. K., Lopez, K. D., Khokhar, A., Wilkie, D., & Keenan, G. M. (2015a). Nurse continuity and hospital-acquired pressure ulcers. *Nursing Research*, **64**(5), 361– 371. <https://doi.org/10.1097/NNR.0000000000000112>
- Stifter, J., Yao, Y., Lopez, K. D., Khokhar, A., Wilkie, D., & Keenan, G. M. (2015b). Proposing a new conceptual model and an exemplar measure using health information: Technology to examine the impact of relational nurse continuity on hospital-acquired pressure ulcers. *Advances in Nursing Science*, **38**(3), 241– 251. <https://doi.org/10.1097/ANS.0000000000000081>
- Tarquini, R., Coletta, D., Mazzocchi, G., & Gensini, G. F. (2013). Continuity of care: An Italian clinical experience. *Internal and Emergency Medicine*, **8**, 595– 599. <https://doi.org/10.1007/s11739-012-0808-7>
- Uijen, A. A., Schers, H. J., Schellevis, F. G., & van den Bosh, W. J. H. M. (2012). How unique is continuity of care? A review of continuity and related concepts. *Family Practice*, **29**(3), 264– 271. <https://doi.org/10.1093/fampra/cmr104>
- Uijen, A. A., Schers, H. J., & van Weel, C. (2010). Continuity of care preferably measured from patient perspective. *Journal of Clinical Epidemiology*, **63**(9), 998– 999. <https://doi.org/10.1016/j.jclinepi.2010.03.015>
- van Servellen, G., Fongwa, M., & D'Errico, E. M. (2006). Continuity of care and quality care outcomes for people experiencing chronic conditions: A literature review. *Nursing and Health Sciences*, **8**(3), 185– 195. <https://doi.org/10.1111/j.1442-2018.2006.00278.x>
- van Walraven, C., Oake, N., Jennings, A., & Forster, A. J. (2010a). The association between continuity of care and outcomes: A systematic and critical review. *Journal of Clinical Evaluation in Practice*, **16**(5), 947– 956. <https://doi.org/10.1111/j.1365-2753.2009.01235.x>
- van Walraven, C., Taljaard, M., Bell, C. M., Etchells, E., Stiell, I. G., Zarnke, K., & Forster, A. J. (2010b). A prospective cohort study found that provider and information continuity was low after patient discharge from hospital. *Journal of Clinical Epidemiology*, **63**(9), 1000– 1010. <https://doi.org/10.1016/j.jclinepi.2010.01.023>
- Waibel, S., Henao, D., Aller, M. B., Vargas, I., & Vasquez, M. L. (2011). What do we know about patients' perceptions of continuity of care? A meta-synthesis of qualitative studies. *International Journal for Quality in Health Care*, **24**(1), 39– 48. <https://doi.org/10.1093/intqhc/mzr068>
- Weiss, M. E., Bobay, K. L., Bahr, S. J., Costa, L., Hughes, R. G., & Holland, D. E. (2015). A model for hospital discharge preparation: From case management to care transition. *JONA*, **45**(12), 606– 614. <https://doi.org/10.1097/NNA.0000000000000273>
- Yakusheva, O., Costa, D. K., & Weiss, M. (2016). Patients negatively impacted by discontinuity of nursing care during acute hospitalization. *Medical Care*, **00**(00), 1– 7. <https://doi.org/10.1097/MLR.0000000000000670>
- Zolnier, C. D. (2014). An integrative review of knowing the patient. *Journal of Nursing Scholarship*, **46**(1), 3– 10. <https://doi.org/10.1111/jnu.12049>