Review of Research on Knowledge Transfer in Care Transitions: Trust-Enhancing Principles for Information Systems Design

Shi Ying Lim  
The University of Texas at Austin  
shiyling.lim@utexas.edu

Sirkka L. Jarvenpaa  
The University of Texas at Austin  
sirkka.jarvenpaa@mccombs.utexas.edu

Holly J. Lanham  
The University of Texas Health Science Center at San Antonio  
lanham@uthscsa.edu

Abstract

This article reviews qualitative studies on discharge and patient care transition processes to understand the barriers to knowledge transfer and to propose principles for information systems for facilitating effective care transitions. Knowledge transfer occurs at many points during the processes, but this review focuses on two critical boundaries: (1) between patients and providers and (2) among various inpatient and outpatient providers. Failure to manage knowledge flows at these boundaries during care transitions can lead to unnecessary patient readmissions. However, interventions to improve processes and outcomes of care transitions have achieved mixed results. Our preliminary findings highlight trust-related barriers to knowledge transfer that might help to explain the mixed results. Analysis also suggests a lack of consideration for information technology’s role in building trust during care transitions. We propose trust-enhancing principles for information systems design to better enable knowledge flows in patient-provider and provider-provider relationships.

1. Introduction

The effectiveness of transitional care from inpatient to outpatient settings has received increased attention in the healthcare sector because of concerns over lost reimbursement for Medicare readmissions. Care transitions are “the set of actions designed to ensure the coordination and continuity of healthcare as patients transfer between different locations or different levels of care within the same location,” such as, within and between hospitals, nursing facilities, and primary or specialty care offices [6].

Despite significant investments in interventions, decreases in the rate of early readmissions -- admissions that occur within 30 days of discharge from a hospital -- remain elusive. Initiatives to improve care transitions typically focus on coordinating initial post-discharge contact with outpatient care providers (typically primary care providers), increasing medication safety, and improving patients’ capacity for managing their own care after a hospital discharge. Common approaches in these interventions include patient and family member education, use of case managers or patient navigators (usually a nurse or social worker), and provision of discharge planning checklist tools. What is common among these interventions is the overwhelming focus on care transitions as a set of transactions, and on patient characteristics as risk factors for readmission, rather than on the patient–provider and provider–provider relationships. Literature on relationship and interventions [24] suggest that greater focus on relationships may be more effective in reducing readmission rates. Better relationships may facilitate distribution of knowledge from physicians to patients and their caregivers and increase effectiveness of knowledge exchange with physicians to facilitate personalization of care in a learning health system.

We take an interpersonal relationship approach in examining the knowledge transfer processes in care transitions. Informed decisions can be made at the point of care when there is effective knowledge transfers. For instance, a study showed that preventable adverse events occurred in 12% of patients in the period immediately following hospital discharge [29], during which care of the patients are transitioned from inpatient providers to patients, their caregivers and their outpatient providers. As such, knowledge transfers from provider to patient, provider to provider and the relationships between these agents are critical for continuity of care and to reduce the need for duplicated tests, expensive readmissions, or visits to emergency departments [45]. They can also help foster patient engagement and trust. However, reviews on care transitions have not examined interpersonal barriers to knowledge transfer. Based on this gap, we conducted a review of the care transitions literature focusing on the patient–provider and provider–provider relationships in...
knowledge transfer processes. Our preliminary analysis reveals the need to consider trust during care transitions. Surprisingly, information technology (IT) — given the current IT climate in health care — was generally not at the forefront of these initiatives.

This preliminary analysis suggests that both initial trust in early encounters and relational trust in repeated interactions face challenges. Extant literature defines trust as positive expectations and beliefs about the intention and willingness to accept vulnerability [13]. We noted in the literature many uncertain and complex medical situations in which patients and providers did not have histories of repeated interactions, rendering initial trust between them to be important not only in its own right, but also as a determinant of long-term relational trust. However, the findings from the reviewed studies suggest that providers and patients may see relational trust development as unimportant in these temporary organizing teams, given the lack of history among them. Also, depending on the nature of the hospitalization, they may never interact with the same healthcare team again in the future. Consequently, patients’ trust in their providers and vice versa were both concerns raised in the literature. Using initial findings from the review, along with insights from the trust literature [21,38,47] and trust evolution in temporary organizing teams [18,27], we derive trust-enhancing principles for information systems (IS) design to address knowledge transfer in care transitions. These principles go beyond the current recommendations in the care transitions literature and suggest gaps that should be addressed in IS design and implementation and provide a knowledge-based framing around patient–provider and provider–provider relationships during care transitions.

2. Method

Existing reviews on quantitative studies on transitional care process focus on care delivery outcomes (e.g., readmissions). These studies do not generally provide sufficient details of the knowledge transfer processes and of the key actors involved, including their thoughts, feelings, and actions in the care transition process [23]. As such, we focused our review on qualitative articles only to understand the knowledge transfer issues during care transitions. To identify the relevant articles, we searched for the keywords, “transitional care” and “discharge planning,” and their Boolean combinations from 2000 to 2014 in MEDLINE and Web of Science—two literature databases that index the leading healthcare journals. Next, we reviewed the abstracts of studies for their method of study, patient populations and processes studied. Pediatric patients were excluded because of their limited understanding and decision-making authority. Additionally, only studies focusing on transitional care after a hospital discharge were included; within-hospital transfers or pediatric-to-adult care transitions were excluded to sharpen our focus and examine the phenomenon more deeply, especially since intra-hospital have been studied extensively in the patient handoff literature. Studies that used quantitative methods, such as randomized control trials and surveys, were excluded; studies that used interviews, focus groups, or observations for data collection were included. Protocol and policy papers were also excluded. Finally, we further scrutinized the papers for the processes: we only included studies that focused on knowledge transfer, education, or communication during transitional care.

Table 1 lists the final 32 papers that constituted the basis for this review. (The studies are not included in the references, unless they are explicitly mentioned in the paper.) The coding schema was iteratively refined and validated by all authors. A sample of papers was coded by two coders, and the coding of the two showed high levels of agreement. The authors also discussed and analyzed the results of the coding during biweekly discussions.

The first round of analysis coded papers for knowledge transfer outcomes and elements, such as structural capital, relational capital, and cognitive capital [46]. Trust emerged as a significant finding in the first round. The second round analyzed the nature of trust and the populations involved in the interactions. This is different than existing reviews that focus on the effect of interventions on clinical outcome measures, such as readmissions or accuracy of timeliness of discharge summary [28].) Analyzing the papers for knowledge transfer at the interaction level provided insight into potential breakdowns in the knowledge transfer process. We hope that by doing so, we can provide insight into the mixed outcomes highlighted in previous reviews. Based on these preliminary findings, we derive principles for information systems design and implementation to support care transition processes.
3. Findings

Knowledge transfers for care transitions were assessed for effectiveness in terms of implicit or explicit statements made in the studies. Effective knowledge transfers met the objectives and presented no major problems, whereas ineffective knowledge transfers reported problems or failed to meet the objectives. The studies reviewed had mixed effectiveness in knowledge transfers during care transitions. The findings are important in that limited systematic research exists on the barriers in knowledge transfer processes. Next, we describe our preliminary findings.

3.1. Finding I: Need for Relationship Focus in Knowledge Transfer in Care Transitions

The transition from hospital to home is a vulnerable period of discontinuity and potential adverse events. Patients reported feelings of abandonment upon discharge as they faced broken down communications with hospital staff, inconsistent follow up [3,9,19,25], and lack of a therapeutic relationship [25]. Some of the interventions used in the studies reviewed included patient education about post-discharge care [2,32] and use of coordinators who schedule appointments.
and follow up with patients post-discharge [32]. However, inconsistencies were reported in the implementation of interventions [31]; in one case, the hospital told the patient “they were thinking about putting together a class for people... but they never bothered to call me.” [12].

While negative outcomes in the knowledge transfer process were the norm in the studies reviewed, cases of positive knowledge transfer processes also existed. Successful cases created psychologically safe environments in which patients and providers could express their views and ask questions [3,11]. Providers’ personal familiarity with the patients increased the level of knowledge transfer and uncovered obstacles not evident to providers with more impersonal relationships with patients [2,35].

Cases with negative outcomes tended to display hierarchical rather than relational information processing, and tasks were transactional and fragmented in nature. Fragmentation meant that knowledge transfer was haphazard [20,31] and often excluded patients and their caregivers in decision-making processes [3,15]. For instance, if a patient needing nursing home placement was perceived as likely to become upset about the placement, the healthcare team would exclude the patient from discussions and only provide directives to family members about the placement [3]. In other cases, some patients decided not to take medications because they were uncertain about how to take them [20]. Patients and their caregivers also felt intimidated by busy healthcare teams [19,43] and lack of insurance [7,19], and passively waited for home-care instructions that were provided in a paternalistic fashion [3,7,39,41]. Some patients felt hopeless in being able to influence the situation. A patient noted: “I think they arranged it all between them. They're good at that… arranging things, not letting you in on it…. Arrange your life way ahead of time. Just like this.” [15].

When patients were not part of the knowledge transfer process, their confidence in managing their own care was undermined [20]. Patients reported feelings of being “set up to fail” and frustration with “not even wanting to try” [19], due to ineffective knowledge transfers. This was driven by the large multidisciplinary teams involved, which increased the hierarchical nature of knowledge: “When you’re bombarded with five or ten doctors every day, the medical students and all, you don’t understand everything that happens or what they do” [41]. In addition, post-discharge care plans often could not be implemented fully because of a lack of resources, such as insurance or housing [19,40,41,48]. Providers also reported similar feelings of a lack of control over the patients’ care plans [31,37,41] and compliance [2,40]. Patients sometimes withheld critical information unintentionally [12,17]: In one study, although the patient had views and information about her health condition, she did not see the sharing of that knowledge with the staff as her responsibility.

Other times, care transition outcomes were ambiguous and relationships were nominal at best. Patients claimed that they did not know nor want to understand what was going on, and expressed no need to understand, leaving the decision-making to staff. One provider noted: “[The hospital staff] can say ‘we have informed the patient, and she understood.’ But we do not trust [the patient] fully. In such cases, we are a little uncertain. Based on past experience, we know it is not always so obvious or clear. The patient may say he understands, but that’s only because he does not want to answer more questions” [31].

3.2. Finding II: Two Forms of Trust, Their Evolution, and Erosion in Patient–Provider Relationships

The studies also provided insights to the types of trust, its evolution, and its erosion. Trust was present when positive expectations were expressed regarding the actions of others under high levels of vulnerability [13,38].

Initial trust and relational trust were two forms of trust found in the studies. Initial trust existed when no prior relationship prevailed between the trusted and trusting one. Relational trust occurred through repeated interactions or reoccurring relationships between the trusted and trusting agents and could build on initial trust from early encounters. Some studies alluded to a perceived lack of trust in provider competence, even after repeated interactions. Patients would question and second-guess provider diagnoses as time progressed: “This time they said it was angina. But angina doesn’t keep filling your lungs up with fluid…. My daughter says she looked on the Internet and it didn’t say anything about fluid building up in your lungs and now it’s his liver and all” [39]. The involvement of multiple providers also resulted in conflicting advice that reduced patients’ confidence in providers [9,26]. For instance, some physicians provided post-discharge care only when asked: “When I went to have my staples removed, I asked the surgeon, ‘Well, when can I get rid of the wedge in between and use the pillow?’ ‘Now.’ ‘Well, when can I lay on my side?’ ‘Now.’ Everything he says, ‘Now.’ Well, could it have been much sooner?” [9]. The lack of proactive knowledge transfer on the physician’s part eroded the patient’s trust and suggested that the provider did not look out for the patient’s wellbeing [9]. Reduced trust also negatively affected patients’ receptivity to information during...
knowledge transfer. For instance, in one study patients stopped calling their primary care providers because they perceived the clinic as incapable of handling acute medical concerns [25]. As such, some patients and caregivers reported seeking external sources of information, such as the Internet, to validate physician statements, signaling a lack of trust or low trust in their provider [26].

Trust of course goes both ways, and providers reported losing trust in patients when the patients did not adhere with follow-up appointments and medical recommendations. In one case, a primary care physician voiced frustration because he was responsible for a patient whom he had never seen because of missed appointments [40]. However, without reciprocal knowledge transfer, the physician could not know the cause of missed appointments, such as logistical barriers that prevented the patient from attending appointments. Differential capacity to process information further exacerbated patient and provider perceptions of trust, even when individuals exhibited trustworthy behavior.

Patients’ post-discharge processes were also complicated by patients’ limited understanding. This can be influenced by the patient’s medical condition, language barriers [19], and the physical or emotional stamina to provide care and navigate an extremely complex health system [2,41]. As such, when patients did not adhere to medication instructions because they were confused, providers who did not recognize the breakdowns in knowledge transfer attributed the non-adherence to negative and intentional behaviors. This further reduced providers’ trust in their patients.

Providers also viewed patients’ noncompliance, disagreements, or resistance as the lack of ability or willingness to accept facts. Healthcare providers saw themselves as “realistic” and patients as “unrealistic,” leading to erosion of trust [15]. Considerable information asymmetry between patients and providers contributed to three problems: (1) miscommunication about the patient’s current condition, (2) confusion about the nature and duration of the problem or symptoms, and (3) incomplete or inaccurate recall of current medications or treatments [12].

The formation of relational trust over time was often difficult because of the large number of providers involved in the delivery of care. Patients could not remember providers’ names [15,25,43], nor identify providers not in uniforms [39]. Over time, patients lumped all providers together and referred to them as “they,” as patients moved from setting to setting. In the words of one patient: “I ain’t got no relationship. I don’t even know the person. They don’t even know me. There was no relationship” [25]. Other participants described a fragmented relationship with providers, which negatively affected psychological safety and willingness to ask questions. Patients and providers both cried for more personalized relationships to allow providers to be more assertive with information and advice [39].

In addition, time constraints made it difficult to establish relational trust in patient-provider and provider-provider relationships. The busyness and stress of the situation affected both patients’ and caregivers’ understandings of complex healthcare situations, discouraging discussions, explanations, and other meaning-making interactions [20,39,41]. Patients could sense the time constraints and felt intimidated about asking questions [19,43]. The patient sometimes learnt about their conditions from second-hand sources, e.g. other care providers, instead of the surgeon who did the procedure [26]. When patients and physicians were in a time crunch, opportunities to share information were limited. As such, decisions about what knowledge to share could lead to misunderstandings. Patients reported feelings of worry, dissatisfaction, and mistrust of providers, such as “I needed some serious education about some things... I didn’t know if they were not explaining things to me because I was not going to live much longer and it was just not worth it” [12].

Time constraints not only interfered with trust formation but also caused trust erosion because providers did not have the time to re-engage and develop relationships with patients. Without relational trust, patients’ trust in the provider and vice versa were reduced. This inhibited effective knowledge sharing, even if interventions were adopted to improve information delivery [2]. Some providers tried to establish relational trust, by getting to know them personally over the course of the intervention [39], thereby uncovering obstacles related to lack of critical knowledge that might have been unrecognized by other providers [2,3].

3.3. Finding III: Evolution of Trust, from Initial to Relational, Between Providers

As care transcend organizational boundaries and rely on effective coordination and knowledge transfer between patients and providers from multiple facilities, the need for trust among the providers becomes significant. Existing studies on trust in healthcare relationships focus on patients’ trust in providers or physician–nurse trust, but less is known about the trust between providers working across multiple organizations. Our analysis suggests asymmetric relations in trust; conflicts often arose from “professional territoriality” and a “lack of mutual trust and respect”—concerns that often
Knowledge gaps between healthcare providers created status differentials, which eroded confidence in the perceived abilities of downstream providers [1,31,37]. Status differentials also arose from previous negative experiences with providers from other organizations, which reduced initial trust and tainted future encounters. A nursing home nurse reported that providers sometimes hid information so as to get patients access to care: “I know they need to find placement, but unfortunately keeping information close to their breast has created distrust. When you don’t trust what they say, you look for clues that they are deceiving you” [42].

Differential power and status attributions between providers exacerbated trust problems between patients and providers. Lack of trust between providers led to statements, such as, "Well, quite obviously, somebody didn’t understand your situation" [9], when patients questioned the conflicting advice from different providers. It also inhibited knowledge transfer; nurses reported that stating opinions could be difficult or humiliating if they were different from other team members: “Some consultants do make you justify, and there and then make you feel small, or say, ‘Well, basically this is a trauma ward. There is nothing wrong with this patient. We need this bed. The patient has to go’” [1]. In this case, the nurse tried to highlight a medical problem that the patient had to an orthopedic surgeon, but the nurse was ignored, reflecting to some degree the status differentials perceived between specialties within the hospital.

However, differences in practices were not necessarily a sign of lower competence, but rather a matter of differing views, as exemplified by the following quote: "Gradually we accepted that each group had a completely different approach to the problem; that we came from different areas of expertise. The geriatric nurse helped us to speak the same language. That made things much easier, and then it became really fun" [37]. The formation of relational trust overcame problems resulting from a deficit of initial trust and improved knowledge transfer. Bull (2001) reported that although each discipline initially brought its own perspective to team meetings, members of the team learned from each other and came to trust the judgment of other team members. With regular, face-to-face contact, providers became “allies and co-workers” instead of “an outside dominating force” [36], thus enabling effective knowledge transfer. Conversely, when relationships were not established, the lack of initial trust caused behaviors, such as “I can’t be bothered to go and speak to you” [1]. Of course, given time constraints, face-to-face interactions between multiple providers might not always be feasible. However, use of alternative efficient communication systems (e.g., virtual environments) to foster trust and relations were not noted in the articles reviewed.

3.4. Finding IV: Omission of IT Use

Importantly, although some of the large academic and government hospitals studied were known to have electronic medical records (EMRs) at the time of studies, use of IT, which can include personal health records and health information exchanges, was not mentioned in discussions on the knowledge transfer process. In fact, EMRs were mentioned in only two of the articles reviewed. In one of the studies, the authors noted that the need to transfer notes from paper records to EMR caused incomplete information or delays in information transfer [43]. In another case, nurses stated that verbal communication was preferred over electronic documentation because EMRs were cumbersome to navigate [35]. In another study, the use of an EMR was not discussed, although the hospital studied is known for its EMR system. Communication problems were reported to be difficult at this facility: "It seems rather ridiculous, but they just don’t deal with each other. And don’t even agree with each other. One will prescribe one medicine and they’ll prescribe another. And all they say is, ‘(Primary Care Provider) will bow to (surgical site),’ and say, ‘Okay, do whatever they say.’” [9].

Neither did the studies address external information searches online. When patients do not understand their medical condition, or feel that they need more information, they are particularly likely to seek external sources of information. Rather than perceiving such searches as indicators of undermined trust, providers might appreciate external information searches for their ability to increase patients’ understanding. Overall, our analysis suggests where trust is largely lacking and opportunities for IT design to enhance trust and facilitate knowledge transfer in care transitions.
4. Discussion

In this section, we discuss knowledge and information systems-related interventions with a relationship focus – as opposed to a transactional focus – in knowledge transfer during care transitions. We propose principles for IS design that are grounded in trust-enhancing behaviors, such as, open communication, shared control, and concern for others’ welfare, from the trust literature [43].

4.1. Principle 1: Create Openness into Behaviors, Values, and Explanations of Physicians and Patients

Trust is essential in knowledge transfer because it influences the amount of information that is shared [16,44], received, and acted upon [22]. Pearson contended that patients’ trust in their providers reinforces the clinical relationship as a partnership, increases patient satisfaction, treatment compliance, and improves health [33]. Trust thus encourages patients to access health care and appropriately disclose information to providers for accurate and timely diagnoses [4]. Research has shown that patients who trust their physicians are more likely to comply with care plans and medication instructions [34]. Similarly, occurrences of patient or provider withdrawal in the studies reviewed indicated reduced knowledge sharing and patient engagement.

As such, deliberate attempts to make information visible can increase trust and relationship development. A relationship focus requires greater visibility in the decision-making process and in the behaviors and values of patients and providers. Greater visibility offers four advantages: (1) educates the recipient about the knowledge transfer process, (2) demonstrates decision making and thought processes, (3) conveys technical competence and concern for patients, and (4) improves or maintains trust by ensuring mutual understanding of the expectations and values of all the stakeholders.

However, the studies also revealed that patients have varying levels of desired information visibility and involvement in decision-making processes. While some patients were proactive and persistent in seeking information [20], others were given more information by their physicians than they could handle [43]. In addition, the type, source, and timing of information sought also differed across patients [26]. As such, the ability to provide accurate information, explanations for decisions, and the desired (and health literacy-appropriate) levels of openness by allowing all parties to be forthcoming with their values and expectations can influence perceptions of trustworthiness [47]. Openness that is appropriately calibrated for patients’ information needs and preferences is important for the formation of relational trust; our findings suggest that trust was often not reciprocal and eroded over time.

4.2. Principle 2: Promote Sharing of Control

Sharing and delegation of control are behaviors typical of a trusting relationship [47], and patient engagement is crucial to the adherence to care plans [20]. As such, we propose that the information environment during care transitions should empower patients and providers to engage in shared control and management of care. The patients’ and their caregivers’ ability to process and interpret information have limited sharing; the knowledge transfer problem is further exacerbated by rushed and incomplete discharges caused by shorter hospitalizations, increased patient–to-nurse ratios, and physicians’ tendency to overestimate patients’ understanding of instructions [10]. However, IT can reduce information asymmetries to enable all members of the team (e.g., patients, caregivers, and providers from other organizations) to participate in decision-making, if they desire. Patients showing poorer understanding and providers attributed with lower status, who may have previously been intimidated to ask questions or disagree with others caring for the patient, should be considered.

Providers should convey tailored information for each patient because of patients’ differences in health literacy and ability to process information, which results in the inability to speak with healthcare workers [48]. To overcome this, for instance, medication instructions could be downloaded from EMRs in patients’ native languages to enable meaningful communication between patient and providers. Providers can also support patients in their external searches for information, and improve their understanding, by directing patients to credible information sources, such as hospital-reviewed patient support groups.

Information systems can be designed to help improve timeliness of information exchange, that could trigger conversations to verify understanding. IS that can translate complex medical information from providers to actionable knowledge for patients. IS could also enable shared control with providers following up on the care. Lastly, care plans dissected into manageable components and structured as daily reminders through mobile applications provide opportunities to overcome limitations in absorptive capacity. Although EMRs can help providers and caregivers facilitate the knowledge sharing process, our review found significant deficiencies in their use.
4.3. Principle 3: Monitor Ongoing Progress and Flag Behavioral Inconsistencies

Omission of IT in the reviewed studies suggests opportunities for IS--facilitated knowledge-driven decision-making to enable open, trusting communication between patients and providers and between inpatient and outpatient providers during care transitions. Physicians indicated a lack of a feedback loop, which left them uncertain of the patient’s condition between visits [1-4]. However, to maintain trust or establish a sustainable patient–provider relationship, following up with patients is essential; accurately updated information about the patient’s history or present condition affects the interpretation of future information [5], which limits the ability to provide personalized care in a learning health system.

As healthcare facilities increasingly adopt EMRs, the volume of clinical information documented electronically will continue to increase. Data can be seamlessly imported into health information exchanges or across health systems. Such a system can enhance the ability to benchmark patient performance against others in the population with similar health conditions. Comparative analyses can be conducted for personalization of care because clinical analytics would enable rapid identification of patients at risk, as well as the ability to address their critical conditions. Improved analytics can help to reduce visits to the emergency department or readmissions to the hospital by providing more timely care. Increased knowledge about patients and their conditions would enable patients and physicians to make more informed decisions together, thus increasing patient and provider engagement.

Patient progress could be monitored and displayed through an integrated personal health record. Current cell phone technologies, portable clinical devices, and mobile health applications (e.g., Apple’s Health Kit) can increase the ease of data gathering through passive sensor information; periodic self-reports could be integrated with providers’ IT systems and provide feedback to physicians for prompt intervention when necessary. Traditional data sources provide only single, intermittent data points that result from patient visits. The ability to integrate and learn from data generated from multiple sources and aggregated into a single platform would provide a holistic view of a patient’s condition, which is especially helpful for addressing the current lack of information about a patient’s health between episodes of care. To this end, machine learning and data mining can be used to analyze signals of behavior and physiological changes to better understand users’ social, physical, and health status to be feedback to providers in a learning health system.

Ongoing monitoring of progress may appear to require more time from providers at the outset, but this might pay off in the long run by reducing readmissions and unnecessary in–person clinic visits. Electronic monitoring can also reduce the workload of manual monitoring of many patients, as existing interventions try to do. Timely knowledge sharing and the ability to follow up can reduce information asymmetries between patients and providers and foster trust by allowing patients and providers to stay engaged in the care transition process.

5. Conclusions

Our proposed principles based on the preliminary review of qualitative studies supplement existing research and offer ideas for IT-supported, trust-enhancing knowledge transfer processes. Trust is an essential element of successful knowledge transfer and collaborative healthcare choices in a learning health system. However, current interventions have mixed outcomes, and this review attempted to highlight some of the breakdowns in the knowledge transfer process. These breakdowns provide important directions for future empirical studies.

This review has considered only the narrow set of breakdowns, found in the studies reviewed. Other breakdowns that inhibit patients’ compliance during transitional care include lack of access to housing, insurance, or community support post-discharge. Patients might also have limited Internet access, thus reducing gains from IS-enabled care coordination for this vulnerable population. Another barrier to using IT is the interoperability challenge between systems [5]. Data stored in EMRs are not easily transferred between providers, thus causing rework and duplication of efforts. In addition, smaller outpatient practices might not be able to invest in EMRs to connect with other health systems [30]. The monetization of these technologies also hampers their adoption; the question of who will pay for the technology – provider, payer, or patient – still persists. Nonetheless, as healthcare IT is increasingly implemented in hospitals in the United States and worldwide, these principles can help improve trust, knowledge transfer, and coordination of care.

6. References


[38] Swinkels, A. and Mitchell, T., "Delayed transfer from hospital to community settings: the older person’s perspective.", Health & Social Care in the Community, 17(1), 2008, pp. 45–53.