ORIGINAL RESEARCH

The Patient Care Circle: A Descriptive Framework for Understanding Care Transitions

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BACKGROUND: Reducing hospital readmissions depends on ensuring safe care transitions, which requires a better understanding of the challenges experienced by key stakeholders.

OBJECTIVE: Develop a descriptive framework illustrating the interconnected roles of patients, providers, and caregivers in relation to readmissions.

DESIGN: Multimethod qualitative study with 4 focus groups and 43 semistructured interviews. Multiple perspectives were included to increase the trustworthiness (internal validity) and transferability (external validity) of the results. Data were analyzed using grounded theory to generate themes associated with readmission.

SETTING/PATIENTS: General medicine patients with same-site 30-day readmissions, their family members, and multiple care providers at a large urban academic medical center.

RESULTS: A keynote generated from the multiperspective responses was that care transitions were optimized by a well-coordinated multidiscipline support system, described as the Patient Care Circle. In addition, issues pertaining to readmissions were identified and classified into 5 main themes emphasizing the necessity of a coordinated support network: (1) teamwork, (2) health systems navigation and management, (3) illness severity and health needs, (4) psychosocial stability, and (5) medications.

CONCLUSION: A well-coordinated collaborative Patient Care Circle is fundamental to ensuring safe care transitions. *Journal of Hospital Medicine* 2013;8:619–626. © 2013 Society of Hospital Medicine

The focus on care transitions and readmissions is expanding beyond the development of risk scores based on objective clinical data to quality improvement interventions involving the key stakeholders in the process, namely the patients and their multidisciplinary providers.[1,2] The Institute for Healthcare Improvement's State Action on Avoidable Rehospitalizations initiative promotes formulating a specific transition plan and developing multidisciplinary management strategies for all patients.[3] The Transition of Care Consensus Policy Statement developed by a coalition including the American College of Physicians and Society of Hospital Medicine emphasizes accountability, communication, and involvement of the patient and family members in plans of care.[4] Yet, interventions to reduce readmissions and improve the quality and safety of care transitions remain only modestly and inconsistently effective.

Successful interventions are those that are combined and coordinated, and shared across the hospital and community settings.[5] In this study, we sought to understand the issues leading to readmissions and barriers as perceived by patients, family members, physicians, nurses, and social workers. We compared and contrasted the perspectives by discipline and used this information to design a descriptive framework of a multidisciplinary, collaborative, and coordinated support network integral to effective care transitions, which we term a Patient Care Circle (PCC) (Figure 1).

METHODS

Study Design

We recruited a purposive sample of general medicine patients with same-site 30-day readmissions, and those directly involved in their care, to participate in interviews and focus groups to investigate explanations for unplanned readmissions (Table 1). We sought subjects' perspectives based on extrapolations from previous research that identified multiple stakeholders involved in the care transitions process,[1,2,5–8] and our own professional experience with patient readmissions.

Site Selection

All interviews and focus groups were conducted at New York–Presbyterian/Weill Cornell Medical Center

FIG. 1. Patient care circle. Abbreviations: ED, emergency department; RN, registered nurse.

TABLE 1. Interview and Focus Group Participants

Role		No. (%)	No. Interviewed	No. in Focus Group
Patient			12	NA
	Male	10 (90.9)		
	Average age, y, range	31–72		
	Insurance			
	Medicare	5 (41.7)		
	Medicaid	1 (8.3)		
	Medicare/Medicaid	2 (16.7)		
	Private	4 (33.3)		
	Race			
	White	8 (66.7)		
	Black	2 (16.7)		
	Other	2 (16.7)		
	Has PMD	9 (75.0)		
	Has home caregiver (family or aide)	10 (90.9)		
Physician				
	Hospitalist*			9†
	Index		10	
	Readmit		9	
	Primary care physician		5	NA
Other provider				
	RN			
	Inpatient staff		5	7
	Visiting home		NA	6
	Social work		NA	6
	Other caregivers			
	Family		2	NA
	Home aides		0	NA
Total			43	28

NOTE: **Abbreviations:** NA, not applicable; PMD, primary medical doctor; RN, registered nurse.

*Index and readmit hospitalist may be different attending physicians.

†Total number of participants in focus group. Focus group participants may include index and readmit attendings for some patients.

(NYP/WC), a large urban academic medical center in New York City serving a racially and socioeconomically diverse population. The institutional review boards at Weill Cornell Medical College and Hunter College approved this study.

Data Collection Tools

We developed semistructured interview and focus group guides (see Supporting Information, Appendixes 1–7, in the online version of this article) by reviewing published literature[8–12] and readmission pilot data that identified challenges associated with hospital discharges. Interviews were patient specific, and providers involved directly in their care were asked to consider reasons for the patients' readmissions and whether they could have been prevented. Provider interview guides were modified from the patient interview script and tailored toward their role in the patient's care.

One focus group guide was used for all sessions, allowing us to compare and contrast emerging themes across disciplines. Participants were asked to discuss perceived causes for readmissions and barriers to improvement.

All questions were open-ended to gain insight into participants' beliefs regarding the causes of readmissions and to limit researcher bias. We iteratively reviewed and modified the guides to ensure the questions were effectively worded.

Recruiting

Using a centralized clinical database, we identified patients aged 18 years and older for interviews, who were readmitted within 30 days to NYP/WC between May 2011 and May 2012, and had an attending hospitalist during the initial and readmission visits. We confirmed patients' English fluency and cognitive ability by contacting their attending physician. Patients provided written consent prior to interview.

For interviews, we asked patients to identify their outpatient physicians and providers; inpatient hospitalists and providers were identified from the patients' charts. For focus groups, we recruited volunteers among all division hospitalists and solicited volunteer inpatient nursing, social work, and homecare nursing participants through organizational liaisons (Table 1).

Data Collection

We interviewed patients in person at their bedside. We interviewed physicians and other caregivers in person or by telephone during the course of the patient's readmission. We conducted 4 discipline-specific 90-minute focus groups for hospitalists, inpatient staff nurses, homecare nurses, and hospital social workers. Patient interviews and focus groups were audio-recorded and transcribed using a professional service.

Data Analysis

We analyzed 47 transcripts (43 interviews, 4 focus groups) during research group meetings using grounded theory[13] to generate overarching themes felt

to influence readmissions through iterative reviewing of transcripts. We attributed codes to salient text and documented recurring topics that emerged. Two researchers independently assessed responses from the patient-specific interviews for variability among the various disciplines. We ended our data collection after we ceased to find new topics from participants (thematic saturation).[14]

Three researchers, in consultation with the larger team, coded the 4 focus group transcripts to generate a codebook with definitions and examples of recurring concepts. They then coded the 43 interview transcripts using the codebook. The entire team met regularly to address questions and potential discrepancies.

We achieved greater trustworthiness of the analysis by using multiple modes of triangulation, a qualitative method that relies on points of comparison and contrast.[15] We achieved methodological triangulation by using both interviews and focus groups, and achieved internal triangulation by having researchers in the clinical, social, and behavioral sciences routinely critique the evolving codebook.

RESULTS

We recruited 43 interview and 28 focus group participants (Table 1). From our transcript analysis, we generated 22 codes and categorized them into 5 themes embodying the issues pertinent to readmissions from the perspective of the stakeholders: (1) teamwork, (2) health systems navigation and management, (3) illness severity and health needs, (4) psychosocial stability; and (5) medications (Table 2).

We applied these codes and themes to build a descriptive framework depicting what we believed is the essential foundation for successful care transitions, a collaborative unified patient-centered network to address complex healthcare-related issues across disciplines and across settings (Figure 1). Our model illustrates the interplay between the various physician and care-provider roles as well as the relationship of the structure of the care circle to each theme.

Care Circle Theme
Teamwork
Comprehensive, effective collaboration and communication among members of the PCC were required for the circle to function successfully and establish safe ongoing patient care across settings. Teamwork required a shared purpose and aligned incentives among all stakeholders to work as a unified patient-centered network.

Dysfunctional teamwork led to fragmented care. Hospitalists and patients cited difficulties coordinating in-hospital management plans with multiple consulting subspecialists. Social workers ascribed 1 potential cause for unplanned readmissions to insufficient feedback from homecare agencies regarding patients following hospital discharge:

"I wouldn't mind hearing [from the home agencies]…'[the patient] won't let me in the door'… 'patient's doing well' or 'patient's still not compliant.' If we don't know…then we can't address it… [until] they come back in [to the hospital]."

Meanwhile, accurate handoff of information affected the care provided by homecare nurses:

"We go into assess [the patient at home] and we see something totally different than what was…on a piece of paper."

Patient-Centered Themes
Four patient-centered themes were identified that posed challenges in the transitions process and required the support and teamwork of the PCC to deal with effectually.

Health Systems Navigation and Management
The complexities of the healthcare system in the hospital and in the community presented challenges for patients with greater needs. Meeting higher levels of patient care needs was difficult in a system where prioritizing competing responsibilities was a recurrent issue. Inpatient nurses shared:

"Educat[ing] people and empower[ing] them about their health…. [I]t's kind of lost…when we have so many [tasks] that we're responsible for, the patient gets lost in all of these things…. For patients requiring ongoing sub-acute care, limited weekend and holiday hospital and skilled nursing facility personnel added to the difficulty of arranging discharges and executing care plans."

Social workers noted:

"[S]ometimes people are ready for discharge and there's no…primary care physician [willing to follow them]."

Obtaining additional support following discharge was another concern for patients with homecare needs:

"With the Medicaid changes…homecare is going to be less [than] what's provided [now]. So they're going into a less…safe environment." [*Social worker*]

Illness Severity and Health Needs
The ability to cope with disease and related stressors depended on complexity of illness, level of health literacy, and underlying psychiatric issues overlapping with the theme of psychosocial stability. Early identification and mitigation of potential postdischarge complications required PCC collaboration.

All groups agreed that patients with chronic complex comorbidities often warranted frequent access to the inpatient setting regardless of outpatient medical care:

TABLE 2. Quotes from Interviews and Focus Groups on Readmission Themes

THEMES	SUPPORTING CODES	PARTICIPANT QUOTE
CARE-CIRCLE-CENTERED		
TEAMWORK	Communication of healthcare plan	"My father's being discharged this morning and he has no idea what…happened to him for the last two days." [*Family member*] "My primary doesn't have any documents yet about what's been happening here." [*Patient*] "I was not informed of my patient's admission or readmission." [*Primary Care Provider*]
	Effective, ongoing care	We'd love to start the discharge planning right from the start, but…we don't know when the patient is going to leave…what's coming up next…what the plan is always, so how can we be a part of that? [*Inpatient Nurse, Focus Group*]
	Preparation for care transitions	
	Shared purpose	"You can't get in [to patients' homes] unless somebody lets you into the building, [but] the bell doesn't work [or] they don't have a telephone." [*Visiting Home Nurse*]
	Aligned incentives	I don't feel like the doctors…talk to the patients about [discharge plans]…We're trying to say as much as we can [about their discharge needs]. Physical therapy [and] nursing can be telling them the same thing. But if the doctor is like, 'No, I think you're fine, you can go home,' [the patients] are like, 'Alright.' [*Social Worker*]
PATIENT-CENTERED		
SYSTEMS NAVIGATION AND MANAGEMENT	Hospital-based services	We [used to] have a [unit] team that would be covering all of the patients on [the unit]. Now [the doctors are] coming from this unit, that unit. It's hard to get in touch with them. [*Inpatient Nurse, Focus Group*]
	Community-based services	Because [of my insurance]…they only give me two bedside [urinary catheter] bags and two leg bags. So you have to make those last a month, so that means… you have to keep washing out the leg bags…and reusing them. [*Patient*]
	Insurance and financial support	"…sometimes the system works against the patient. They're not safe at home alone, have no support system, but don't qualify for placement in a skilled nursing facility or their insurance won't cover any more days so they are constantly readmitted for safety reasons like recurrent falls." [Hospitalist, Focus Group]

TABLE 2. (Continued)

THEMES	SUPPORTING CODES	PARTICIPANT QUOTE
	Disease severity and complexity	"A lot of the patients…re-hospitalized…are very, very sick [and] sometimes would have been more appropriate for home hospice." [*Visiting Home Nurse*]
	Co-morbidities	"Patients with a new diagnosis [do] not [know] what to do… all of a sudden they have shortness of breath, or he doesn't know how to use the pump because it's something new for him, asthma" [*Visiting Home Nurse*]
ILLNESS SEVERITY AND HEALTH NEEDS	Health Literacy	
	Psychiatric Factors	"[Some patients] have a lot of underlying psych[iatric] issues as well. I don't think I have the tools from the counseling perspective that we would need…to counter hopelessness, to help with depression…" [*Inpatient Nurse, Focus Group*]
	Personal/Family Stressors	"I think that if you're overwhelmed, and especially if you're elderly, and you lose a spouse, these are all these triggers that…you see for those re-admitted patients." [*Social Worker*]
		"I think some people also just prefer to be in the hospital…because this is a safe place for them…." [*Inpatient Nurse*]
	Patient expectations	"And if they have just a spouse that's also an older adult…they might want a break, so they also welcome the trip to the hospital." [*Inpatient Nurse, Focus Group*]
		"[They] just don't recertify their Medicaid." [*Social Worker*]
	Personal incentives	"[He's a] frequent flyer, takes poor care of himself, is an alcoholic and always in withdrawal." [*Primary Care Provider*]
PSYCHO-SOCIAL STABILITY	Self-care knowledge and skills	"I had a patient who…had COPD….His apartment was just cockroaches….He had no air conditioning….As soon as he came out of the hospital he was back to not breathing quite right. And so…I sent him back [to the hospital] again." [*Visiting Home Nurse*]
	Socio-economic Factors	"I think the next-hardest is the social factors….I have no ability to magically move a patient out of a 4th floor walkup." [*Hospitalist, Focus Group*]
	Social Support	"Patients don't really understand what it's going to be like to go home. And we try and give them a picture of what it's going to be like….[In the hospital] you are being taken care of by nurses 24 hours a day. You are going home with a visiting nurse who is coming in once every other day for an hour. There is a big difference there…."[*Social Worker*]

PATIENT-CENTERED

TABLE 2. (Continued)

THEMES	SUPPORTING CODES	PARTICIPANT QUOTE
PATIENT-CENTERED / MEDICATIONS	Costs	"I wasn't able to get [the antibiotics]….The intern…filled out the prescriptions wrong…. [and]…with [my insurance] I have to wait until March 1st for [my pills]." [*Patient*]
	Access	"[The patient] never took insulin before but in the hospital they're taking insulin. So when he comes home….He says, 'Oh, I had insulin in the hospital I better stop all my oral medications.'" [*Visiting Home Nurse*]
	Education	
	Adherence	"Some patients…are just plainly non-compliant, so they usually end up back in the hospital, because a CHF patient refusing to take [furosemide], refusing to adhere to a low sodium diet" [*Visiting Home Nurse*]

"I'm not surprised [my patient was readmitted] because…almost anything that goes wrong leads her to the hospital. Her readmission is not avoidable because of the severity of her illness." [*Primary care physician*]

With patients living longer with terminal illness, several groups voiced concern regarding the frequency of hospitalizations:

"People… [go] into hospice in the last week of their life as opposed to in the last six months of their life….The doctor has to bring this up… [I] can't do it." [*Homecare nurse*]

Another prevalent issue was the emotional stress that accompanies acute or exacerbations of illness. One patient shared,

"I also have a four-year-old son…. Obviously, I'm not able to care for him as much as I was. My wife…has been diagnosed with leukemia."

Psychosocial Stability

Discharge from the hospital often requires psychosocial adjustment, which may be overlooked, underestimated, or dismissed by patients and providers.

"[One patient] was very visually impaired. Lives by himself. But he's young…so he wanted to go home… [not] a nursing home…. He got home. He got up in the middle of the night…. [P]ut the wound vac[uum] on the counter… [and it] fell. It broke. It started beeping. He panicked, … couldn't get in touch with any of the visiting nurses because it was 2:00 A.M…. And he [was readmitted], and now is saying he wants to go to sub-acute, because he can't handle it at home." [*Social worker*]

Engaging patients who seemed capable of participating in their own care was often frustrating for providers:

"It's depressing because you're trying to help somebody… [but] they don't want to help themselves and you know you'll see them right back [in the hospital] again…." [*Inpatient nurse*]

Social support and socioeconomic factors also impacted patients' and families' ability to cope and adjust to the community after discharge. One family member commented that he and his wife have always cared for the patient together but now he cares for her alone and must hire a private duty aide to assist.

Medications

The degree to which obtaining, understanding, and taking medications exists as an impediment to safe

transitions was patient specific and dependent on all of the patient-centered themes above. Recognition and effective intervention required a multitiered, multidisciplinary approach. Homecare nurses reflected:

> "Discharge planning doesn't ensure that there is someone that can go to the pharmacy to get [medications] until the [visiting] nurse comes in and sets something up.

Methods used for medication education were not always effective in reaching the patient:

> "I shouldn't really say that they didn't [discuss medication side effects] because I was in a lot of pain…. I really don't recall somebody giving me specific [information on] side effects on the medication…." [*Patient*]

DISCUSSION

We categorized our findings into 5 principle themes that influence care transitions: teamwork, systems navigation and management, illness severity, and health needs, psychosocial stability, and medications. Many of these themes have been targeted in the literature for interventions to reduce readmissions and improve care transitions. An overarching theme of our study was the importance of the Patient Care Circle, a support system required to implement and execute comprehensive patient-centered plans for safe and effective transitions across all settings.

Collectively, our themes emphasized that communication and comprehensive planning between all members of the PCC were instrumental to the circle's ability to address issues pertaining to the patient-centered themes: systems navigation and management, illness severity and health needs, psychosocial stability, and medications. The strength of the bonds and collaboration within the PCC were directly dependent on the success of teamwork.

The interplay between the 4 patient-centered themes and the degree to which they affect readmissions were variable and patient dependent. Complexities of the healthcare system and issues surrounding medications became more apparent with worsening disease severity and psychosocial instability. Complicated patients requiring more multidisciplinary interaction highlighted limitations of dispersed teams and staffing ratios. Patients faced with insurance restrictions, difficulties attending appointments, and obtaining medications required pooling the efforts of multiple PCC members to help them. Thus, these themes emphasized not only the importance of teamwork required for care coordination, but also guided the membership of the PCC to meet the patient's specific needs across the inpatient and outpatient settings.

When participants were asked to identify modifiable reasons for readmissions, the overwhelming collective response was inadequate communication and collaboration among PCC members. Clear role assignments and delegation of responsibility were also necessary to avoid gaps in care. Significant barriers to improvement included limited resources and inability to maintain the integrity of the support network needed for safe transitions.

Finally, we compared and contrasted the perceptions of the different disciplines on the factors contributing to each patient's readmission. Over all, there was substantial overlap. However, each perspective added additional layers of information allowing for a more comprehensive understanding of the problem. This demonstrated the utility of multidisciplinary patient-centered interviews to examine readmissions and elucidate areas for intervention.

Several disciplines were not included in interviews or focus groups but were identified by our study participants as integral to a comprehensive Patient Care Circle. These include emergency medicine physicians, inpatient and outpatient pharmacists, and outpatient social workers. Some disciplines were not included due to challenges identifying discrete providers and with arranging interviews or focus groups. As their roles were mentioned several times in multiple forums, we have included them in our descriptive framework.

We designed this study with the hope of completing a full complement of patient-specific interviews that included all stakeholders for 4 male and 4 female patients. For several reasons, we were unable to do so including challenges contacting providers and family members, and coordinating the timing of interviews with patient visits. Further, our focus on English-speaking patients admitted to general medicine teams may limit generalizability to other vulnerable patient groups. Nevertheless, we believe we succeeded in interviewing a representative sample and obtained thematic saturation with the information obtained from our interviews and focus groups.

Last, the focus of this project was to obtain the perspectives of a full spectrum of stakeholders in the care transitions process to gain a better understanding of the reasons for readmissions. Although we did ask study participants to identify areas that may have been modifiable, we did not expand the discussion to include potential interventions, which will be the next step in our study.

CONCLUSION

Our article describes 5 main themes derived from the perspectives of multiple stakeholders involved in the care transitions process. An overarching theme was the importance of a multidisciplinary, coordinated collaborative care circle to ensure safe patient-centered care in all settings.

The results of this study can be used by researchers and applied by care providers to improve the care transitions process. Researchers can build on our

model by studying methods and interventions to improve the function of the care circle and design guidelines to create a more effective and integrated network. Institutions can adapt our methodology and tools to identify the needs of their own patient population and optimize membership in the PCC accordingly.

We feel that improving the structure and function of the care circle is necessary prior to designing interventions targeting the patient-centered themes. Strengthening the teamwork of the PCC is fundamental to improving the quality of care transitions and reducing preventable readmissions.

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