

Transitions of Care : The Missing Links



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Internal Medicine Grand Rounds

January 8, 2016

This is to acknowledge that Abey K. Thomas, M.D. has disclosed that he does not have any financial interests or other relationships with commercial concerns related directly or indirectly to this program. Dr. Thomas will not be discussing off-label uses in his presentation.

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Interests: Healthcare Delivery models, Hospital Process Improvement, Transitions of Care, Role of Inpatient Specialist(Hospitalist) in Medical Education, Academic Hospital Medicine

Purpose and Overview:

This presentation aims to shine the spotlight on one of the most serious shortcomings in the present US healthcare system which severely impacts patient safety and quality of care, the factors influencing this critical phase in the management of our patients and highlight some of the efforts being made to address this issue.

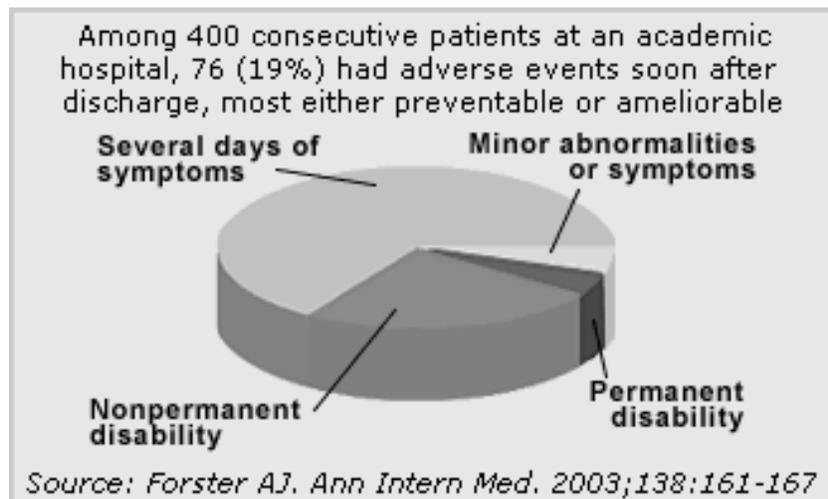
Educational Objectives:

1. Recognize the impact of failed transitions of care on the patient and the healthcare facility
2. Understand factors contributing to failed transitions
3. Familiarize the audience with some of the national initiatives on improving transitions of care and the models developed to address this
4. Understand best practices to help improve transitions of care

Introduction

The healthcare system in the United States is highly complex, with numerous levels of care and greater availability of specialized care than in most other countries. Perhaps in part, owing to the complexity of healthcare delivery environment, the number of providers managing and coordinating care of patients across multiple levels of care has continued to shrink. Simultaneous with this development, the need for better systems and processes to be implemented that allow for more seamless care is being felt increasingly along with the awareness of the shortcomings of the current system.

Center for Medicare and Medicaid Services (CMS) defines transitions of care as “the movement of patient from one setting of care (hospital, ambulatory, primary care practice, ambulatory care practice, long-term care, home health, rehabilitation facility) to another.”¹ Episodes of illness that require care in numerous settings both acute and post-acute and involve multiple highly specialized providers have to be carefully coordinated. Increased incidence of preventable adverse events and medication errors have been noted at transitions of care.^{2,3}



Institute of Medicine (IOM) points out that quality of care suffers, often not due to a lack of effective treatments, but because of inadequacies in the healthcare delivery systems that fail to implement these treatments.⁴ Lack of robust systems of communication and electronic health record incompatibility at different institutions makes it nearly impossible to seamlessly carry through planned tests and treatment plans across the continuum of care. This breakdown of communication threatens the well-being of our patients and drives up costs. The inefficient use (underuse, overuse, and misuse) of healthcare resources and the burgeoning costs associated with it are well recognized as being issues that need to be tackled urgently.⁵

Consequences of poor transitions of care are clearly visible - 1 in 5 hospitalized Medicare beneficiaries are readmitted within 30 days of discharge.⁶

Nationally, in 2011, it was estimated that 3.3 million adult 30-day all cause readmission occurred costing over \$41 billion.⁷ Unplanned hospitalizations cost Medicare \$17 billion which is nearly 20% of all Medicare payments to hospitals.⁸ Medicare Payment Advisory Committee estimates 76% of these readmissions may be preventable.

Hospital Readmission Reduction Program in the Patient Protection and Affordable Care Act penalizes hospitals with higher than expected 30-day readmission rates, at this point specifically looking at patients with Acute Myocardial Infarction, Congestive Heart Failure, Pneumonia and soon, hip/knee arthroplasty and Chronic Obstructive Lung Disease.

Factors that increase likelihood of readmission

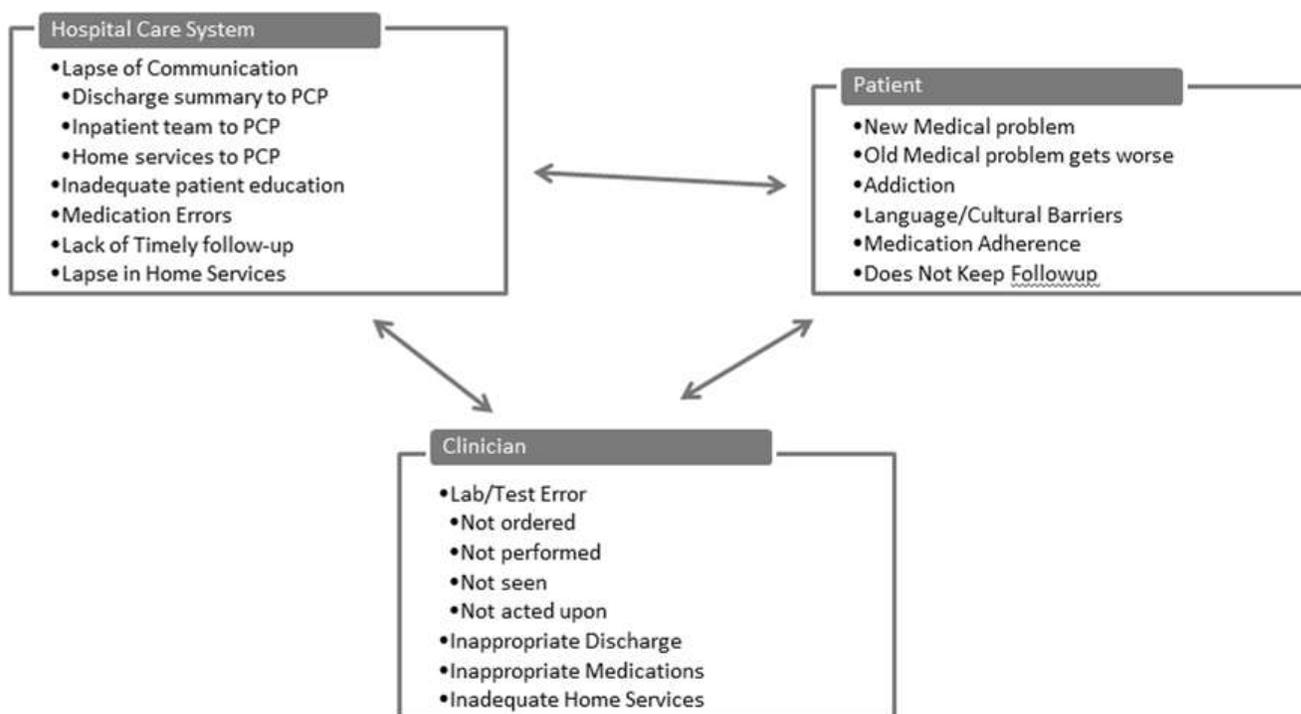


Diagram Courtesy of Stephen Harder, MD and Mary McGarry, MD

Mind “The Gap”

Communication gap

Inadequacies in sharing of information (verbal or written) between various providers participating in the care of the patient, to the patient, or their caregivers leads to confusion and frustration. There is considerable variation in both quality and content of handoffs.⁹ This is due

to the mismatch of expectations between sender and recipient, inadequate time devoted to handoff, lack of “teamwork” culture, and lack of standardization of procedure.

Poorly constructed discharge summaries can serve as primary sources for errors with major implications for patient safety and hindering continuity of care.^{10,11} Only about half of those discharged from hospitals are seen by their Primary Care Physician(PCP) within 30 days of discharge. Even when seen on follow up by the PCP, it is often without sufficient information about the events that transpired during the admission or even that the patient was hospitalized at all. Only 12-34% of discharge summaries, according to the same meta analysis [Kripalani et al.], made it to the PCP by the time of the patient’s first follow up visit. Were et al reviewed charts of 668 patients discharged from an academic medical center. 99.2% had a discharge summary. Only 16% of tests with pending results were mentioned in the document. 25% of the discharge summaries listed any pending tests.¹² 49% of patients experience at least one medical error (medication continuity error/test follow-up error/workup error).¹³ This lack of information leads to over a third of the recommended workup not being completed.¹⁴ Patients were found to be 6.2 times more likely to be hospitalized within 30 days of the first outpatient visit if they had a workup error.¹³

Between 19% and 23% of patients recently discharged experience an adverse event, many of which were due to inadequate postdischarge follow-up of their unresolved medical problems.^{15,2,16} This can be attributed to the lack of information in the discharge summary required for the PCP to address these issues.¹⁷⁻¹⁹

Ownership/Accountability Gap

In many cases, there is no clinical entity that takes over coordination of care across different settings. Management of complex patients by multiple providers who fail to communicate with each other effectively can lead to confusion for the patient and discordance in care delivered leading to a loss of quality.

Empowerment Gap

Patients and caregivers when not involved adequately in the planning of transitions, may receive conflicting information about medication regimens, recommendations, plans of care and follow up. The patient’s or caregiver’s lack of understanding of the condition or plan of care would negatively impact their ability to follow the recommendations.

Who are the key stakeholders in transitions of care?

- Patients and their families
- Hospitals
- Post-acute care facilities and services
- Clinical care providers (primary care and hospital based physicians as well as sub specialists)
- Policy makers

Engagement of all relevant stakeholders is key in establishing and continually improving care transition processes.

Overview of selected transitions of care models

Nationally, several evidence based models for transitions of care have been developed to improve outcomes. The better known ones include:

- Care Transitions Intervention (CTI)²⁰
- Transitional Care Model (TCM)²¹
- Better Outcomes for Older Adults through Safe Transitions (BOOST)²²
- Re-Engineered Discharge (Project RED)²³
- The Bridge Model²⁴
- Guided Care²⁵
- Geriatric Resources for Assessment and Care of Elders (GRACE)²⁶

Of these, elaborated below are four to illustrate key concepts:

Care Transitions Intervention (CTI)

A product of the work of Dr. Eric Coleman at the University of Colorado in Denver, known also as the Care Transitions Program or Coleman Method, it focuses on self-management. The model makes use of simulation to facilitate skill transfer. It is a 4-week program during which the patients with complex needs and their families work with a Transitions Coach to learn the skills that would help better meet their need while they transition from hospital to home. Some of the highlights of this program include:

- Low-cost, low-intensity evidence based intervention
- Personal Health Record (PHR) owned and maintained by the patient helps facilitate information transfer across sites. The PHR includes an active problems list, medications and allergies, advance care directives when completed, red flags that correspond to the patient's chronic illnesses. Incorporates space for patient to enter in their own questions or concerns
- Transitions Coach serves as facilitator of patient and caregiver empowerment. The Transitions Coach meets with the patient in the hospital before discharge to assess their needs using innovative role-playing strategies, then imparting the skills which make the patient and caregiver more confident in self-care and able to assert a more active role in their care. This is followed by a home visit 2-3 days after discharge and 3 phone calls within 28 days to reinforce lessons.
- There is focus on medication self-management
- Ensures timely follow up with Primary and specialty care
- "Red flags" that indicate worsening condition and instructions on the proper response

The program claims an approximate 30% reduction in the rates of rehospitalization. Over 570 health care organizations including hospitals, large physician practices, home care agencies have adopted this model.

Table 1. Care Transitions Intervention Activities by Pillar and by Stage of Intervention

Stage of Intervention	Four Pillars			
	Medication Self-management	Patient-Centered Record	Follow-up	Red Flags
Goal	Patient is knowledgeable about medications and has medication management system	Patient understands and uses PHR to facilitate communication and to ensure continuity of care plan across providers and settings; patient manages PHR	Patient schedules and completes follow-up visit with primary care provider or specialist and is prepared to be an active participant in interactions	Patient is knowledgeable about indications that condition is worsening and how to respond
Hospital visit	Discuss importance of knowing medications and having a system in place to ensure adherence to regimen	Explain PHR	Recommend primary care provider follow-up visit	Discuss symptoms and drug reactions
Home visit	Reconcile prehospitalization and posthospitalization medication lists Identify and correct discrepancies	Review and update PHR Review discharge summary Encourage patient to update and share PHR with primary care provider or specialist at follow-up visits	Emphasize importance of follow-up visit and need to provide primary care provider with recent hospitalization information Practice and role-play questions for primary care provider	Assess condition Discuss symptoms and adverse effects of medications
Follow-up telephone calls	Answer remaining medication questions	Remind patient to share PHR with primary care provider or specialist Discuss outcome of visit with primary care provider or specialist	Provide advocacy in getting appointment, if necessary	Reinforce when primary care provider should be telephoned

Source: (Coleman, Parry, Chalmers, & Sung-joon, 2006)

Table 3. Utilization Outcomes*

Variable	Intervention Group (n = 379)	Control Group (n = 371)	2-Sided P Value†		OR (95% CI)
			Unadjusted	Adjusted‡	
Rehospitalization					
Within 30 d	8.3	11.9	.11	.048	0.59 (0.35-1.00)
Within 90 d	16.7	22.5	.05	.04	0.64 (0.42-0.99)
Within 180 d	25.6	30.7	.15	.28	0.80 (0.54-1.19)
Rehospitalization for same diagnosis as index hospitalization					
Within 30 d	2.8	4.6	.21	.18	0.56 (0.24-1.31)
Within 90 d	5.3	9.8	.03	.04	0.50 (0.26-0.96)
Within 180 d	8.6	13.9	.045	.046	0.55 (0.30-0.99)

Source: (Coleman, Parry, Chalmers, & Sung-joon, 2006)

Transitional Care Model (TCM)

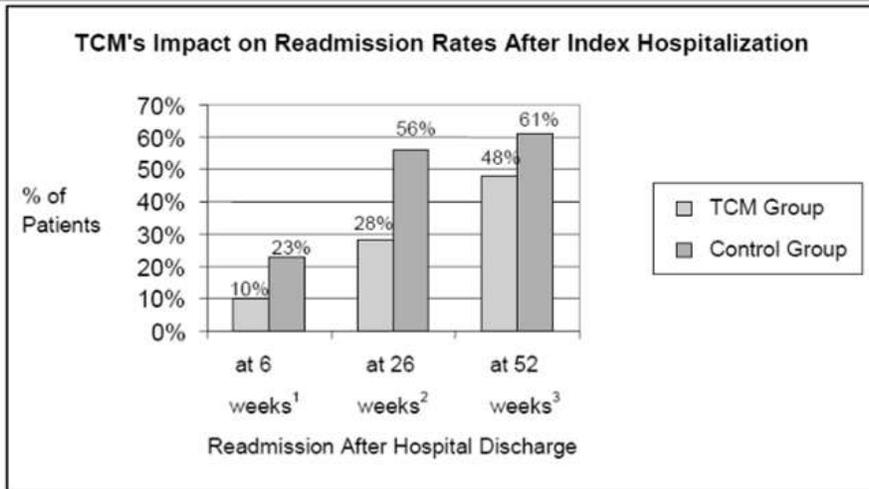
Developed at the University of Pennsylvania led by Mary Naylor, PhD, RN, this model states as its primary goal “to address the negative outcomes associated with breakdowns in care when older adults with complex needs transition from an acute care setting to the home or other care settings”. It also emphasizes on patient and caregiver engagement and empowerment by focusing on their stated goals and priorities. This model employs a Transitional Care Nurse (TCN) who follows the patient from the hospital to the home, making weekly home visits for an average period of 2 months. They are also accessible to the patient via telephone every day of the week during this period. The TCN develops an individualized plan in conjunction with the patient/caregiver and works to enable them to manage their care at home. The TCN also

accompanies the patient on the first post-discharge appointment as well as subsequent visits if necessary. Compared to the CTI model where the nurse makes one home visit, the TCN may visit a patient repeatedly after discharge over an extended period of time, leading to an enhanced working relationship between them and the patient/caregiver. This likely also minimizes the chances of medical errors and mitigates communication gaps between providers.

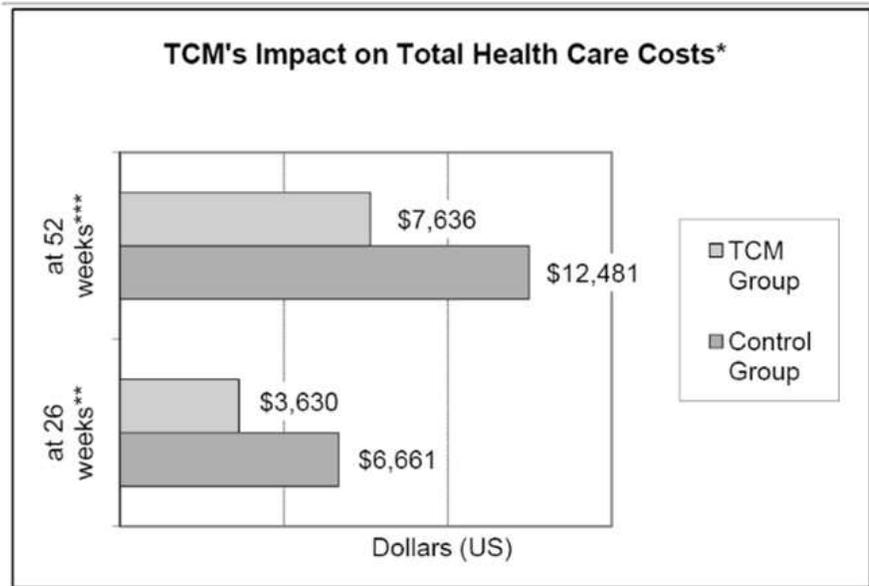
The main tenets of this model are:

1. In-hospital assessment, preparation and development of an evidence-based plan of care.
2. Consistency of provider across the entire episode of care with the TCN as the primary coordinator of care.
3. Regular home visits with available, ongoing telephone support (24 hours per day, 7 days per week) through an average of 2 months post-discharge.
4. Comprehensive, holistic focus on each patient's needs, including the reason for the primary hospitalization as well as other complicating or coexisting events.
5. Active engagement of patients and their family and informal caregivers, including education and support.
6. Emphasis on positioning older adults and their family/caregivers for longer term, positive outcomes that result in early identification and response to health care risks and symptoms, and avoidance of adverse and untoward events that lead to readmissions.
7. Multidisciplinary approach that includes the patient, family, informal and formal caregivers as part of a team.
8. Physician–nurse collaboration.
9. Communication to, between, and among the patient, family, and informal caregivers, and health care providers and professionals.

Participants applying this model have demonstrated a drop in readmission rates of 36% over a 52 week period. Additionally, for the patients who did require rehospitalization, the time between primary discharge and readmission was longer and their length of stays shorter when compared to non-intervention patients. Understandably, this model is more resource intensive than CTI and that probably explains the more widespread adoption of CTI than TCM.



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* Total costs were calculated using average Medicare reimbursements for hospital readmissions, ED visits, physician visits, and care provided by visiting nurses and other healthcare personnel. Costs for TCM care is included in the intervention group total.
 ** Naylor et al., *JAMA*, 1999; www.transitionalcare.info
 *** Naylor et al., *JAGS*, 2004
 Source: *Transitional Care Model*. (n.d.). Retrieved April 17, 2012, from www.transitionalcare.info:
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Project BOOST

National transition of care initiative sponsored by the Society of Hospital Medicine and led by an advisory board comprising of representatives from Agency for Healthcare Research and Quality (AHRQ), Blue Cross and Blue Shield Association, Centers for Medicare and Medicaid Services, Centers for Disease Control and Prevention, Institute for Healthcare Improvement (IHI), The Joint Commission, and Kaiser Permanente. BOOST objectives are as follows:

- Identify high-risk patients on admission and target risk-specific interventions(TARGET tool)
- Reduce 30 day readmission rates for general medicine patients
- Reduce length of stay
- Improve facility patient satisfaction and HCAHPS scores
- Improve information flow between inpatient and outpatient providers

BOOST interventions are designed keeping in mind the following elements:

1. Institutional support for and prioritization of this initiative, expressed as a meaningful investment in time, equipment, informatics, and personnel in the effort.
2. A multidisciplinary team or steering committee that is focused on improving the quality of care transitions in the institution.
3. Engagement of patients and families and recognition of the central role they play in executing the post-hospital care plan.
4. Data collection and reliable metrics that, at a minimum, reflect any relevant CMS core measures and the relevant PQRI measures. These data should be transformed into reports that inform the team and frontline workers of progress and problem areas to address.
5. Specific aims, or goals, that are time defined, measurable, and achievable.
6. Standardized discharge pathways that highlight key medications and any medication changes, important follow-up and self-management instructions, and any pending tests.
7. Policies and Procedures that are institution specific and that support the order sets and promote their safest and most effective use. These documents must be widely disseminated and used and when possible embedded in the order set. A high-reliability design should be used to enhance effective implementation. These policies and procedures should outline and guide the care team in:
 - Team communication
 - Content of the discharge summary
 - Patient education
 - Medication safety and polypharmacy
 - Symptom management
 - Discharge and follow-up care
8. Comprehensive education programs for health care providers and patients, reinforcing both general and institution-specific information about the discharge process and use of specific tools.

Project BOOST is perhaps the most comprehensive national model with the widest reach at this time, offering a detailed implementation guide, mentoring services for a year, an online data center and communication resources between participant programs. Hospitals can pick and choose which of these resources to use and the implementation of BOOST initiatives does not exclude adoption of interventions from other models.

In a study of 11 hospitals that implemented one or more Project BOOST tools, hospitals reduced 30-day readmissions by an average of 13.6 percent.²⁷ Results also indicate that BOOST tools improve communication and collaboration across hospital function and outpatient physicians as well as of increased level of service from the patient's perspective.

Project Re-Engineered Discharge (RED)

Project RED is a research group under the leadership of Dr. Brian Jack, based at Boston University Medical Center, that develops and tests strategies to improve the hospital discharge process in a way that promotes patient safety and reduces re-hospitalization rates. The RED (re-engineered discharge) intervention is founded on 12 discrete, mutually reinforcing components and has been proven to reduce rehospitalizations and yields high rates of patient satisfaction.

In Hospital (Discharge advocate)

1. Ascertain need for and obtain language assistance.
2. Education about relevant diagnosis throughout hospitalization
3. Make appointments for post discharge physician visit and laboratory testing.
4. Discuss pending in-hospital tests and who will follow up
5. Organize post discharge services
6. Confirm medical plan
 - medicine reconciliation
 - medication side effects
7. Reconcile discharge plan with national guidelines
8. Review what to do if problem arises after discharge
9. Transmit discharge summary to accepting physician
10. Assess patient understanding (may involve family)

After Hospital

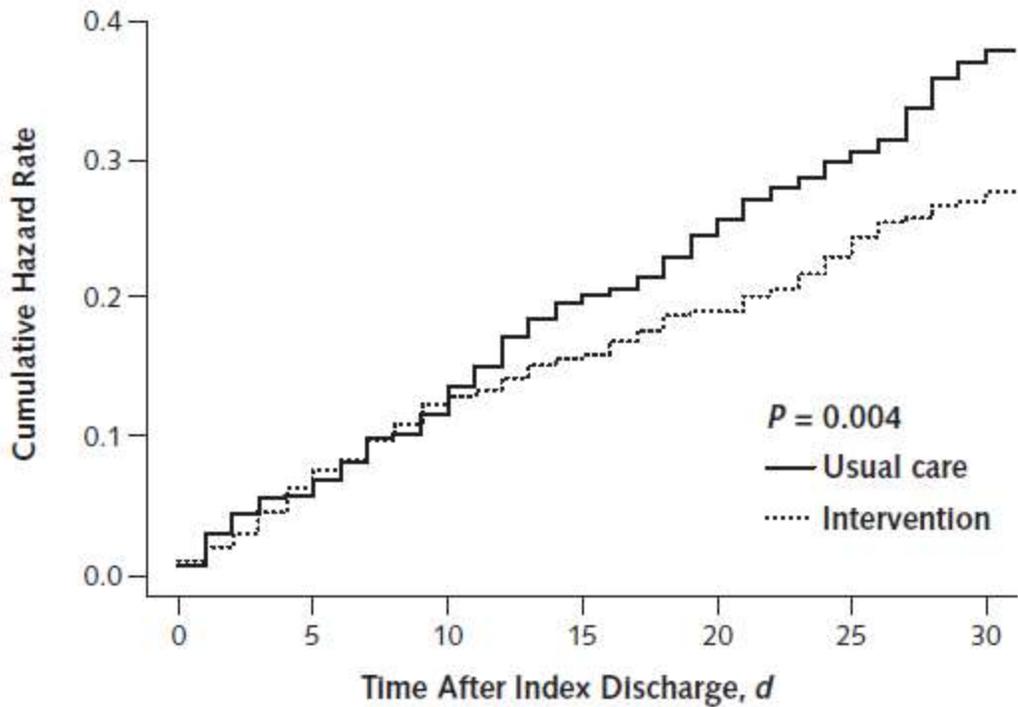
11. Provide patient written plan of discharge
 - Reason for hospitalization
 - Discharge medication list
 - Contact information and picture of PCP
 - Information for follow-up (PCP, specialty care and laboratory)
 - Information for tests for which confirmed results are not available at time of discharge

Pharmacist 2 days post-discharge

12. Call patient to reinforce discharge plan, review medications, solve problems

An innovative approach to teaching patients and caregivers developed by Project RED involves the use of a “Virtual Patient Advocate (Louise)”, a digital nurse whose dialogue is personalized for each patient. 74% of hospital patient preferred receiving their discharge instructions from Louise citing that the digital nurse relayed the information in a more understandable manner and was not rushed.

Most of the focus of the Project RED interventions are at the time of the hospital stay or at time of discharge. While the 2-3 days post-discharge follow-up phone call is part of the model, there isn't as much support for patients after discharge as the CTI or TCM models or emphasis on patient empowerment. There is much less need for specialized training of personnel to deploy Project RED interventions making it easier to adopt. Some hospitals have elected to combine Project RED and TCM to ensure more complete support through the transition process.²⁸ Project RED adopters have shown a 30% lower rehospitalization rate and a 33.9% reduction in cost similar to cost savings noted with the CTI model.



Cumulative Events*						
Usual care	30	59	87	111	132	164†
Intervention	30	51	63	75	97	110†

Best Practices

Standardized high quality handoff processes should be prioritized. This should address both timeliness and quality of the information sent to the next level of care or PCP. The discharge summary should be designed to help the PCP orient themselves quickly on the most important events of the hospitalization including reason for admission, significant findings and data, major procedures and treatment provided, incorporate accurate medication reconciliation (including changed/stopped/new medications), patient's discharge condition, patient and family instructions. Most important to include are follow-up plans, appointments and information about pending test results as well as recommended work-up. This information can only be of benefit if it reaches the PCP in a timely fashion hence all efforts should be made to transmit the discharge document at the earliest possible and definitely before the patient's first post-discharge visit. Data shows that there is a 0.74 relative risk of decreased rehospitalization for these patients compared to those whose discharge summaries were delayed.¹⁸

Accountability at all stages of transition should be clear. This involves clearly defined roles and responsibilities for all providers involved in the transitions process. This may include the discharging provider, Transitions Coaches or Care Coordinators, Patient Navigators and the receiving provider. It is critical to have an easily identifiable provider available to the patient and clear information about what to do in case something isn't working as planned.

Empowering the patient and the family to self-manage is key to continuity of care. This requires engaging them at all levels of care, taking into consideration their values and priorities, imparting the knowledge that is required to self-manage and ensuring that they have appropriate resources to carry through the plan.

Strategies to increase cross-venue coordination are critical as the health care delivery systems become more complex. Improving synergy between institutions that care for the same patient populations can help ensure more seamless care and reduce risk of errors. Development of ACOs, patient-centered medical homes, bundled payment structures all reflect the push towards greater coordination between venues. This will require some degree of standardization of processes and interoperability of systems and clear guidelines that govern operations. Advances in EHR technology and its effective use potentially can help reduce errors, ensure smoother transitions and aid coordination of care.

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