Potentially Preventable Readmissions: Conceptual Framework To Rethink the Role of Primary Care
Final Report

Agency for Healthcare Research and Quality

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Final Report

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INTRODUCTION

High rates of readmissions are a major patient safety problem associated with adverse events such as prescribing errors and misdiagnoses of conditions in the hospital and ambulatory care settings. For the past decade, payer and provider efforts to reduce readmissions have proliferated. Many of these national programs have been informed or guided by evidence-based toolkits and guides. The programs include:

- AHRQ's: RED (Re-Engineered Discharge),
- STAAR (STate Action on Avoidable Readmission), and
- Project BOOST (Better Outcomes by Optimizing Safe Transitions).

These programs have largely focused on enhancing practices occurring within the hospital setting, including the discharge process and handoffs to receiving providers or settings of care. While many of these resources have recognized the critical role of primary care in managing care transitions, there has not been an explicit focus on enhancing primary care with the aim of reducing avoidable readmissions.

Evidence-based information for the primary care setting to reduce readmissions and improve patient safety are comparatively lacking. This gap in the literature is becoming more pronounced as primary care is increasingly called to serve the key integrator role across the health system as part of payment and delivery system reforms. Primary care providers' training and general orientation toward wellness and illness care across a spectrum of both acute and chronic conditions make them ideally suited to play this integrator role and assume leadership roles in delivery system transformation.

This transformation in primary care is taking a variety of forms that often include:

- Enhanced care coordination services such as embedded nurse care managers,
- Delivery of care through multidisciplinary care teams operating on a single care plan,
- Redesigned clinic workflow to ensure that the right staff member gets to the right patient in the most efficient manner,
- Patient engagement strategies for working collaboratively with patients and their family members,
- Integrated behavioral health services, and
- Referral to social services.

These enhanced primary care programs are supported by payments for patient-centered medical homes (PCMHs) and contracts issued by emerging accountable care organizations (ACOs).

As part of these delivery system transformations and participation in the Community-Based Care Transitions Program (CCTP), primary care practices are implementing a range of strategies for improving care transitions. These strategies include:

- Hiring their own hospitalists,
- Visiting primary care patients while in the hospital,

- Expanding the numbers and types of care coordinators,
- Providing 24/7 access to their services,
- Providing transportation services to appointments,
- Performing medication reconciliation,
- Conducting home visits, and
- Referring their patients to social services to address unmet nonmedical needs, many of which relate to the social determinants of health, such as food security and housing.

These individual care transition strategies are part of a broader movement in primary care toward the development of "medical neighborhoods," which has important implications for this project. The movement is predicated on the fact that although primary care providers are tasked as key integrators in the healthcare system, their interaction with patients is still a fairly limited role in the context of patients' lives. Therefore, primary care must develop strong coordination with their constellation of "neighbors"—such as other clinicians, organizations, and institutions—to successfully improve patient's care experience, improve quality of care and outcomes, and reduce costs.

While the transition from the hospital to primary care is important, the medical neighborhood perspective broadens the scope of care coordination to other community partners. This understanding of the primary care setting means that this project cannot be limited solely within the walls of primary care. The conceptual framework needs to examine what happens before and after as well, particularly when it comes to the infrastructure and relationships that support this "expanded" process that will be mapped.

As the evidence base for reducing adverse events and readmission from the primary care setting grows, there is also a greater appreciation of the barriers and challenges to redesigning the primary care process. The project team's research, and that of others, indicates that most primary care practices do not receive timely notification of their patients having been admitted or readmitted to a hospital or emergency department. Often, care navigators do not make appointments within the 14-day window in which most readmissions occur, and some primary clinics experience high no-show rates.

The initial primary care visit after an inpatient stay may be suboptimal due to lack of a shared care plan, a common electronic medical record, and payments for care coordination. In addition, productivity incentives may limit the time available for the visit. High-risk patients who may have experienced multiple hospitalizations in a relatively short time may not receive the high-touch, high-intensity care, including home visits and frequent followup calls or visits, needed to prevent readmissions. Some of these barriers and challenges may be addressed through a re-engineered primary care visit, while others are broader challenges outside the scope of any individual primary care practice.

The purpose of this project was to address the important and unfulfilled need to improve patient safety and reduce potentially preventable readmissions within the primary care context. The technical approach combined formative qualitative research with quality improvement techniques to identify key principles for a conceptual framework on the role of primary care to improve quality and safety for patients after hospital discharge. The project drew from the

perspectives of the primary care community—community partners, hospitals, patients, and other stakeholders—to inform future research and effective interventions that can be tested in a diverse set of primary care practices.

This final report summarizes the methods and findings from the project activities JSI completed from September 2015 to September 2018. These included:

- Convening a technical expert panel,
- Conducting an environmental scan,
- Interviewing key informants,
- Analyzing primary care processes, and
- Identifying conceptual framework components.

TECHNICAL EXPERT PANEL

JSI convened a technical expert panel (TEP; Table 1) to provide advice on how to develop a conceptual framework to better deliver care to recently discharged hospital patients. JSI, with input from AHRQ, selected the TEP members based on the following criteria:

1. The candidates' authority in their areas of expertise;
2. Coverage across areas of expertise;
3. Their ability to provide input across the major project tasks;
4. Recent experience as a practitioner; and
5. Perspectives that will complement those of the project staff, primary care sites, and key informant interviews.

Table 1. Technical Expert Panel Members

Panelist Name	Title and Organization	Professional Role/Affiliation Type
Carol Levine, M.A.	Director of the United Hospital Fund's Families and Health Care Project, Founder of Next Step in Care	Regional patient advocacy organization
Henry Chung, M.D.	Vice President and Chief Medical Officer of Montefiore Care Management	Psychiatrist; regional care transformation leader
Lisa Letourneau, M.D., M.P.H., FACP	Executive Director of Maine Quality Counts	Regional quality improvement (QI) organization
Bernadette Thomas, APRN	Chief Nursing Officer at East Boston Medical Center	Practicing chief nursing officer (CNO)
Shawna J. Perry, M.D.	Associate Chair, Associate Professor of the Department of Emergency Medicine at Virginia Commonwealth University School of Medicine	Practicing emergency department (ED) clinician and human factors background
Walter Rosenberg, M.S.W.	Manager of Transitional Care at Rush Medical Center, Coordinator for Project Bridge	Practicing social worker
Gail Burniske-Sanchez, Pharm.D., BCPS	Pharmacist involved with RED at Boston Medical Center	Practicing pharmacist
Kevin M. Schuer, Dr.P.H., PA-C	University of Kentucky College of Health Science	Practicing physician assistant (PA)

The TEP provided guidance at several points throughout the project, such that they offered input on all the major tasks contributing to the development of the conceptual framework:

- Environmental scan,
- Key informant interviews,
- Analysis of primary care processes,
- Identification of key components, and
- Dissemination of the project's deliverables and findings.

Meetings with the TEP, in addition to email correspondence, informed the TEP about the project activities and solicited feedback on research design, findings, and deliverables. The TEP meetings were held in January 2016, October 2016, and July 2018.

ENVIRONMENTAL SCAN

The research team conducted an environmental scan of the primary care-based efforts to reduce avoidable readmissions described in both peer-reviewed literature and the "grey" literature. The team found peer-reviewed items using the PubMed, Ovid, and Cumulative Index to Nursing and Allied Health Literature databases. Grey literature was found through ahrq.gov, innovations.ahrq.gov, innovations.cms.gov, google.com, and rwjf.org.

This review found emerging literature on primary care-based care transition programs, but this literature is less robust than the literature on hospital-based programs. Few high-quality controlled studies have been conducted of interventions aimed at addressing and overcoming the challenges and barriers noted earlier. Moreover, the types of interventions that have been studied vary in nature and in the settings where they have been conducted. While many of these shortcomings are apparent in the literature on hospital-based care transition programs, they appear even more pronounced among primary care-based programs. However, the scan was valuable to identify current evidence on primary care-based care transition strategies (Table 2).

Table 2. Evidence on Primary Care Transition Strategies

Intervention	Outcomes
Primary care notifications when patients are hospitalized	Hospitalizations were reduced for some conditions in one study, but another showed no impact on timeliness of followup visits or readmissions.
Early identification of postdischarge complications	Most of the studies did not demonstrate evidence of reduced 30-day readmissions or emergency department visits (except a quasi-experimental telemonitoring study), but many showed increased rates of primary care followup appointments.
Medication management	No improvement was seen in 30-day readmission rates, but a couple of studies demonstrated cost savings.
Bundled care coordination interventions implemented in primary care practices affiliated with hospitals	**Most studies showed reduced 30-day readmissions**. Among the studies that did not demonstrate reduced readmissions (including a randomized controlled trial), other benefits included **reduced 30-day emergency department visits** and **reduced readmissions for high-risk patients.**
Primary care-based care transitions programs led by health plans	All three studies demonstrated reduced hospital readmission rates.

As is the case for hospital-based interventions, the most encouraging approaches seem to involve multicomponent bundled interventions aimed at addressing multiple challenges that patients and providers face. Several controlled studies of bundled care coordination interventions described in this review found substantial improvements in several outcomes, including readmission rates. Common activities included in successful bundled interventions involved care coordination efforts, medication management, postdischarge telephonic outreach, and patient education.

Similar to the literature on hospital-based interventions, the studies that primarily included only a single focused intervention typically failed to demonstrate a meaningful impact on patient outcomes such as readmission reduction. For example, the data suggest that coordinating postdischarge primary care visits for patients, without other concurrent care coordination efforts, is unlikely to lower readmission rates.

Presumably, many of the factors leading to readmissions cannot be addressed through any single effort alone; however, narrow care coordination efforts may affect other outcomes, including the experience of patients and frontline providers. The notable exception to this finding is the one study that found that automated alerts notifying primary care clinicians when their patients were admitted and discharged may provide modest benefits in isolation.

A second theme is that many primary care-initiated care transition programs occurred within the context of more general primary care transformation efforts guided, either explicitly or implicitly, by a PCMH model aimed at improving care for patients longitudinally. Importantly, however, these general transformation efforts may not require official PCMH certification to succeed. This finding contrasts with most hospital-based care transition efforts that can be effective without being part of a larger hospital-based care redesign effort.

It is possible that broader PCMH-guided transformation efforts may provide an anchor for effectively implementing and sustaining primary care-initiated care transition programs. Indeed, care coordination resources, such as case management staff, may be leveraged for multiple purposes, driving efficiencies. Similarly, care transition efforts may synergize with more general efforts aimed at promoting continuity, quality improvement, access, and holistic care that are fundamental to the PCMH model.

A third theme is that the approach to primary care-based PCMH interventions may vary depending on the setting. Such transition efforts are facilitated by clinical and financial integration between clinics and hospitals. For example, independent community primary care practices face particular challenges coordinating care for patients after hospitalization, because they are not affiliated with hospitals or other networks that can assist with or facilitate coordination efforts during care transitions.

In such settings, primary care clinics that lack the scale to hire their own dedicated care coordination staff may attempt to leverage community resources, such as those available through third-party payers or hospitals, to support their patients. Such networks may offer dedicated care management staff to track hospitalized patients and ensure appropriate information from the hospital is communicated to primary care clinicians.

In addition, in fully integrated care delivery systems, health information exchange and communication between the inpatient and primary care settings are greatly facilitated. Nevertheless, there remain important needs to ensure effective transitions for patients admitted to out-of-network hospitals. Even within these systems, communication during care transitions is critical. A key component of the successful Group Health PCMH demonstration, which took place at an integrated delivery system, involved protocoled outreach to patients in the peridischarge period.

A fourth theme is that many of the primary care-based interventions reviewed were funded by grants or other temporary funding mechanisms. For example, many of the staff members used in these interventions - nurses, pharmacists, and care managers - did not provide directly reimbursable services. Thus, additional clinics could not initiate these programs without external support, raising important concerns about the sustainability of these programs.

In some settings, primary care clinics are part of organizations bearing financial risk for their population. As such, primary care-based transition programs may be justified by value added either in experiential outcomes, such as improvements in patient experience or quality scores, financial outcomes, such as cost avoidance, or both. However, many primary care providers in the United States do not work within organizations bearing direct financial risk, and expenditures on interventions aimed at improving care coordination at the time of hospital discharge may not reap financial returns. Thus, in addition to identifying optimal primary care approaches for improving care transitions, it will be necessary to consider funding mechanisms to support such activities.

Several articles examined in the section about readmission reduction efforts led by payers show the feasibility of implementing care transition programs on a large scale in a sustainable way. Opportunities are also emerging through Medicare and some commercial payers to reimburse for care management services, including those connected to care transitions.

Finally, it is worth noting that while general themes emerged, the outcomes of the programs described were not universally predictable based on definable patterns. Specifically, some programs succeeded despite being narrowly focused while others did not achieve the intended outcomes even though they were broad in scope and took place within a favorable setting.

This finding is common among health service interventions and may relate to intangible factors such as the overarching culture of a particular organization. It also may explain, in part, why programs initiated within the context of more general primary care transformation efforts guided by a PCMH model tend to be more successful. The presence of a PCMH initiative may be a marker of a favorable culture associated with programmatic success. Thus, although the above-described themes can help guide primary care organizations as they implement care transition programs, intangible factors also may influence success.

The full environmental scan can be found on the AHRQ website at https://www.ahrq.gov/patient-safety/settings/ambulatory/reduce-readmissions.html.

KEY INFORMANT INTERVIEWS

As examined in the environmental scan, research to date on primary care-based care transition interventions has been much less developed than hospital-based interventions. JSI interviewed primary care experts and primary care clinics to complement the environmental scan given several gaps in information identified, forming the basis for three main topics of interest in the interviews:

1. Relationship between the PCMH framework and primary care-initiated efforts to reduce readmissions;
2. Research and development of existing tools and resources for primary care-initiated efforts to reduce readmissions; and
3. Promising practices and efforts in smaller, independent practices.

In addition, the project team examined potential key components for the conceptual framework, or perhaps more broadly, the primary care-led approach to reducing readmissions. These interviews highlighted that, in addition to the PCMH, many existing primary care-based care coordination models can be used to inform the primary care-led approach to reducing potentially preventable readmissions.

Key informant interviews were conducted with six primary care experts and individuals affiliated with three primary care sites known for high-quality care transitions work. Of these experts, three are known for their extensive experience with the PCMH model and three are known for their contributions to the development of various tools and resources to reduce readmissions from the primary care perspective. The three primary care sites were selected because they represented several different types of primary care practices known for best practices related to hospital readmissions.

The interviews included the following experts and practices:

- Experts on PCMH:
  - The MacColl Center: Ed Wagner, M.D., M.P.H., and Katie Coleman, M.S.P.H.
  - Thomas Bodenheimer, M.D., M.P.H.
  - Carlos Jaén, M.D., Ph.D.
- Experts on resources and tools to reduce readmission:
  - Chad Boult, M.D., M.P.H., M.B.A.
  - Darren A. DeWalt, M.D., M.P.H.
  - Ben Miller, Psy.D.
- Best practice primary care sites:
  - Southeast Texas Medical Associates: James L. Holly, M.D.
  - West County Health Centers: Jason Cunningham, D.O.
  - The Wright Center for Primary Care: Linda Thomas-Hemak, M.D.

Every key informant mentioned challenges primary care practices face in improving care coordination, such as lack of reimbursement for such services and lack of collaboration across different care settings. These challenges may be particularly difficult in attempts to integrate behavioral health. However, some challenges can be overcome through innovative solutions, such as West County Health Centers' use of video conferencing to meet with patients during hospitalization and at home, and being able to bill for the video home visit.

The key informants agreed that no single method could be recommended for primary care practices to reduce readmissions. Still, they believe that primary care practices—regardless of size, available resources, or payment environment—can and should work to improve care coordination and the quality and safety of care more broadly, in ways that best suit their practice's context.

ANALYSIS OF PRIMARY CARE PROCESSES

The analysis of primary care processes examined the postdischarge workflow from the perspectives of primary care staff, community agency staff, and patients. This section describes the research conducted with each of these groups. The Summary of Common Data Collection Instruments at the end of this report provides an overview of the survey instruments used for the analysis.

Primary Care Staff

A significant challenge of re-engineering the primary care workflow lies in the heterogeneity of primary practices in their structures and readiness for care transition efforts. Therefore, the team selected diverse primary care sites to inform the research and ensure that the conceptual framework would be as widely applicable as possible. In addition, multiple primary care practice sites were included to mitigate some of the limitations of other readmission reduction interventions that were based on fieldwork and evaluations at a single organization and clinical site.

To include greater heterogeneity among the sites, the project team identified and recruited practices with consideration of factors such as:

- Location,
- Practice size,
- Patient population,
- Payment arrangements with physicians,
- Involvement in care transition improvement efforts, and
- Degree of affiliation (Table 3).

Even within these three organizations, considerable variation exists between individual clinics, which can be due to differences in staffing, capabilities at the site level, size, patient populations, and relationships with and proximity to hospitals.

Table 3. Sites Chosen for Analysis

Organization Location/Site Investigator	Primary Care Site
Cambridge Health Alliance; Boston, Massachusetts Dr. Rich Balaban, Cambridge Health Alliance	Cambridge Health Alliance
	Somerville Family Practice
	Codman Square
Kaiser Colorado; Denver, Colorado Dr. Ted Palen, Kaiser Permanente Colorado	Westminster Clinic, Kaiser Permanente
	Parker Clinic, Kaiser Permanente
	Aurora CentrePointe
AltaMed; Los Angeles, California Dr. Mike Hochman, AltaMed/USC	El Monte
	Pico Rivera
	AltaMed IPA

To analyze current processes in the primary care workflow associated with post-hospital discharge, the research team conducted the following data collection activities with each of the nine sites:

- Primary care site organizational characteristics survey,
- Primary care site patient characteristics survey,
- Workflow mapping preliminary interviews, and
- Workflow mapping follow-up interviews.

Across the nine sites, approximately 133 primary care staff were involved in this project as research participants. The primary care staff role types included:

- Doctors,
- Nurse practitioners,
- Nurses,
- Medical assistants,
- Care gap coordinators,
- Pharmacists,
- Health information management team members,
- Call center staff, and
- Front office staff.

Despite differences, the nine sites had several key commonalities:

- Primary care staff, across different role types, are dedicated to the well-being of their patients. They work to overcome challenges of various kinds to address patient needs and often have ideas on how to improve care delivery that are specific and feasible for their practice.
- The greatest challenge staff faced overall was obtaining discharge summaries, particularly for out-of-network patients. Other common challenges included having enough time to deliver care during the followup visit and addressing behavioral health, social, and transportation needs.

- The postdischarge process at these sites had many common elements, such as medication reconciliation and patient education, but some or all aspects of the care transition process were not systematic. In addition, some other tasks that may be helpful to care transitions such as “reaching in” to speak with the patient and inpatient team during hospitalization, were rare.

This research on current care transition processes in nine different primary care sites does not capture the full diversity of the primary care field, but it does offer some key insights and implications for the framework:

- First, much heterogeneity exists in workflow processes and the sites in which they are implemented. A one-size-fits-all approach would be ill suited for the diversity of primary care practices and their care transition processes; however, several key principles and components should apply to all primary care sites.
- Second, given the importance of primary care as a nexus of care for patients, successful information exchange and care coordination will require partnership with other entities, such as hospitals, post-acute care agencies, and departments or organizations that deliver behavioral health, social, and transportation services.
- Finally, involvement of both clinical and nonclinical staff is both necessary and valuable to designing and implementing an effective care transition process. The successful engagement of primary care staff across different role types will help inform an effective system that can occur over the long-term.

Community Agency Staff

The perspective of community agencies, affiliated with the primary care sites to assist patients, was examined since social determinants of health are important to providing safe care and preventing avoidable readmissions. To date, little has been published on the integration of services typically delivered through community agencies, although they can play an important role in care transitions.

The project team interviewed 18 staff from 14 community agencies in Boston, Denver, and Los Angeles. The staff interviewed provided a variety services, including visiting nurses, transportation, mental health/substance use, and aging services. Sometimes they were housed within a healthcare system department; other times, they were community-based organizations.

Several themes emerged from the community agency interviews. First, many social determinants of health are not systematically assessed or addressed in primary care. Primary care can claim greater ownership of care transitions as the hub of the medical neighborhood by reliably screening for behavioral health and social needs.

A lot of emphasis is placed on referrals during or after the followup visit, but the previsit period is also important for communication with services. A system is needed to get valuable input from outside services. Primary care should also have a process for screening and connecting patients to services during and after the followup visit.

Second, community involvement in care transitions can be complicated by tremendous diversity in service types and how they are involved in the healthcare system, such as the degree to which services are medical in nature and integrated with primary care. An additional complication is diversity in how these services are delivered and associated challenges, such as need over time, referral versus services, communication/coordination breakdowns, and reimbursement.

Finally, working relationships with services are needed to fix communication/coordination breakdowns so they can be more involved, earlier in the process. Community agencies often do not know whom to contact about improving processes, or they have been disregarded despite attempts at communication.

Patients

The project team captured patient perspectives on potential breakdowns in making the transition from the hospital to care in the primary care setting. While only 30 patients were interviewed, it provided a critical perspective, in the patients' own words, about the initial hospitalization and barriers to accessing followup care.

For various reasons, patient input is sometimes missing. For example, some evidence-based toolkits do not include input from patients due to limitations such as recruitment issues and resources. In addition, clinical experience suggests that some providers may not identify patient needs and concerns or plan accordingly in both hospital and primary care settings.

Research has shown that cultural, social, and behavioral factors may contribute to readmissions and assessing the patient's perspective facilitates a better understanding of the barriers to appropriate followup care. Patient and family interviews are increasingly common practices in efforts to improve care transitions and reduce readmissions, such as those endorsed by the Centers for Medicare & Medicaid Services, the Institute for Healthcare Improvement, and Kaiser Permanente, among others.

Due to the project scope, the project team did not conduct family interviews. The patient interview was thus a method to collect unique information on the barriers to effective care transitions in the postdischarge period, information that cannot be collected in other ways.

Several themes emerged from the patient interviews. First, patients greatly value open lines of communication between patients and their primary care physicians (PCPs). Some patients said they would have liked a call from their PCP during their hospitalization. Most patients expect the PCP to know everything about their hospital stay by reviewing the hospital records and medication list before the followup visit. Whether or not these reviews occurred, the primary care followup visit remained highly valuable to patients as a way to bring their PCP up to speed with their current health status postdischarge.

Second, most patients interviewed wanted a followup visit with their PCP and assistance with making this appointment prior to discharge. Even when a process was in place to schedule a postdischarge followup visit, patients would still not be contacted at times. It is unclear whether the contact information was incorrect or the outreach had been left undone.

Finally, nearly half of the patients interviewed had specific medical and nonmedical needs at the time of discharge that had not been addressed. Patients reported feeling lost on how to obtain-home care providers, transportation, stable housing, disability placards, medications, and durable medical equipment. Transportation was a particularly important need given how much it affected access to care beyond the postdischarge followup visit, such as specialist appointments and pharmaceutical needs.

IDENTIFICATION OF CONCEPTUAL FRAMEWORK COMPONENTS

To identify the key components for the conceptual framework, the research team met regularly to discuss emerging themes and implications. Information was synthesized from the environmental scan, key informant interviews, and interviews with primary care staff, patients, and community agencies. The goal was to develop a set of proposed principles and processes to identify and address gaps in care.

The synthesis process began formally during an in-person meeting with the research team and AHRQ. In addition, the research team developed a set of principles and components for a model of improved patient reintegration into primary care and the patient's community. With feedback from AHRQ and the TEP, the project team discussed and revised the framework.

Three key considerations guided how the research team determined the framework scope and substance:

1. First, the team sought to identify ways primary care can support patient-centered postdischarge care, drawing from relevant preceding work and the project interviews. The main focus was on recommendations on processes that can enhance the primary care-patient relationship and care delivered during the postdischarge period rather than components that are fundamental to all primary care.
2. Second, the project team sought a balance between the aspirational and practical, with an eye to challenging the status quo without overwhelming it; the conceptual framework strives not to add more burden on individual primary care providers, but instead organize and standardize work more efficiently in team-based processes.
3. Third, the project team sought a balance between prescriptiveness and flexibility, especially given the great diversity of primary care settings in terms of available health information exchange, staff, patient populations, and other characteristics. The concepts are meant to be relevant for all settings from small clinics to large healthcare systems; although implementation will necessarily differ for each site.

The conceptual framework has five principles, or fundamental concepts:

1. The primary care team should serve as the key integrator of postdischarge patient care.
2. Several critical steps differentiating a postdischarge followup visit from a typical office visit require reliable primary care systems to be in place.

3. Within the primary care practice, high-quality care transitions require defining a system of care that is team-based and encompasses:

    - The admission,
    - The immediate postdischarge period,
    - The first followup visit, and
    - The immediate postvisit period, including additional followup visits.

4. At the healthcare systems level, primary care must develop and implement a systematic approach to timely, appropriate, bidirectional information exchange and coordination with hospitals, post-acute care agencies, and behavioral health and social support services.
5. The primary care team must systematically assess and address whole-person needs in a patient-centered fashion that leverages the clinician-patient relationship.

CONCLUSION

During the contract period, JSI, with input from AHRQ, conducted exploratory research on how to develop a primary care counterpart to AHRQ's RED. The conceptual framework's goals, principles, and processes dovetail neatly with other primary care transformation efforts currently taking place, such as advanced PCMHs and provider-led ACOs. The team identified a set of key components to serve as the foundation for future research by AHRQ and others on the development, testing, and implementation of the framework.

Further research to test these principles and components will help refine the conceptual framework in order to facilitate adoption/adaptation and implementation by primary care practices. The project provided a new lens with which to view the role of the primary care team in improving quality and safety for patients and reducing postdischarge adverse events and potentially preventable readmissions.

Summary of Common Data Collection Instruments

Form	Administration Time (Estimate in Minutes)	Audience (for Each of the Nine Primary Care Sites)	Survey/Interview Topics
Primary Care Site Organizational Characteristics Survey	90	One primary care site administrator (e.g., medical director)	• Organizational characteristics (e.g., patient-centered medical home status, participation in an accountable care organization) • Number of different staff role types • Patient record management • Care coordination with hospitals
Primary Care Site Patient Characteristics Survey	90	One primary care site information technology (IT) analyst	• Patient demographics • Patient hospitalizations, readmissions, and referrals to the hospital • Timing of primary care followup visits
Work Flow Mapping Preliminary Interview Guide	30	Eight primary care site staff (e.g., nurses, medical assistants, front desk staff)	• Transitional care roles and workflow • Consistency of steps in the workflow • Barriers and challenges experienced in delivering transitional care
Work Flow Mapping Group Interview Guide	90	10 primary care site staff (e.g., nurses, medical assistants, front desk staff)	• Clarification of the transitional care activities that occur during a patient's hospitalization, postdischarge, and before, during, and after the primary care visit • Consistency of transitional care activities in terms of how they are delivered and to which patients
Work Flow Mapping Follow-Up Interview Guide	30	Eight primary care site staff (e.g., nurses, medical assistants, front desk staff)	• Confirmation of transitional care roles and workflow • Impact and frequency of barriers and challenges in delivering transitional care • Suggestions for how to remove or reduce barriers and challenges in delivering transitional care
Community Agency Interview Guide	60	Five community agency staff members (e.g., manager, social worker)	• Overview of community agency services and clients • Client postdischarge needs and relevant services delivered by the agency • Number of joint clients with the primary care practice • Communication and collaboration with the primary care practice
Patient Interview Guide	30	10 primary care site patients after discharge	• Reason for hospitalization • Concerns and challenges postdischarge • Care received postdischarge, including followup phone call or visit • Issues or recommendations to inform better transitional care

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