



Care Transitions: Best Practices and Evidence-based Programs

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Poorly coordinated care transitions from the hospital to other care settings cost an estimated \$12 billion to \$44 billion per year.¹ Poor transitions also often result in poor health outcomes. The most common adverse effects associated with poor transitions are injuries due to medication errors, complications from procedures, infections, and falls.²

Providers are focused on improving transitions, due in part to reimbursement changes under the Affordable Care Act. In October 2012, the Centers for Medicare and Medicaid Services (CMS) instituted penalties for facilities with high readmission rates within 30 days of discharge for three conditions: myocardial infarction (heart attack), heart failure, and pneumonia.³ Hospitals face reimbursement reductions of up to one percent of annual Medicare payments.³ New payment models, including bundled payments and shared savings programs for Accountable Care Organizations, also create incentives to coordinate transitions and provide care in less intensive settings.³ CMS is also encouraging outpatient providers to focus on safe transitions through new reimbursement codes issued in 2013. Providers may bill for care transitions services if they see patients within 14 days of discharge from a hospital, skilled nursing facilities (SNF), or rehabilitation facility.⁴ Improving care transitions for complex patients moving from hospitals to SNFs, to their own home, or to another setting can result in significant savings while improving patient safety.³

This paper summarizes best practices in care transitions and describes successful programs that reduced readmissions and overall costs. The paper also includes an annotated bibliography detailing the research on care transitions (*Attachment A*) and describes the care transitions programs offered by the University of Michigan Health System and Blue Cross Blue Shield of Michigan (*Attachment B*). The program descriptions were developed through interviews with key informants in each program, providing greater detail than was available on care transitions programs at other organizations.

Best Practices in Care Transitions

Best practices in care transitions are based on effective programs focusing on transitions from the hospital to home. There is very little research on transitions from the hospital to settings other than the home (such as emergency departments, nursing homes, or home health).⁵ Therefore, to date, providers must depend on these best practices in hospital-to-home transitions to inform care transition programs for transitions to SNFs and other post-acute care settings.^{2,6}

¹ All references in this paper correspond to item numbers in Attachment A: Annotated Bibliography, which details the research on care transitions. Attachment B describes the care transitions programs offered by the University of Michigan Health System and Blue Cross Blue Shield of Michigan.

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The following program elements are described as best practices in the academic literature:

- **Comprehensive discharge planning.** Prior to discharge, hospital staff organize follow-up services and address patients' financial and psychosocial barriers to receiving needed care, drawing on community resources as needed. Hospital staff call patients one to three days after discharge to address patients' questions, assess symptoms and medications, and reinforce patient/caregiver education. Discharge planning can be conducted by physicians, care managers, nurses, or pharmacists.^{2,7-11}
- **Complete and timely communication of information.** Clinicians in the hospital send discharge summaries to outpatient providers one to two days after discharge, using standardized formats. Essential information includes diagnoses, test and procedure results, pending tests, medication lists, rationale for medication changes, advance directives, caregiver status, contact information for the discharging physician, and recommended follow-up care.^{2,7-9,12}
- **Medication reconciliation.** Clinicians reconcile medications at each transition (for example, to inpatient, outpatient, or post-acute care). Clinicians check the accuracy of medication lists and dosages, and look for contraindications. Clinicians also assess financial barriers to filling prescriptions and provide medication lists to outpatient providers. Medications can be reconciled by physicians, pharmacists, nurses, or care managers.^{2,7-13}
- **Patient/caregiver education using the "teach back" method.** In this method, patients are asked to restate instructions or concepts in their own words. Education can be supplemented by illustrations and written materials at appropriate reading levels. Education focuses on major diagnoses, medication changes, time of follow-up appointments, self-care, warning signs, and what to do if problems arise. Physicians, nurses, care managers, or discharge planners provide education before and after discharge.^{7-11,13}
- **Open communication between providers.** Communication occurs between care settings and among multidisciplinary teams within each setting. Responsibilities are clearly defined for the discharging provider and the subsequent provider. The discharging provider confirms that the subsequent provider received the discharge summary and pertinent test results, and responds to questions promptly. Information transfer involves physicians, nurses, care managers, office personnel, and information technology staff.^{7,8,10-13}
- **Prompt follow-up visit with an outpatient provider after discharge.** Hospital staff schedule follow-up visits prior to discharge. Such visits are generally recommended within seven days of discharge. Providers offer follow-up care, ongoing symptom and medication management, and 24/7 phone access. Physicians, nurses, pharmacists, and/or care managers follow up with patients during office visits, home visits, or by phone.^{2,7,11}

The research strongly suggests that these best practices create a strong foundation for high-quality, cost-saving care transitions from the hospital to home. Multiple providers can share responsibility for completing each best practice, as long as each provider's role is clearly defined. A 2009 consensus guideline on care transitions, which was jointly published by six medical professional societies, also indicates that programs should be evaluated using measures that address gaps in care and directly affect quality.¹²

Successful Programs in the Academic Literature

Most successful care transitions programs have focused on transitions from the hospital to home, as have almost all of the transitions programs that were evaluated in randomized controlled trials (RCTs)—the gold standard of research. Three of the effective hospital-to-home programs not only reduced readmissions or poor outcomes, but also reduced costs. Each of these programs incorporated most of the best practices in care transitions, and each has been implemented by providers nationwide.

- **The Care Transitions Intervention.** This intervention was conducted in a large integrated delivery system in Colorado from 2002 to 2003. Advanced practice nurses met with high-risk elderly patients prior to discharge, then conducted one home visit and three phone calls over four weeks following discharge. The intervention reduced readmissions within 30 days by 30 percent and readmissions within 180 days by 17 percent, and had an estimated 15 percent net savings (\$390 per patient) in total hospitalization costs six months after the intervention. Program costs were factored in to the net savings estimate.¹³
- **The Transitional Care Model.** This intervention was conducted in six academic and community hospitals in Philadelphia from 1997 to 2001. Advanced practice nurses provided a minimum of eight home visits to high-risk

elderly patients for three months, and were available by phone seven days a week. The intervention reduced the readmission rate after one year by 36 percent, and net costs fell by 38 percent (\$4,845 per patient) in the year after discharge. Program costs were factored into the net savings estimate.¹¹

- **Project RED (Re-engineered Discharge).** This intervention was conducted at the Boston Medical Center from 2003 to 2004. Nurse discharge advocates met in-person with patients before their discharge, made follow-up appointments with primary care physicians (PCPs), and sent discharge summaries to PCPs. Pharmacists called patients two to four days after discharge to review medications and communicated problems to PCPs. The intervention reduced the combined rate of 30-day readmissions and emergency department (ED) visits by 30 percent. Total health care spending in the 30 days after discharge dropped by 34 percent (\$412 per patient) *before* deducting the cost of the intervention. The authors do not estimate net savings, but estimate the staff time required for the intervention as a half-time nursing position and a 0.15-time pharmacist position.¹⁴

These three programs are widely considered to be best practices because they are the only programs that reduced both readmissions and total costs in RCTs.^{2,3,6,15} Additional hospital-to-home transition programs improved patients' outcomes, but did not evaluate costs.¹⁵ In a 2012 systematic review of RCTs focused on transitions from the hospital to home, at least one outcome measure showed improvement in 26 of the 35 RCTs.¹⁵

There is little high-quality research on care transitions between settings other than the hospital to home. Only one RCT evaluated a program focused on transitions from the hospital to long-term care (LTC) facilities. There are no RCTs evaluating other types of care transitions from hospitals to alternative post-acute care settings, such as nursing homes, rehabilitation facilities, or home care. In the program that addressed transitions to long-term care, a pharmacist coordinated care and reconciled medications for patients entering a LTC facility for the first time. The program improved patients' pain management during the eight weeks of follow-up, but had no impact on patients' use of hospital services.¹⁶

No research to date explicitly evaluates care transitions for patients eligible for both Medicare and Medicaid (known as dual eligibles).⁵ Because many dual eligibles live in LTC facilities, the one RCT addressing long-term care provides the best available evidence for this population. Care management programs for patients living in nursing homes may also suggest effective care transition strategies for dual eligibles. One such program is Evercare, an enhanced primary care initiative staffed by nurse practitioners. By providing additional primary care visits to patients at risk of admission or readmission, the program reduced the hospitalization rate of Evercare enrollees by 50 percent compared to two control groups. The program's estimated annual savings was \$103,000 per nurse practitioner.^{6,17}

Several successful programs used technology to improve health outcomes. In the 2012 systematic review of RCTs focused on hospital-to-home transitions, five RCTs were based on computer-generated communication between providers in different settings. The programs generally used electronic health records to share discharge summaries or used health information exchanges to provide real-time discharge notifications.¹⁵ One of the effective RCTs used telemonitoring to reduce the combined rate of readmissions and ED visits in the year after discharge.^{15,18} Telemonitoring involves patients' regular use of devices like scales or blood pressure cuffs that send the results electronically to health care providers, allowing for quick intervention if the results raise red flags. However, telemonitoring and phone-based interventions generally did not reduce readmissions for high-risk elderly patients, particularly when implemented alone.^{5,7,19-21} This research suggests that enhancing electronic records and information exchanges can facilitate safe transitions, but the impact of telemonitoring is less clear.

Care transitions interventions have the greatest impact on high-risk patients, especially those with modifiable risks like diabetes and obesity.⁷ It is difficult to accurately identify high-risk patients using current risk stratification software and methodologies.² However, two tools are recommended in the academic literature: the LACE model (length of stay, acuity of admission, comorbidities, and ED use) and the 8Ps Risk Assessment Tool.² The LACE model was validated for inpatient care,²² and was adapted for outpatient providers in 2013 by the Michigan Primary Care Transformation Demonstration.²³ The 8Ps model was developed by Project BOOST, a care transitions model piloted in hospitals nationwide. This tool includes both clinical and psychosocial variables.²⁴

Conclusion

Safe care transitions from the hospital to other settings are essential to providing high-quality patient care and reducing avoidable readmissions. Providers and payers are increasingly investing in care transition programs, due in part to reimbursement changes under the Affordable Care Act that reward high-quality care. Best practices in hospital-to-home transitions can inform current and future initiatives, and health systems can also implement one of the three care transitions programs shown to reduce readmissions and costs. More research is needed on care transitions between hospitals and other settings, such as SNFs and home health care, which present further opportunities to increase both quality and savings.

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