

Project BOOST Increases Patient Understanding of Treatment and Follow-up Care

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<https://psnet.ahrq.gov/innovation/project-boost-increases-patient-understanding-treatment-and-follow-care>

Summary

The Patient Safe-D(ischARGE) program used standardized tools to educate patients about their discharge needs, test understanding of those needs, and improve medication reconciliation at admission and discharge. A quasi-randomized controlled trial of the program found that it significantly increased patients' understanding and knowledge of their diagnoses, treatment, and required follow-up care. Based on the success of this test, Patient Safe-D was incorporated as part of the Society of Hospital Medicine's Project BOOST (**B**etter **O**utcomes for **O**lder Adults through **S**afe **T**ransitions) initiative which uses medication reconciliation, teach back and the Discharge Patient Education Tool (DPET) to help reduce medication-related errors. BOOST provides a full implementation toolkit to help institutions implement this and other programs to improve discharge education.

Disclaimer

This innovation was identified by the AHRQ PSNet Editorial Team from the AHRQ Health Care Innovations Exchange. That resource, established by AHRQ in 2008, was retired in March 2021; AHRQ now offers select content from the Innovations Exchange, including its [downloadable databases](#), through a [microsite](#). This particular innovation was identified by the Editorial Team as one of continued interest and importance to AHRQ PSNet users and therefore was selected to be updated and included in this new section of the AHRQ PSNet website. To prepare this updated summary, the Editorial Team worked closely with representatives associated with the innovation. Updates include expanded use by other organizations, expanded description of the innovation, additional planning and development considerations, and ensuring accurate contact information.

Contact the Innovator

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Date First Implemented

2005-01-01

Problem Addressed

Recently discharged patients often suffer complications that lead to hospital readmission. Many of these problems are the result of a failure to understand and adequately manage post-discharge care needs, such as following prescribed medication regimens.

- **Frequent (but often preventable) readmissions:** Studies estimate that approximately one-quarter of readmissions are potentially preventable.¹ One study found that 20 percent of Medicare patients discharged from the hospital were hospitalized within 30 days and that 90 percent of these hospitalizations were unplanned (e.g., not driven by clinical practices, such as staged surgery).²
- **Adverse events after discharge:** Up to 49 percent of patients experience at least one medical error after discharge³ and one in five patients discharged from the hospital suffers an adverse event.^{4,5}
- **Insufficient care coordination at discharge:** Information transfers and communication deficits at the time of hospital discharge are common, with direct communication between physicians occurring less than 20 percent of the time. Additionally, discharge summaries often lack important information or may be unavailable when patients present at follow-up appointments with their primary care providers.⁶ Many patients are discharged with test results pending and left with loose ends such as additional testing after discharge.^{7,8}
- **Insufficient patient understanding of care and care needs:** Many readmissions occur because hospitalized patients and their family members do not adequately understand their post-discharge care needs, including complicated medication regimens and the need for periodic followup care from different health care providers. Many patients lack understanding of their hospitalization diagnosis and treatment plans,⁹ resulting in patients not being able to care for themselves after discharge. At discharge, patients often do not know which medications their physicians have prescribed or when their followup appointments should take place.¹⁰ One study of recently discharged patients found that 64 percent reported not being told before discharge how to manage their care at home.¹¹

Description of the Innovative Activity

The Society of Hospital Medicine's Project BOOST (**B**etter **O**utcomes for **O**lder Adults through **S**afe **T**ransitions) initiative is designed to reduce preventable readmissions, improve provider workflow, reduce medication-related errors, and prepare and empower patients, families and caregivers improve discharge education. Key BOOST activities are outlined below. The BOOST core team consisting of a team leader (physician, advanced practice provider (e.g., nurse practitioner or physician assistant), nurse, care manager, or social worker), quality improvement (QI) facilitator, project manager, process owners (frontline staff involved in care transitions, including pharmacy, nursing, and case management staff), and information technology experts. When hospitals adapt this model, they can tailor components to align with their organizational needs, priorities, available resources, and culture.

- **Assessing patient risk for adverse events after discharge:** BOOST uses the 8Ps Risk Assessment to screen patients for specific risk factors known to be associated with adverse post-discharge events, initiate risk-specific interventions to reduce risk, and communicate risk and ongoing interventions to the subsequent care providers. The eight risk factors for readmission (8Ps) include (1) problems with medications, (2) psychological, (3) principal diagnosis, (4) physical limitations, (5) poor health literacy, (6) poor social support, (7) prior hospitalizations, and (8) palliative care.
- **Assessing the patient's preparedness for transitioning out of the hospital:** The General Assessment of Preparedness (GAP) checklist can identify patient concerns (logistical and psychological) regarding their preparedness to transition out of the hospital. The checklist can be integrated into the electronic health record or a form can be provided to the patient and family/caregiver to complete privately and concerns can be addressed.
- **Patient-centered written discharge instructions:** BOOST offers two tools (Patient PASS [Patient Preparation to Address Situations Successfully) and DPET [Discharge Patient Education Tool]) to succinctly compile and convey essential information at hospital discharge at an appropriate literacy level to address the vast majority of patients' anticipated needs
- **Teach Back:** BOOST encourages the use of Teach Back, which is a patient-centered communication style designed to ensure that patients comprehend information from providers and can explain in their own words their understanding of what they have learned (or demonstrate a new skill to ensure correct technique). BOOST also recommends engaging families and family caregivers in the Teach Back process to ensure that anyone supporting the patient has an appropriate understanding of instructions.
- **Follow-up telephone calls:** Telephone follow up with patients should address common domains in which patient have difficulties once they leave. These include general clinical conditions since discharge, medication reconciliation, and follow-up plans. These calls can identify issues related to new symptoms requiring management; medication misuse, nonuse, or errors; prescription-related issues; and follow-up plan and access issues.
- **Follow-up appointments:** Appropriate individuals should be identified to assist patients and families/caregivers with scheduling follow-up care. This should be used as an opportunity to identify

and address barriers contributing to cancellations and/or no-shows, such as scheduling conflicts or transportation difficulties.

- **Interprofessional Rounds:** Interprofessional or interdisciplinary rounds can improve communication and coordination among care team members. At a minimum, these rounds should include members of the immediate care team (e.g., physicians, bedside nurses, case managers, therapists, pharmacists) but benefit from representation from aftercare sites, such as hospice and ambulatory care. They can be performed at the bedside or in a conference room (more common).
- **Post-acute care transitions:** Existing partnerships between short-term acute care hospitals and skilled nursing facilities (SNFs) should be leveraged to further improve care transitions through the use of cross-continuum teams and progress improvements.
- **Medication reconciliation:** For sites seeking to improve the medication reconciliation as part of readmission prevention efforts, BOOST recommends another SHM resource, the [MARQUIS toolkit](#).

In 2013, the Society of Hospital Medicine released Pedi-BOOST, which incorporated unique pediatric-specific elements to the BOOST toolkit.

Context of the Innovation

The Patient Safe-D research project was conducted at Emory Midtown Hospital, a 450-bed community hospital staffed by community and academic physicians. Mark V. Williams, MD, created the program while at Emory Healthcare (he is now at the University of Kentucky). The program grew out of his general interest in health literacy and a desire to improve transitions in care. In 2005, Dr. Williams was awarded one of 17 Partnerships in Implementing Patient Safety (PIPS) grants offered by the Agency for Healthcare Research and Quality (AHRQ); these 2-year grants were intended to promote the development of implementation kits and tools that facilitate the adoption of patient safety interventions. As a part of Project BOOST, the Society of Hospital Medicine is currently disseminating implementation resources developed through Patient Safe-D, along with additional tools developed as part of Project RED (Re-Engineered Discharge), a separate PIPS project tested at the Boston Medical Center.

Results

Identify patients at risk for readmission: A retrospective cohort study using manual case review found that the BOOST risk assessment tool correctly predicted over 90% of readmissions.^{[11](#)} A pre-post study of 11 hospitals found that participation in Project BOOST led to a decrease in 30-day readmission rates.^{[12](#)}

Benefits of mentorship: A qualitative analysis of six Project BOOST pilot hospitals found that the unique mentorship element of the innovation was a key strategy to help sites overcome challenges and identify facilitators for success.^{[13](#)}

Innovation Patient Safety Focus

This innovation reduces preventable readmissions, improve provider workflow, reduce medication-related errors, and prepare and empower patients, families, and caregivers.

Evidence Rating

Moderate: The evidence consists of comparison between intervention and control group outcomes to evaluate impact on patients' understanding of the inpatient care they received and of required follow-up care.

Planning and Development Process

Project BOOST offers a detailed implementation guide that outlines the steps and tools necessary to implement a program designed to improve care transitions. Selected elements of the planning and development process described by the guide include the following:

- **Establishing an organizational framework for quality improvement:** Several initial steps are required, including obtaining support from institutional leadership; establishing a team that includes stakeholders from various disciplines; and establishing team rules, general goals, and specific quantifiable improvement aims to be achieved by delineated dates.
- **Understanding how your current care transition process functions and where it fails:** Formally mapping the discharge process will ensure that team members have a good understanding of the current discharge process and opportunities for improvement.
- **Understanding why there are deficiencies in your current process:** Hospitals should complete a [root cause analysis](#) or failure modes effects analysis (FMEA) to understand why certain care transition processes are failing.
- **Selecting and tailoring interventions to fix the root causes of any deficiencies:** Interventions should use the concepts of the Project BOOST tools, if not the actual tools themselves. Interventions should align with the strategic objectives and concerns of the hospital to ensure adequate resource allocation for intervention development.
- **Establishing a quantitative and qualitative data collection and reporting plan:** Work with administrative and information technology (IT) support to collect and review hospital's care transitions data. Outcomes evaluated might include length of stay, 30-day rehospitalization rates, and patient satisfaction. Process measures might include patient/family caregiver understanding of treatments, follow-up care required, and warning signs and response
- **Implementing solutions to improve care transition process:** Hospitals should use the "[Plan-Do-Study-Act](#)" (PDSA) cycle to implement one solution at a time and adjust improvement ideas in a rapid, continuous fashion.
- **Tracking your performance:** Set up run charts to [track key outcomes](#), process and balancing metrics.

- **Ongoing refinement:** Based on findings from the evaluation, the team should continue to improve the discharge process by examining whether the needs of all patients are being addressed, whether hospital staff have embraced the new process, and/or whether further simplification is possible.

Resources Used and Skills Needed

- **Staffing:** The BOOST core team consists of a team leader (physician, nurse, care manager, or social worker), quality improvement (QI) facilitator, project manager, process owners (frontline staff involved in care transitions, including pharmacy, nursing, and case management staff), and information technology experts. The project can be implemented with existing discharge planning or nursing staff who can incorporate the Discharge Patient Education Tool and other discharge planning tools into their daily activities.
- **Mentorship:** An external expert in care transitions may help a hospital and its BOOST team more effectively implement necessary change providing guidance to identify barriers and facilitators. The expert consultant can mentor the team to leverage facilitators and address barriers.
- **Costs:** Project BOOST tools are available free of charge (see Tools and Other Resources section below) and can be implemented with minimal funds, using existing staff resources

Funding Sources

Patient Safe-D research was funded by AHRQ PIPS Grant #HS015882-01. Project BOOST was funded by The John A. Hartford Foundation.

Getting Started with This Innovation

- **Obtain senior administrator support:** To win administrator support, share data on the program's potential to reduce readmissions and improve physician and patient satisfaction. A direct line of communication to a senior administrative “champion” can be very helpful.
- **Create a interdisciplinary project team:** The discharge process involves a number of different disciplines. The project team should include active representatives from the medical staff, nursing, pharmacy, discharge staff, care management, and social work. Former patients can also be valuable team members.
- **Learn quality improvement techniques:** Understanding the principles, strategies, and tools for quality improvement is critical before the success of any program to improve discharge education. Institutions often have quality improvement officers that can assist teams in designing processes.
- **Set appropriate project goals:** Goals should be “SMART” (specific, measurable, achievable, realistic, and time-defined).
- **Expect and prepare for more patient questions:** Engaging patients in the discharge process will likely encourage them to ask questions or request more information (in fact, clinicians should invite

patients to do so). Answering these questions will add some time to the discharge process, but the time will be well spent, as it will enhance patients' understanding of their condition, treatment, and required follow-up care.

Sustaining This Innovation

- **Continue to monitor and refine the discharge process:** Ongoing, regularly scheduled assessments of the process are necessary to ensure that improvements are sustained.

Adoption Considerations Use by Others (Use By Other Organizations)

Since 2008, Project BOOST has been implemented in more than 200 hospitals across the U.S. and Canada. The Centers for Medicare and Medicaid Services (CMS) recommends Project BOOST as one of the care transition models for their community-based transitions program.

References/Related Articles

Society of Hospital Medicine. Care Transitions for Older Adults Resource Room: Project BOOST [Web site]. Available at: <https://www.hospitalmedicine.org/clinical-topics/care-transitions/>

SHM Project Boost Implementation Guide (2nd Edition):

<https://www.hospitalmedicine.org/globalassets/professional-development/professional-dev-pdf/boost-guide-second-edition.pdf>

Footnotes

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Evidence Rating Footnote

FYI: You may notice that PSNet Innovations Exchange has recently been updated (July 2022) to remove the evidence rating section. For more information or questions, please email psnetsupport@ahrq.hhs.gov.