

Improving Transitions of Care: Hospital to Home

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National Transitions of Care Coalition

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NTOCC Performance & Metrics Work Group

Mary Fermazin, MD, MPA
VP, Health Policy & Quality Measurement
Health Services Advisory Group, Inc. (HSAG)

Hussein Tahan, DNSc, RN, CNA
New York Presbyterian Hospital

James E. Lett II, MD, CMD
Chief Medical Officer for Long-Term Care
California Prison Health Care Services

Joann Richards, PhD, RN
Vice President for Research and Measurement
URAC

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For more information

Please visit the NTOCC website, www.ntocc.org, for additional contact information.

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Forward

NTOCC believes in the commitment of healthcare workers, practitioners, and leaders and in their ability to make a difference in improving transitions of care. To further NTOCC's reach for improving the quality of care transitions, we have added to our Implementation and Evaluation Plan by offering additional modules: the hospital to home and the emergency department to home transitions. The methodology used here is the same for the introductory module released in 2008—implement a plan and evaluate it to see how it is working. This document is intended to be used in conjunction with the original document, "Improving on Transitions of Care: How to Implement and Evaluate a Plan."

This plan includes evaluation questions, acceptable metrics or measures, tools, and tips applicable to hospitals, home caregivers, and primary care offices. As with other NTOCC strategies, communication is the most important component of any plan, tool, or quality improvement effort.

Thank you for your continued dedication to making transitions safer.

Cheri Lattimer
Executive Director, Case Management Society of America
NTOCC Project Director

Introduction

Patients face significant challenges when moving from one care setting to another within the fragmented health care system. As currently structured, the U.S. health care system does not meet the needs of many patients during transitions between health care settings. The system's problems have culminated in medical errors and gross mismatches of health care resources to needs. (MR Chassin JAMA 1998.) Not only can poor transitions lead to poor care quality, transitions of care issues pose a financial burden for the health insurers, the government, and patients.

A constant in all episodes of care is the patient, who, with sufficient education and empowerment, can proactively facilitate necessary communication and interaction between providers. In order to improve health care in this country, patients and providers must ensure better information exchange at all stages of the health care process, and patients and their caregivers should actively participate in a standardized communication plan.

Background

The term "transitions of care" connotes the scenario of a patient leaving one care setting (i.e. hospital, nursing home, assisted living facility, skilled nursing facilities, PCP, home health, or specialist) and moving to another. The care transition frequently involves multiple persons, including the patient, family or other caregiver, nurses, social workers, case manager, pharmacists, physicians, and other providers. An optimal transition should be well planned and adequately timed. Research has shown that communication between settings or providers often fails to supply all of the information needed for optimum care.

Several studies in recent years have shown that deficiencies in health literacy, patient education, appropriate medical follow-up, and communication among health care providers to be associated with adverse events following hospital discharge. The Office of the Inspector General reported in 2006 that 34,500 patients in 1996 and 1997 were discharged and readmitted on the same day, costing the system more than \$226 million. (<http://oig.hhs.gov/oas/reports/hcfa/b9900401.pdf>)

In the year since the original Implementation and Evaluation plan, there are number of new publications on transitions of care and quality improvement (See Appendix K). The Institute for Healthcare Improvement, under funding from the Robert Wood Johnson Foundation, recently published a How-to Guide for creating the ideal transition for heart failure patients returning

home following hospitalization. (<http://www.ihl.org/IHI/Topics/MedicalSurgicalCare/MedicalSurgicalCareGeneral/Tools/TCABHowToGuideTransitionHomeforHF.htm>). Additional publications on already established transitions of care programs and their outcomes are available (See Appendices K and L).

NTOCC has built upon these findings and suggestions and developed its own recommendations as outlined below.

1. Improve communications during transitions between providers, patients, and caregivers.
2. Implement electronic medical records that include standardized medication reconciliation elements.
3. Establish points of accountability for sending and receiving care, particularly for hospitalists and nursing home providers.
4. Increase the use of case management and professional care coordination.
5. Expand the role of the pharmacist in transitions of care.
6. Implement payment systems that align incentives and include performance measures to encourage better transitions of care.
7. Develop performance measures to encourage better transitions of care.

Purpose and goal of this report

The purpose of this module is to develop an implementation and evaluation outline for transitions of care tools and resources developed by NTOCC, specifically as they relate to hospital/home transitions. The plan is intended for institutions ready to make changes in the processes their facilities use to send and receive patients. This implementation and evaluation plan will empower institutions to take the first step at measuring their own performance in transitions of care and identify areas for improvement. It may be helpful to review the primer on evaluation (Appendix D) in “Improving on Transitions of Care: How to Implement and Evaluate a Plan,” prior to getting started.



NTOCC Tool

Concept Paper

Improving Transitions of Care to Increase Quality and Patient Safety While Controlling Costs: The Vision of the National Transitions of Care Coalition

Evaluation Plan

Improving on Transitions of Care: How to Implement and Evaluate a Plan

www.ntocc.org

Evaluating and Improving Transitions of Care in Your Institution

Step 1. Select What You Plan to Study

When deciding to undertake a quality improvement project, the first step is to decide the area in which to change. Numerous opportunities exist for change. Change is tough, both for individuals and institutions, and will require a systematic and committed approach to be sustainable.

Keep it simple

For this module, the context of the discussion is the patient transitioning from home to the hospital and back to care at home and by the primary care provider (PCP) or other receiving entity, which may consist of an advanced practice nurse, transition coach, community clinic, VA clinic, or other setting. For the sake of this document, PCP will refer to any of the possible receiving entities who will be taking the care forward.

There are already programs and existing outcome measures designed for various high risk patient groups. Those programs are highlighted here for use as examples of the evaluation and implementation process. Programs are often best tested in small subpopulations before rolling out to an entire population. Improvements and necessary modifications to the program are much easier to handle with a smaller group. Additionally, discussion with the staff involved in the pilot project builds buy-in and often informs the project manager about potential barriers not considered in the initial planning.

Exchanges for this transition should be determined. These exchanges are areas of focus where communication and evaluation are most likely to occur. Communication must happen between the accountable providers at all of the exchanges. For example, the accountable providers at the hospital (e.g., floor nurse, physician, case manager)

Individuals who may need information during or after a care transition

- Patient
- Family members/caregivers
- Handover physicians
- Receiving physicians
- Specialist physicians
- Hospitalist
- Nurses
- Case managers
- Social workers
- Administrative coordinator
- Pharmacists
- Therapists
- Discharge planners
- Nursing home staff
- Home health providers
- Insurance
- Medical transportation agencies
- Home care providers
- Others

must communicate with the patient, family/caregiver, and PCP. When there is more than one designated accountable provider, special cautions should be taken to ensure that the actions and expectations surrounding a transition encounter are all completed. Too often each accountable provider relies on others to complete the tasks and, in the end, tasks are not accomplished, the transition encounter is fragmented or completely omitted, and the patient is at risk for poor outcomes.

Case study: In a hospital/home transfer, consider 4 exchanges.

- Exchange 1: Preparation at home for the hospital stay
- Exchange 2: Patient admission to hospital
- Exchange 3: Preparation in hospital to transition patient home
- Exchange 4: Patient or family/caregiver takes over care coordination and patient starts or continues care from PCP

Step 2. Assess the Current Process

An evaluation methodology can be used to walk through the key exchanges where care transitions can be affected. Consider the framework in which the transition occurs. As outlined by the NTOCC Measures workgroup, the framework will have the same basic components regardless of the exchange in which interventions occur. The components include system, process, and outcome.

“Measures” will be referred to throughout this document. Measures (or metrics) are a systematic way of measuring

systems, processes, and outcomes and may be standardized as a way to compare performance among different institutions. Measures have been defined by many quality organizations, such as the Joint Commission. There is a public repository for evidence-based quality measures and measure sets at the National Quality Measures Clearinghouse (NQMC) website. Measures are often used for public reporting and accountability as well as for internal quality improvement activities. See Appendix F for the Institute for Healthcare Improvement’s Tips for Effective Measures for more information on establishing and using measures.



NTOCC Tool

Metrics & Outcomes Workgroup

Transitions of Care Measures:

Paper by the NTOCC

Measures Work Group, 2008

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Structure

Each healthcare facility/institution/department/unit has a structure by which it provides patient care. There must be accountability to providers for all patients at all steps within the transition exchange. Setting expectations for all providers can help enhance accountability and ensure achievement of desirable outcomes.

All patients should have a documented plan of care that takes into account the patient's (and family's or caregiver's) preferences and is culturally appropriate. The hospital should determine who is responsible for creating the plan of care and when it will be created. Without determining a specified accountable provider, the plan of care is likely to be overlooked or created without much insight into the specific patient's needs.

Health information technology (HIT) is part of the structure for providing patient care. HIT will likely play a more crucial role within the transition framework in the coming few years as much anticipated health care reform occurs. While there are numerous opportunities to improve information exchange within the framework of HIT, there are also significant obstacles to its use and implementation in many institutions and health systems; lack of interoperable systems, costs, and privacy are few challenges the system faces.

Measures looking at structure take into account whether the system has the appropriate components in place to allow for the appropriate process and the best outcome.

Process

For each exchange, the information to be transferred, the NTOCC guidance documents to aid in education and policy development, and the processes involved will be discussed. Process measures take into consideration certain actions that should occur within a system. For example, medication reconciliation is an important process for the staff to complete. Ensuring the process occurred is the first step in determining whether medications were reviewed for errors or omissions at the time of transition. A measure for this process is the percentage of patients that left the hospital and received a completed medication reconciliation form.

The processes should be embedded into the daily workflow of individual practitioners, whenever possible. Exchange 3 will be the first transition to be reviewed here, as the evidence suggests this is the area where the most difficulty lies. The document is divided into sections discussing this exchange in detail and includes graphic representations of the process from an evaluable

model; the key elements to be measured from an evaluation matrix; patient, caregiver, and staff educational opportunities; the patient “My medicine list” and other patient education tools.

Outcomes

When implementing and modifying processes to improve transitions of care, knowing the outcomes to be measured is also critical in determining where there is a breakdown in communication and whether interventions are improving overall patient care. Measures related to outcomes reflect the final disposition of the structure and process. Patients leaving the hospital with an accurate medication list is an important outcome. The measure of this could be the percentage of patients leaving the hospital with a reconciled, error-free medication list. This measure can be compared over time and to other organizations, and can frame improvements based on interventions, legislation, case mix, or other variables.

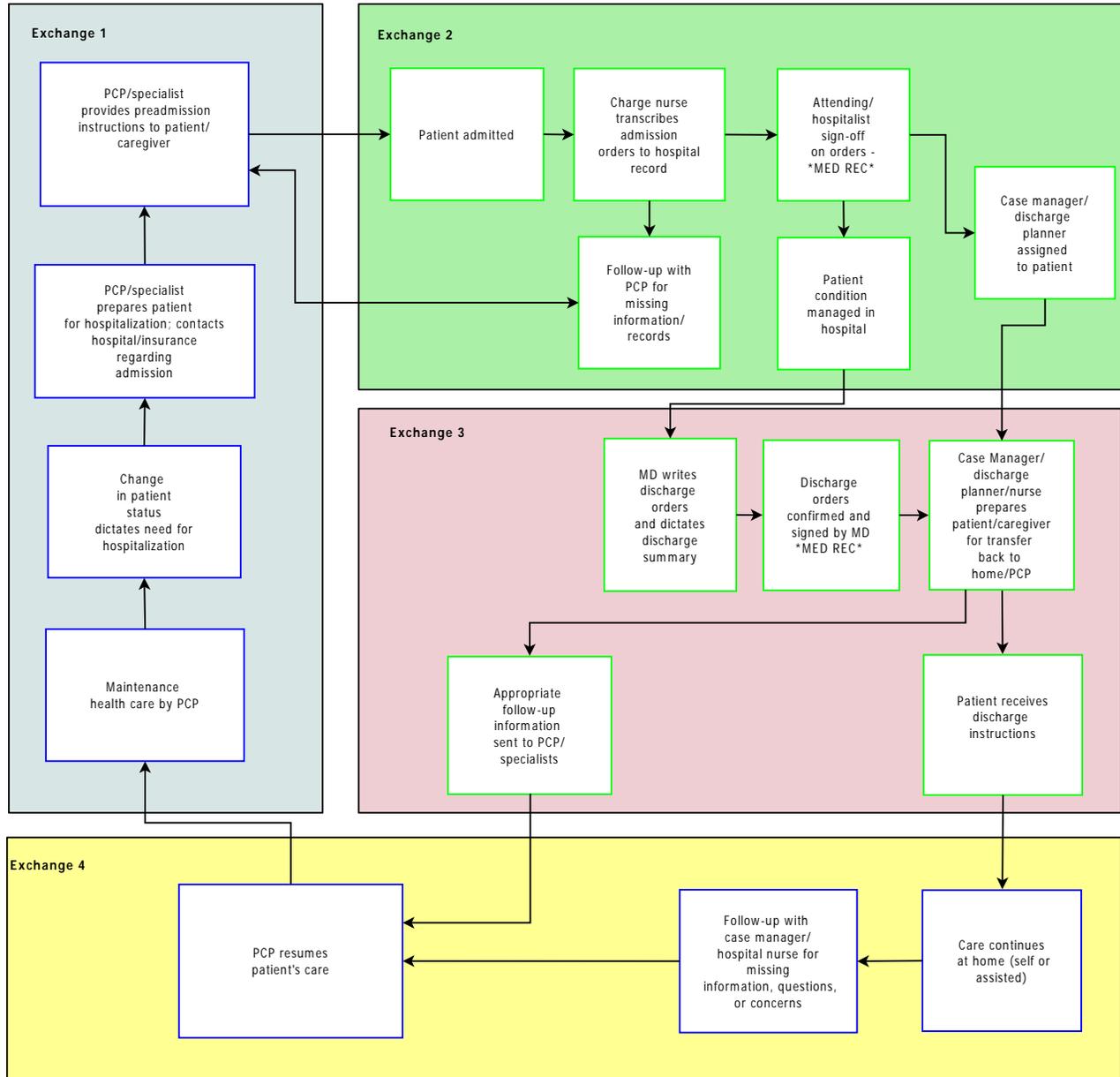
When preparing to conduct an evaluation, a literature review about the particular area of study is an important step. There is a thorough review on the hospital to home transition in Appendix E. For instance, for the case of hospital to home transition, a quick literature review reveals several related studies and articles. The literature can help determine what to measure, what gains can be expected, and the mistakes or successes of others. A review document summarizing the key points can be helpful in gaining buy-in from all the necessary stakeholders.

The next step is to develop a basic flow diagram that describes, at a high level, the processes to evaluate. A graphical presentation is illustrated on the following page. Each exchange and its related components can easily be seen. It may take several iterations to arrive at a diagram that everyone agrees is representative of the process. This is an opportunity to engage institutional leadership in the discussion about the evaluation effort and its goals.

A process map is a more detailed visual presentation about processing a transaction and all important details. It contains additional information about input and output variables, such as the structure, process, and outcome items discussed above. For additional information on process mapping, see <http://www.isixsigma.com/library/content/c061030a.asp>. The team should document a detailed description of each step to ensure no steps or tasks are left out. Include logistic details if they are critical to completing a particular step during a transfer (e.g., access to a copy machine during overnight shift, paging the physician and waiting for a callback, etc).

Figure 1. Sample Flow Diagram

Hospital to Home Bi-directional Transfer



*Medication Reconciliation occurs at this point

Hospital Inpatient Discharge

Start by looking at Exchange 3. Preparation in the hospital to discharge the patient home.

Exchange 3: Preparation in hospital to discharge patient home

1. Physician orders patient discharge
2. Care manager/hospital staff prepare patient for transition home
3. Patient discharged

Think about the Exchange 3 framework as discussed previously, in terms of the structure, process, and outcomes. See the example below.

Exchange 3 Framework

Structure

A. Accountable provider at point of transition (hospital)

- Attending MD/hospitalist
- Consultants
- Nurse(s) caring for patient
- Care/case manager/social worker
- Patient
- Family and paid caregivers
- Administrative coordinator
- Pharmacist

B. Plan of care

- Medication reconciliation
- Medical history (medical record document, discharge summary)
- Contact information, for caregiver/ legally authorized representative (LAR), patient, primary provider
- Lab data, x-rays, vital signs
- Followup appointments
- Plan for medical care post-discharge
- Hospital followup
- NTOCC patient care tool/My medicine list

C. Use of HIT

- Electronic medical record (EMR) - system specific implementation

Process

A. Care team processes

- Medication reconciliation – comparison of at-home, admission, and discharge medications
- Test/procedure tracking and results followup – pending labs and tests, ECG results
- Test/procedure scheduling and result followup – labs or other procedures, date of testing
- Post-discharge medical care planning – necessary followup care activities or ongoing/standing treatments to ensure continuity
- Referral tracking – indicate any referrals, consultants
- Discharge planning – transportation, followup appointments, home care, community pharmacy

B. Information transfer/communication between providers

- Timeliness, completeness, and accuracy of information transferred
- Protocol of shared accountability in effective transfer of information

C. Patient education and engagement

- Patient preparation for transfer – nursing staff, social workers, case managers, administrative staff
- Patient/client system education using simple language, materials in the patient's own language, and medical interpreters
- Patient education for self-management – medical condition/procedure, “red flags”
- Appropriate communication with patients with limited English proficiency or health care literacy
- NTOCC Patient Care Tool
- Post-testing (e.g., teach-back), where possible

Outcomes

- Patient transferred with appropriate information (medication reconciliation, transition document, pending labs and tests, necessary followup appointments, tests, self-care information, followup names and phone numbers)
- Patient experience/satisfaction
- Communication between sending provider and PCP (or other receiving entity)
- Community pharmacist receives reconciled medication list
- Timeliness (i.e., information transferred with the patient and within 48 hours of patient discharge)

- Readmission to hospital/emergency department within 30 days (for heart failure, pneumonia, and heart attack specifically, but possibly other areas identified as needing attention)
- Medical errors
- Core measures relevant to patient's diagnosis, if available

By looking at the framework, determine which elements should be modified.

Evaluation Questions for inpatient discharge to home for care by the PCP:

- Question 1: Is the appropriate information being communicated by the hospital to the patient/client system?
- Question 2: Is the appropriate information being sent to the patient's PCP?
- Question 3: Was the information transmitted to the PCP in the appropriate timeframe?
- Question 4: Was there appropriate followup with the patient once discharged?
- Question 5: Did the patient understand the discharge instructions and were they satisfied with the discharge process?
- Question 6: Was the patient readmitted to the hospital within 30 days?

For each of the Exchange 3 goals, choose the data that needs to be collected and where the information is documented. This will be outlined in Step 3.

Step 3. Determine Your Current Level of Performance

A key component of an effective transition is communication of the appropriate information to the receiving entity. Based on the literature review and direct communication with several hospital providers involved in the process, create a list of the key pieces of information to be measured. A description of each evaluation question will help clarify what is being asked, where the information will be found, and how it will be collected and reported.

Evaluation Question 1: Is the appropriate information being communicated by the hospital to the patient/client system?



NTOCC Tool

Elements of Excellence in Transitions of Care – TOC Checklist

Assigning Existing Measures to the NTOCC Framework for Measuring Transitional Care

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NTOCC and numerous other healthcare systems and organizations have created lists, forms, guides, and policies addressing what information is appropriate and necessary for patient/client system education. Using the NTOCC TOC checklist and other resources, a starting list of items considered to be the most urgent needs for patients upon leaving the hospital, several of which address metrics identified as health care quality indicators (or core measures) by the Assessing Care of Vulnerable Elders Project (ACOVE), CMS, and the Joint Commission (see Appendix G for summary document) should be created. After creating an initial list, ask case managers, social workers, care managers, nurses, and family/paid caregivers with experience in hospital discharges what information they need to feel informed and in control of the process. There should be some automatic question and answer feedback loop incorporated into the process to ensure the patient/client system has ample opportunity to ask questions and have specific concerns addressed.

To determine the current state of performance, gather the discharge information for the subpopulation being targeted from a set time period, say the previous month. Following data collection from the hospital medical record, the information will be aggregated based on the evaluation questions. Number and percent will be reported for each measure.

List of critical information to be included in the transition record

- Fully reconciled medication list and clear instructions for why and how to take them
- List of current diagnosis and treatments that occurred in the hospital
- Prognosis and goals of care
- Home care instructions including plan for ongoing care at home – wound, diet, ambulation, medical equipment
- List of symptoms to watch for (red flags) and what to do if they occur
- Followup appointments scheduled and transportation arranged
- Name and phone number of a person to call if there are problems, eg. Case manager, PCP
- Test results/pending results
- Assessment of caregiver status
- Name and phone number for provider receiving patient e.g., nurse from visiting nurse service
- Healthcare proxy and advance directive including DNR status

Evaluation Questions 2 and 3: Is the appropriate information being sent to the patient's PCP and is it being transmitted within the appropriate timeframe?

The medical record is most likely the source document to assess current level of performance for evaluation questions 2 and 3. Specifically, when staff communicates with a PCP, other

healthcare professional, or caregiver, about a patient's transition, it should be documented in the hospital medical record.

Ideally, the hospital-based providers communicate with the PCP when the patient is admitted to the hospital. Oftentimes, however, the patient's acuity may preclude that from happening in a timely fashion. Regardless of the up-front communication, discussion and information sharing with the PCP is essential upon leaving the hospital. There may be other important providers to whom information should be transmitted, including home care organizations or community pharmacists. There is no consensus on the appropriate timeframe for transition communication, and opinions range from 24 hours to 30 days postdischarge or longer. The appropriate timeframe is likely dependant on the patient's diagnoses. Interventions looking at heart failure generally agreed that based on the high risk of readmission, somewhere between 24 hours and 4 days is appropriate. Lower risk conditions may not require communication in such a strict timeframe. This timeframe should be specified within a policy at the outset of an evaluation and intervention process, so that all participants know what is expected and that there is a standard by which to measure success. Staff document in the medical record time and date of information transmittal and to whom the information is provided.

If inconsistencies with what is sent to the PCP are found, separate out each piece of information (i.e., pending lab report, medication reconciliation form), possibly in a checklist fashion, to determine where the information is being missed. For this example, all the items are included as one evaluation question (see the Evaluation Matrix). Different hospitals or departments may decide to ask a separate question for each item that should be included in the transition information.

Aggregate the information gathered based on the evaluation questions-- the number of patients discharged for whom the PCP was sent all essential information and whether it occurred within the specified time period. Report the information as a number and percent for each measure.

Evaluation Question 4: Was there appropriate followup with the patient once discharged?

For many patients leaving the hospital, a followup call or visit is an important way to determine patient's understanding of discharge instructions, compliance with medications and home care, and to determine appropriate followup with the PCP. For example, several studies confirm that specialized followup for heart failure patients helps reduce hospitalizations and mortality and is also cost-efficient. (Phillips C et al. JAMA 2004; Gwadry-Sridhar FH, et al Arch Intern Med 2004). Appropriate followup must be determined based on the patient population. Studies have determined that heart failure patients often return to the hospital within four days of discharge,

so time to followup should be relatively short. IHI recommends in their How-to Guide that high-risk patients, those who have had 2 or more hospital admissions in the past year and low patient and caregiver confidence in their ability to manager care at home, should receive a face-to-face followup visit within 48 hours after discharge. Others, such as the American Board of Internal Medicine Foundation, in their draft performance measures for transition of care, suggest 7 days as an acceptable time frame to complete a visit. (ABIM Foundation, et al. Care Transitions Performance Measurement Set, Phase I). ACOVE has a measure specific for vulnerable elders (VE) stating that any VE should have a followup visit or telephone contact at 6 weeks and documented in the medical record.

To determine the current status, measure how many discharged patients had documentation of any followup in the hospital medical record and what type (face-to-face, phone call, additional communication with physician after sending essential transfer information). If at baseline there is a policy about followup after hospital discharge, determine if it is being followed. If there is not a policy, the entity or institution should determine what, if anything, is being done for followup once a patient leaves the hospital.

Evaluation Question 5: Was the patient/client system satisfied with the hospital discharge process?

An important part of providing care is ensuring the patient and family/caregivers needs were met during the discharge process. Several different tools for patient satisfaction are available. The Care Transition Measure-3 or CTM-3, for short, is a validated tool that includes the 3 major domains considered critically important by patients and is NQF endorsed. If a patient satisfaction tool has not been incorporated into the routine hospital discharge process, initiate a small sample (10-15 discharges) of a patient satisfaction survey just prior to rolling out the intervention to determine the current state of patient satisfaction.

Evaluation Question 6: Was the patient readmitted to the hospital or was there an emergency department visit?

Ultimately, the hope is that improving communication, streamlining the process, and increasing patient satisfaction results in improved care, reduced morbidity and mortality, and lower cost. The Center for Medicaid and Medicare Services (CMS) has a 30-day all cause risk standardized readmission rate following heart failure, pneumonia, or heart attack hospitalization measure that is NQF endorsed. Determine the baseline rate of hospital readmission for the patients targeted for intervention. This rate will ultimately be compared to the rate of readmission after an intervention has been instituted. The numerator will be the number of readmissions (condition specific) divided by the total number of admissions.

Figure 2. Sample Evaluation Matrix for Inpatient Discharge From the Hospital

Measure	Data source	Reporting Guidance
<i>Evaluation Question 1: Is the appropriate information being communicated by the hospital to the patient and caregivers?</i>		
1. # patients discharge with reconciled medication list (medication name, dose, regimen, etc)	Hospital medical record	Number and percent (Joint Commission – National Patient Safety Goal 08.01.01, Medication Reconciliation; ACOVE-3 QI, Continuity and coordination of care, No. 9; ABIM/PCPI Care Transitions Performance Measurement Set, 2009, Measure #1)
2. # patients who received a list of current diagnoses and treatments that occurred during the hospital stay	Hospital medical record	Number and percent (ACOVE-3 QI, Continuity and coordination of care, No.13)
3. # patients who received clearly written discharge instructions and educational material (may be condition specific)	Hospital medical record	Number and percent ACOVE-3 QI, Continuity and coordination of care; No.13, ACOVE-3 QI, Heart Failure, No. 11)
4. # patients who received a list of pending lab results or tests	Hospital medical record	Number and percent
5. # patients who received a list of symptoms to watch for (red flags) and what to do if they occur (may be condition specific)	Hospital medical record	Number and percent (ACOVE-3 QI, Heart Failure, No. 11)
6. # patients who received the name and phone number of a person they could call if there were problems	Hospital medical record	Number and percent (ACOVE-3 QI, Continuity and coordination of care, No.1)
7. # patients who had scheduled follow-up appointments and transportation arranged within 48 hours (high risk) or 5 days (moderate risk patients)	Hospital medical record	Number and percent (IHI. Heart Failure. 2008)
8. # patients who received the name and phone number of the provider receiving the patient	Hospital medical record	Number and percent (ACOVE-3 QI, Continuity and coordination of care, No.1)
<i>Evaluation Question 2: Is the appropriate information being sent to the patient's PCP?</i>		
9. # patients for whom transition record was sent to the PCP for follow-up care. The transition record must include medication reconciliation, pending laboratory results and tests, and a list of current diagnoses and treatments that occurred during the hospital stay.	Hospital medical record	Number and percent

Measure	Data source	Reporting Guidance
<i>Evaluation Question 3: Is the information transmitted to the PCP within 24 hours of discharge?</i>		
10. # patients for whom information was transmitted to the PCP within appropriate time period (condition specific)	Hospital medical record	Number and percent (ABIM/PCPI Care Transitions Performance Measurement Set, 2009, Measure #3 and #5)
<i>Evaluation Question 4: Was there appropriate followup with the patient once discharged?</i>		
11. # of (target) patients that had a followup visit within an appropriate time period following discharge	Hospital medical record	Number and percentage (ABIM/PCPI Care Transitions Performance Measurement Set, 2009, Measure #5)
12. # of patients that had a followup phone call within and appropriate time period and a scheduled physician office visit	Hospital medical record	Number and percentage
13. Type of followup for those who received it (in-person, phone call, physician visit, etc)	Hospital medical record	Number and percentage for each type
<i>Evaluation Question 5: Was the patient satisfied with the hospital discharge process?</i>		
14. # of patients who were mailed a copy of the patient satisfaction survey and asked to complete it and mail it back	Hospital medical record	Number and percentage
15. # of patients who sent back the patient satisfaction survey	Hospital medical record	Number and percentage
16. Average patient satisfaction survey score	Hospital medical record	See document specifications for the particular validated measure used NQF has endorsed the Care Transitions Measure 3 (CTM-3); (ABIM/PCPI Care Transitions Performance Measurement Set, 2009, Measure #6)
<i>Evaluation Question 6: Was the patient readmitted to the hospital within 30 days?</i>		
17. # of patients that were readmitted within 30 days. Use subpopulation specific metrics, if available (e.g., heart failure)	Hospital medical record	Readmission rate (# of readmissions/# of patients admitted for target condition) (NQF measure #0330)
18. # of days following original hospitalization until readmission	Hospital medical record	Average # of days until readmission

In order to gather the data outlined in the evaluation matrix, a data collection instrument is essential. The number of transfers reviewed depends on facility size. The most reasonable sample for our evaluation is to measure all discharges for patients in our targeted subpopulation (e.g. heart failure, post-surgical, etc) over a 30-60 day period. Ensure that there is a far enough look back to answer all the evaluation questions. Based on the information in the evaluation matrix, create a data collection form to complete the baseline analysis, as shown in Figure 3.

Figure 3. Sample Data Collection Instrument

Hospital discharge to home		
Patient name: _____		Date of discharge: _____
Person collecting information: _____		
Question – There is documentation that the patient:	Response	
1. has a reconciled medication list with possible side effects and clear instructions for medication use. (must also contain patient name and birth date; any missing information scored as a “No”)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. received a list of current diagnoses and treatments that occurred during the hospital stay.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3. received a the written discharge instructions and educational materials addressing weight monitoring, activity level, and diet	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4. received a list of pending lab results or other tests	<input type="checkbox"/> Yes	<input type="checkbox"/> No
5. received a list of symptoms to watch for and what to do if they occur	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6. received the name and phone number of a person they could call if there were problems	<input type="checkbox"/> Yes	<input type="checkbox"/> No
7. had scheduled followup appointments and transportation arranged, and the patient confirmed their availability to attend	<input type="checkbox"/> Yes	<input type="checkbox"/> No
8. has the name and phone number of the next care provider	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there evidence of the following actions?		
9. The transition record was sent to the PCP for followup care and included medication reconciliation, pending laboratory and test results, list of current diagnoses and treatments that occurred during the hospital stay	<input type="checkbox"/> Yes	<input type="checkbox"/> No
10. The transition record was sent to the PCP with 48 hours of discharge.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
11. The patient was evaluated to determine high or moderate risk	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If high risk, there was a followup visit within 48 hours of discharge	<input type="checkbox"/> Yes	<input type="checkbox"/> No
12. If moderate risk, there was a followup phone call with 48 hours and a physician visit within 5 days of discharge	<input type="checkbox"/> Yes	<input type="checkbox"/> No
13. What type of followup did the patient receive? <input type="checkbox"/> in-person visit <input type="checkbox"/> phone call <input type="checkbox"/> physician office <input type="checkbox"/> other _____		
14. The patient was mailed a copy of the CTM-3.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
15. The patient returned a completed CTM-3 survey.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
16. What was the CTM score?	Score _____	
17. This patient was readmitted within 30 days of discharge	<input type="checkbox"/> Yes	<input type="checkbox"/> No
18. If readmitted, what was the number of days between discharge and readmission?	Days _____	
Comments: _____ _____ _____		

The Institute for Healthcare Improvement has a philosophy of performing “small tests of change.” In this spirit, an institution may decide to measure and monitor only 1 or more of the evaluation questions and only selected components, as the initial effort in the evaluation. The goal is to get the process started. If the resources are not available to conduct a full scale evaluation, get started with something manageable.

Summarizing Your Results

Aggregate the numbers after data collection for the targeted transitions (e.g., heart failure patients). Upon completion, prepare the information for dissemination. Many organizations and individuals realize that the current state is not ideal, but they cannot see how their actions or their system are part of the problem. To illustrate the problem and get individuals to realize that everyone must be accountable during the transition process, highlight a few specific patient examples within your own institution and report the findings of the baseline evaluation. The example should be one of high impact as this helps to raise awareness of the implications of poor transitions. Below is a vignette from the AHRQ website that can be used as an example. Having a specific example from your own institution may be more impactful for the staff.

A 75-year-old man with a history of hypertension, coronary artery disease, and heart failure presented to the emergency department (ED) with shortness of breath and fatigue. He had a long history of CHF exacerbations requiring hospitalization and was known to the ED as a "frequent flyer." In fact, he had been discharged from the hospital just 3 days prior. On physical examination, the patient had a low oxygen saturation level with elevated neck veins and crackles on chest auscultation, all consistent with an exacerbation of his heart failure.

When asked by the admitting physician what happened, the patient replied, "You know, I was feeling pretty good when I left here, but my breathing just got worse and worse." Upon further questioning, it became clear that the patient had been eating bags of potato chips, not restricting his fluid intake, and only intermittently taking his diuretics. Since discharge, he had gained 6 pounds.

The admitting physician realized that the patient had a poor understanding of his disease and how to care for himself outside of the hospital. In reviewing prior admissions, the physician discovered that the patient had never been given explicit discharge instructions about heart failure and had received only a generic medical-surgical discharge instructions handout.

In the hospital, the patient was treated with diuretics, an angiotensin-converting enzyme (ACE) inhibitor, and a beta-blocker, and he improved clinically. At the time of discharge, he was counseled on appropriate activity, diet, medications, his follow-up appointment, and weight monitoring. Subsequently, he did well and was not readmitted to the hospital for more than 2 months.

Source: (<http://www.webmm.ahrq.gov/case.aspx?caseID=159&searchStr=heart+failure>)

Figure 4. Sample Results of Baseline Assessment

Hospital to Home transition

Background/time table: Due to the increasing concern about communication during transitions of care, XXXXXXXXX facility conducted a baseline assessment of performance in communication involved with heart failure patients discharged to home. Review of the medical record was conducted to determine the level of documentation for the evaluation questions.

Objective: To assess baseline performance in communicating with the patient and their PCP

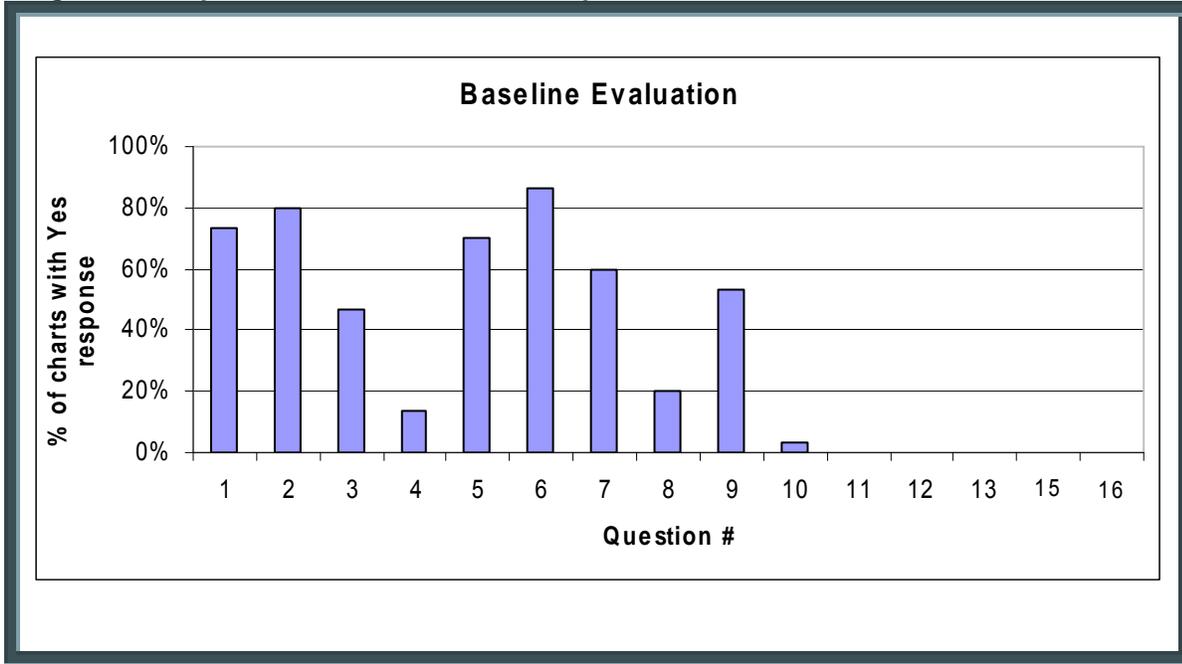
Method: We conducted a medical record review to determine the level of documentation with the evaluation questions. A data collection form was filled out for each of 30 transfers.

Results (30 discharges for patients with heart failure admission)

Measure (from chart review)	Response		% Compliance
	Yes	No	
1. Reconciled medication list with possible side effects and clear instructions for medication use. (must also contain patient name and birth date)	22	8	73%
2. A list of current diagnoses and treatments that occurred during the hospital stay	24	6	80%
3. Written discharge instructions and educational materials (disease specific)	14	16	47%
4. A list of pending lab results or other tests	4	26	13%
5. A list of symptoms to watch for and what to do if they occur	21	9	70%
6. The name and phone number of a person to call if there were problems	26	4	87%
7. Scheduled followup appointments and transportation arranged, with patients confirmed availability	18	12	60%
8. The name and phone number of the next care provider	6	24	20%
9. The transition record sent to the PCP for followup care and included medication reconciliation, pending laboratory and test results, list of current diagnoses and treatments that occurred during the hospital stay	16	14	53%
10. The transition record sent to PCP within 48 hours of discharge	1	30	3%
11. Patients evaluated to determine risk (i.e., high or moderate)	0	30	0%
12. Followup visit within 48 hours of discharge, if high risk	NA	NA	NA
13. Followup phone call within 48 hours and a physician visit within 5 days of discharge, if moderate risk	NA	NA	NA
14. Type of followup for those who received it <u>0</u> In-person visit <u>23</u> phone call <u>2</u> physician visit <u>0</u> other			
15. Patients mailed a copy of the CTM-3	NA	NA	NA
16. Patient who returned a completed CTM-3 survey	NA	NA	NA
17. Average CTM score?	NA	NA	NA
18. Patients readmitted within 30 days of discharge	16	14	53%
19. For those readmitted, the average number of days between discharge and readmission?	Avg = 6 days		

The figure below is a sample graphical display of the findings. It is visually clear which areas need the most work.

Figure 5. Sample of Baseline Evaluation Graph



These are theoretical results for illustrative purposes. When determining what was found following the baseline evaluation, there are several things that need to be considered. Each care site or facility should decide on the thresholds they would like to achieve. For example, for item 2, a list of current diagnoses and treatments sent home with the patient, the result was 80%. Each individual hospital or facility needs to decide on their goals. Several of the items above, for this example, were not done at all, such as the CTM-3 survey. If the survey was not part of the discharge process, the results for this would be zero, as none would have been sent at the baseline evaluation. This allows tracking improvement over time, so it is still important to capture. There may be other areas where there is no official policy, but there still may have been activity. For our example above, while there was no standard for followup, some patients were called following discharge. Try to get a full, accurate picture of what is being done--it may start a discussion on why certain things are being done the way they are.

This is the opportunity to find the barriers to good transitions in a facility. Based on information from the baseline evaluation and discussion with staff, much insight will be gained about what goes wrong and what is done well. For example, you could discover that the staff does not

know what information should be sent home after a hospital stay nor who is responsible for which pieces of information. The process is incomplete and is not being done in a systematic way. Conversations with staff also may reveal the following types of information:

- Most patients don't get the name and phone number of the next care provider because it is already assumed that the patient has this information
- While most patients get written discharge instructions, there is not a specific set of instructions for high risk disease states or conditions addressing each of the types of information that is important for that condition (e.g., weight monitoring, and diet for heart failure; appropriate activity instructions for post-surgical patients, other "red flags")
- Communication with community providers is poor. Staff and physicians on both sides of the transition indicate they do not take the time to communicate appropriately

Step 4. Determining Your Intervention Strategy

There are several key issues that need to be addressed in developing an intervention strategy:

- Shared accountability between sender and receiver; sender is accountable for patient care until the receiver has positively acknowledged assumption of patient care. There should be a period of shared accountability; a period when active communication occurs between the sender and the receiver.
- Timely interchange of key information (see transition record components) with special attention to medication reconciliation.
- Use HIT when possible to facilitate implementation.
- Patient and caregiver education and empowerment, such as use of transition coaching. This includes understanding patient culture, consideration of patient's health literacy level, understanding self management of diseases/conditions, and understanding responsibility for care at each transition point.



NTOCC Tool

Education & Awareness

Workgroup

- Consumers
- Healthcare professionals
- Media
- Policy makers

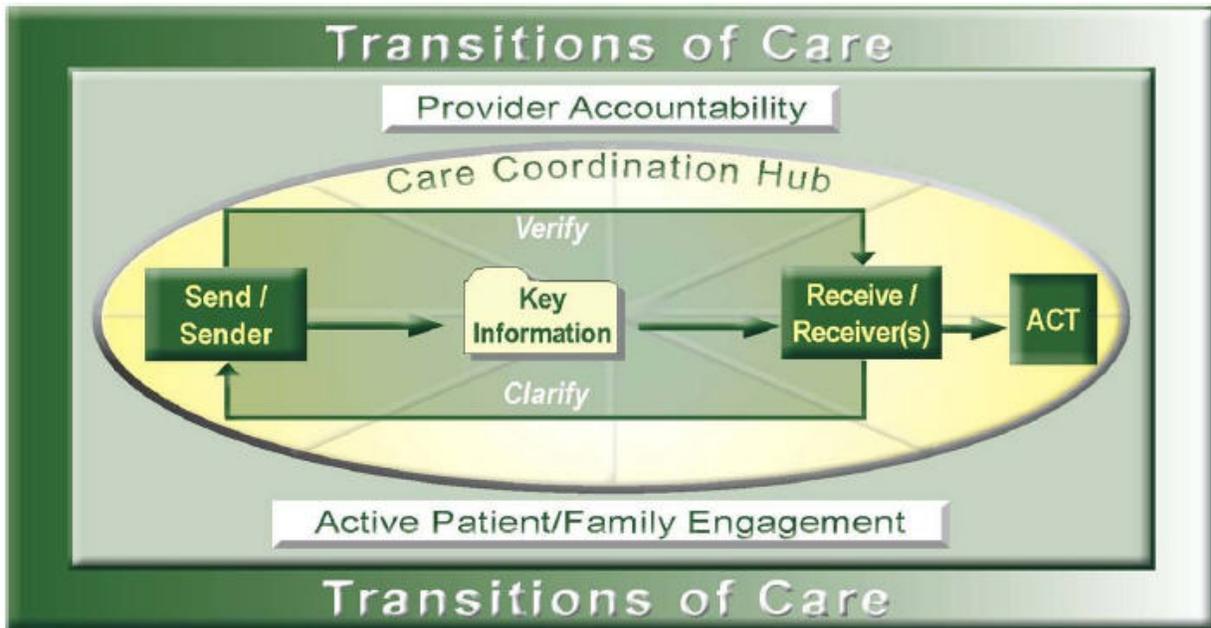
Tools

- My Medicine List
- Taking Care of My Health Care
- Medication reconciliation essential elements data specifications

www.ntocc.org

- Identification and respect for the care coordination hub (see diagram).

Conceptual Model for Transitions of Care



Source: Transitions of Care Measures. Paper by the NTOCC Measures Work Group, 2008. Available at http://www.ntocc.org/Portals/0/TransitionsOfCare_Measures.pdf

Once the institution has an idea about what is happening around a transition, the intervention should help determine what needs to change and how to accomplish the changes. Start by considering the structure, process, and outcome framework discussed in Step 2.

Based on the current structure for Exchange 3, the physician/licensed provider, nurse providing care, case manager, patient/client system, the pharmacist, and the administrative coordinator are all accountable in the transition process.

There are several good projects about transitions of care available through a variety of professional organizations. See Appendices K and L for a thorough review of what other groups have accomplished and types of interventions that have been implemented with success. These examples provide useful information about implementation, time commitment, personnel involved, and expected outcomes. Institutions may consider implementing similar programs or individual program components.

A policy and procedure is likely a good starting point, with follow-on educational programs for the staff. If there is uncertainty about what to write, use a model policy document, such as the one from the Institute for Healthcare Improvement's (IHI) How-to Guide for creating an ideal transition home. (see Appendix K for a resource list).

Staff need to take ownership of this process so that there is accountability. Findings from the baseline evaluation and specific examples of problems caused by poor communication or documentation during the transition as discussed in the previous section should be included in all staff educational sessions. Implementing standard, customizable patient education, literature, and instructions for different population types is also a strategy that can be employed to ensure that patients are getting the right information based on their condition. Patient education should also include the signs and symptoms to watch for and what to do if they occur. Appendix J contains an example of disease specific standardized discharge instructions. When discussing patient education, always consider the health literacy of the patients and their caregivers. See Appendix I, Interventions for Low Health Literacy.

Consider revisions to standardized forms already included in a patient chart. Revisions to some of the standard documents used at the hospital are possible. For example, the standard discharge summary document in use from the system may leave out pertinent information, such as pending laboratory tests. Consolidating information when possible may be helpful for staff at both sending and receiving entities and for patients and caregivers managing their information at home; having fewer separate pieces of paper to send or receive can increase efficiency.

Once a patient leaves the hospital, consider arming the patient with appropriate resources so that the patient, once back in the community, knows how and what to keep track of every time they receive health care services. NTOCC tools, Taking Care of My Health Care, My Medicine List, Helpful Definitions, and Guidelines for a Hospital Stay, are valuable resources that could help a patient organize their information at home and ask the right questions. Other organizations have similar types of tools, many free and some for a fee, that can be accessed on the internet or maintained on paper. Some of these tools, myPHR, Google Health, Microsoft Health Vault, and many others, may be an option for some of your patients. Researching and recommending a few different sources for patients may point them in the right direction.

An institution may decide to roll out interventions one at a time, or to initiate several interventions at once. Just make sure that the available resources meet the staff needs; staff will have to initiate and follow through on the intervention. The team must develop tools once they have determined which interventions to roll out. For example, assign responsibility for writing a

policy and procedure, modifying versions of documents already in use, and for gathering, creating, or customizing forms or educational materials available through other organizations.

When determining interventions, always consider how they might fit into the current workflow. This aids in reducing duplication of effort, creating streamlined processes, and minimizing extra effort by staff. The fewest staff behavior changes needed for the intervention to be fully employed is likely to improve acceptance and compliance.

It may be helpful to create a table that outlines the problems, potential barriers, and possible intervention steps. A column could also be added that outlines which literature suggested specific interventions and any reported results. See the example below:

Table 1. Sample Problem, Barrier, and Possible intervention matrix

Problem	Potential barrier	Possible interventions
No accountable provider to ensure appropriate communication	Practitioner doesn't recognize role in transition process	Assign accountability for different tasks to specific individual for every patient at admission
Followup information not sent	Lack of communication between different care sites	Create a standard process for communication and build relationships with local practices and physicians (community practice education about transitions of care, news article, newsletters, etc)
Patient goes to emergency department or back to the hospital for preventable reasons	Patient has poor health literacy, lack of standardized method of educating patient	Standardized educational method and literature for patient/client system; institute methods to attain patient understanding (e.g., teachback)
	Assumed patient was the primary learner and family/other caregivers not instructed about care	Standardized educational method and literature for patient and caregivers (family and paid)
	Patient nonadherent with recommended medication/treatment	Follow-up phone calls or visits, depending on risk for readmission and illness severity, with standard followup form and questions to ensure patient understanding and necessary resources are available

Problem	Potential barrier	Possible interventions
Patient is not satisfied with the care they received, confused and unsure what to do next	Patient/client system is not confident in home care instructions	Institute standard method to evaluate patient satisfaction
	Patient doesn't understand medications and how to take them	My medicine list for every patient, in addition to a comprehensive medication reconciliation

Prioritize all the items that are actionable. Then implement a few key interventions in the initial phase. After the initial phase is rolled-out and refined, start adding interventions to work toward the “ideal transition” for target patients.

Step 5. Implementing Your Intervention Strategy

Planning the implementation is likely the most important aspect of this step; a poorly thought-out plan will likely lead to poor outcomes. Consider all the factors ahead of time, anticipate problems, and develop a strategy for what to do when problems arise.

For implementation, it is important to fully describe all facets of what is to be implemented. Creating a summary document describing everything that has been done to date will help get the leadership support needed for the implementation to be successful. It is likely that an administrator, director of nursing, case managers, social workers, or hospitalists have already been included up to this point (as many as those interested in participating), but there will be others who have not yet been involved but important for success. The message may have to be tailored to the specific group being engaged. Aside from improving patient care as the reason for improving care transitions, the “what’s in it for me” factor will likely vary. For example, the administration may care about meeting regulatory guidelines or accreditation standards, mandated quality measures, and being cost-efficient, while the staff nurse handling transition activity may care most about saving time, being efficient, and knowing what is expected. Asking around and talking to different stakeholders is a simple way to determine the key issues of importance and securing support or buy-in. Convening a work group from the institution is one way to get all stakeholders to openly discuss all the issues. Not only will this be important for gaining buy-in from all parties, but it will also be critical in all facets of education, training, planning, and timetables and in assigning responsibility.

Learn from Others

There are numerous groups conducting quality improvement initiatives related to transitions of care as previously mentioned. Take advantage from their success and failures to reduce the learning curve when starting out. Reviewing what other hospitals, nursing facilities, health systems, and individual practitioners have accomplished may also spark some creative thinking within the facility. Some of these are outlined in Appendices K and L.

For Exchange 3, consider some of the following suggestions.

Education and Training:

- inservices for the staff on
 - importance/benefits of good transitions of care
 - hospital to home ideal transfer
 - baseline assessment findings (with specific examples)
 - the newly created policy and procedure
 - standardized patient literature
- mock patient transfer exercise that highlights where breakdowns or failures may potentially occur (failure mode analysis exercise); allows for proactive consideration and considers implementing some actions to prevent failures from occurring
- educational sessions for community provider practices about the importance of good care transitions for patients, especially those who are the most vulnerable, plus a “meet and greet” social function to help increase relationships with professionals sending and receiving patients to our facility
- an article about transitions of care in the local newspaper or a television news interview advertising the efforts by the hospital to improve transitions of care
- Patient information on the hospital website about preparing for hospital stay and transition guide

Assign responsibility and be explicit in what each person should accomplish. Depending on the interventions chosen, committees may be formed around creating or selecting different components of the program. Not all interventions will be validated, studied programs. Some of the best interventions may be the most simple ideas; be creative.

Table 2. Sample Assignments

Responsible person	Assignment	Due date
Attending physician	Draft a provider invitation for community events	1 week
Director of nursing and staff development coordinator	Prepare inservice program and mock transfer exercise	3 weeks
Admissions coordinator; case manager, social worker	Research standardized patient educational sheets for target populations; Create standard discharge packet to include information for patients about keeping a personal health record, accurate medication list, etc.	3 weeks
Administrator	Arrange newspaper/tv station interviews; oversight and administrative support for the initiative	4 weeks
Staff nurses/others	Attend inservice, adhere to the new policy and procedure, incorporate new patient education literature and methods into discharge information	6 weeks
Pharmacist	Review medication reconciliation process, determine method for communicating with physician offices; prepare inservice for nursing/case manager staff on reviewing medication list	4 weeks

It may be helpful to review and address the barriers to change with the workgroup.

Step 6. Determine Your Degree of Success

Reassess performance at an agreed upon time. Early in the intervention, this may include a weekly update at staff meetings. A formal assessment will likely be held monthly early in the intervention, and change to quarterly after the program has become part of the routine process. The formal assessment will involve repeating the actions performed in the baseline assessment. It is important to display the finding of the reassessment in a way that compares it to baseline results. This is necessary for internal benchmarking purposes and to quantify the degree of improvement the staff has achieved.

Keep in mind the process has likely changed since the baseline assessment. For example, a tool or process may have been implemented that changed how something needs to be measured. Adapt your evaluation process as the system and transition process changes. See the sample post-intervention summary on the following page.

Figure 6. Sample Post-intervention Results

Background/time table: XXXXXXXX facility conducted baseline and post-intervention assessments of performance related to communication around patient discharge. Review of the medical record was conducted to determine the level of documentation for the evaluation questions.

Objective: To assess baseline and post-intervention performance in compliance with the ideal discharge for heart failure patients.

Method: Post intervention, staff reviewed the medical record to determine compliance with the ideal discharge for heart failure patients. One data collection form was filled out for each transfer.

Results (30 transfers)

Measure	Baseline	Post-intervention	Difference
1. Reconciled medication list with possible side effects and clear instructions for medication use. (must also contain patient name and birth date)	73%	66%	-9%
2. A list of current diagnoses and treatments that occurred during the hospital stay	80%	93%	+13%
3. Written HF discharge instructions and educational materials addressing weight monitoring, activity level, and diet	47%	100%	+53%
4. A list of pending lab results or other tests	13%	20%	+7%
5. A list of symptoms to watch for and what to do if they occur	70%	100%	+30%
6. The name and phone number of a person to call if there were problems	87%	93%	+6%
7. Scheduled followup appointments and transportation arranged, and patients confirmed availability	60%	76%	+16%
8. The name and phone number of the next care provider	20%	76%	+56%
9. Transition record was sent to the PCP for followup care and included medication reconciliation, pending laboratory and test results, list of current diagnoses and treatments that occurred during the hospital stay	53%	76%	+23%
10. Transition records sent to the PCP with 48 hours of discharge.	3%	30%	+27%
11. Patients evaluated to determine risk (i.e., high or moderate)	0%	83%	+83%
12. Followup visits within 48 hours of discharge, for high risk patients	0%	50%	+50%
13. Followup phone calls with 48 hours and a physician visit within 5 days of discharge, for moderate risk patients	0%	80%	+80%
14. What type of followup did the patient receive? Pre-intervention <u>0</u> In-person visit <u>22</u> phone call Post-intervention <u>1</u> In-person visit <u>25</u> phone call		<u>1</u> physician visit <u>2</u> physician visit	<u>0</u> other <u>1</u> other
15. Patients mailed a copy of the CTM-3	0	100%	+30%
16. Patients who returned a completed CTM-3 survey	0	60%	+60%
17. Average CTM score?	0		
18. Patients readmitted within 30 days of discharge	53%	46%	
19. For those readmitted, the average number of days between discharge and readmission?	6 days	4 days	

As shown in the sample chart, there were improvements for most transfer elements. The green highlighted areas are those that fell above the preselected threshold (for example, 80%), those between 50% and 79% in yellow, and those below 50% in red. Areas with the lowest performance may be areas in the most need of intervention; however, they may also have been areas that are still in early stages of improvement. The next assessment may further reveal where modifications are needed.

Step 7. Make Any Modifications Necessary to the Intervention

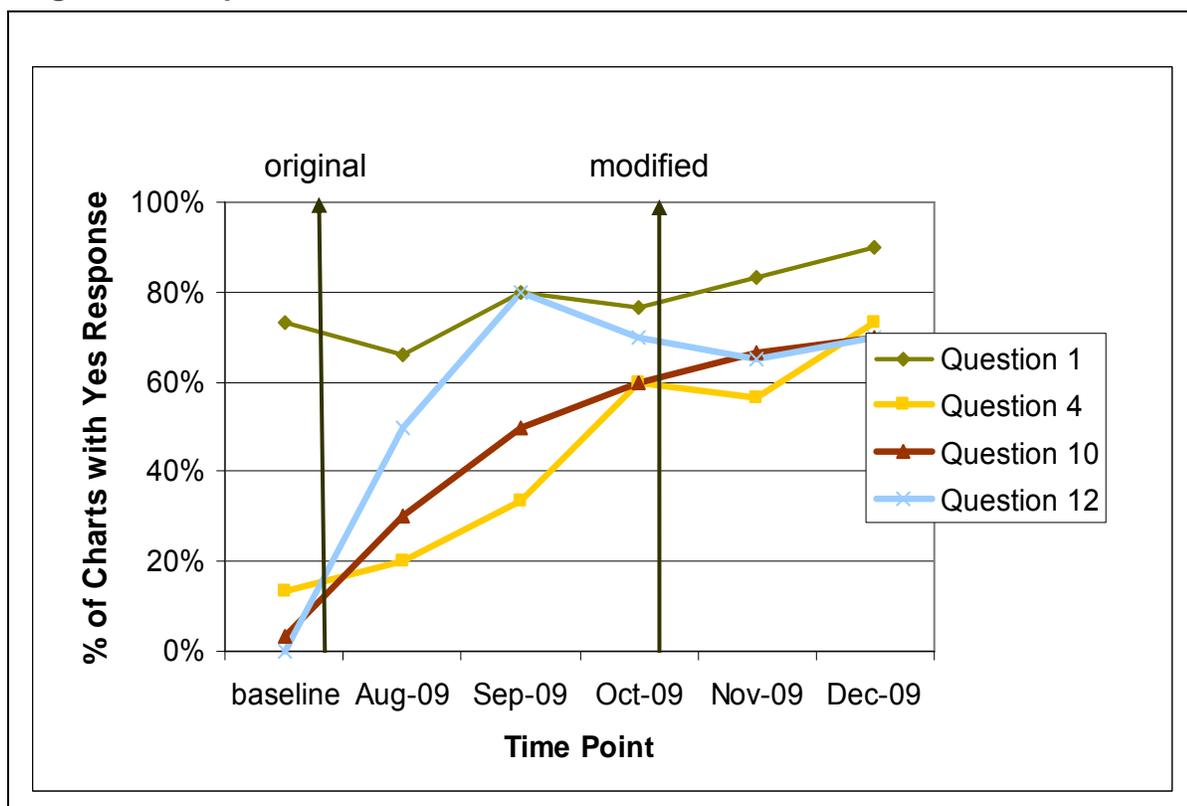
This is the step in the process where the institution needs to look at what has been accomplished, what lessons have been learned, and decide where the intervention needs to be modified.

In reviewing results of the reassessment, areas may stand out as still needing prompt intervention (compliance fell below the threshold determined as necessary for quality care transition). It may be that the process is not fully understood by the staff for that particular measure, or there may be some other barrier to accomplishment that needs to be determined. It may indicate that the intervention is not working and needs revision. Staff feedback through surveys or brief interviews during staff meetings may help highlight additional interventions for improving these areas.

Continue to monitor processes over time to ensure the intervention is sustained. A control chart is one method to monitor progress. An institution may decide that several of the process items should be monitored monthly to determine the ongoing performance and sustainability, while others need only quarterly assessment. A simple trend chart with only four of the questions represented is shown below as an example.

The intervention and results should be incorporated into the institution quality management meetings. If a subpopulation was selected for initial implementation, it may be time to consider expanding the program to target additional populations or departments, or including additional hospital staff.

Figure 7. Sample Trend Chart



A trend chart shows where the organization has been over time. Staff changes or other factors may necessitate the need for periodic reminders (via a institution newsletter or emails) or more formal educational inservices at regular intervals to keep the interventions at the predetermined threshold levels. If there are modifications to the intervention, redeploy the intervention with the changes and measure again every 30 days and report findings to the quality management committee.

Sustain the Interventions

Following steps 1 through 7, it is important that the positive changes are maintained and that staff members do not slip back into old habits. The process of collaborating with other institutions and developing the interventions and tools should be shared with other sites. A few steps may be helpful for sustaining the efforts.

- Share results within the organization. Keep staff informed of progress, successes, and failures.

- Share results outside of the organization. Present your process and findings at local, state, and national levels.
- Expand the scope to include all patients transferring into, out of, or within the facility, regardless of starting or destination points. Focusing on a key area of concern, such as medication reconciliation, is also a way to broaden the project's scope.
- Add additional interventions not included at the start of the program
- Look for participation from other departments and/or disciplines. Educate other disciplines on their role in improving quality and safety of health care delivery as it relates to transitions of care.

Keep in mind that presenting in a public forum or publishing findings requires ethical review and/or oversight by an Institutional Review Board (IRB). Consult with your organization on such need.

Appendices

Appendix A: Preparation at Home for the Hospital Stay

Step 1. Select what you plan to study

As discussed for Exchange 3, decide what to study. Here are the basic steps for Exchange 1, the patient prepares to go to the hospital for a planned stay. While hospital stays are often unplanned, many of those unplanned stays are admitted from the emergency department. For this transition, assume the patient is coming directly from home under the care of a PCP or specialist. The transition of emergency department to hospital deserves special attention, which will not be included here.

Exchange 1: Preparation at home for the hospital stay

1. A change in the patient status dictates the need for hospitalization
2. PCP/specialist prepares patient for hospitalization; contacts hospital/insurance regarding admission
3. PCP/specialist provides preadmission instructions to patient/caregiver

Exchange 1 is critically important in the home to hospital transition of care. Research suggests that patients and caregivers are often unprepared for this step. The framework as discussed previously, in terms of the structure, process, and outcomes of this transition are outlined below. This exchange will be somewhat more difficult for the hospital to evaluate, as these steps are often taken by a PCP office or other clinical site. The hospital should likely play a more proactive role. Several hospitals and healthcare systems have made available through the internet their patient educational materials for preadmission planning. Hospitals should be as proactive as possible in helping patients take the appropriate steps to help ensure their needs will be met during and after the hospital stay.

Step 2. Assess the current process

Exchange 1 Framework

Structure

- A. Accountable provider at point of transition
- Patient/caregiver (family or paid); LAR
 - Primary care provider /specialist
 - Hospital admissions personnel

B. Plan of care

- Preadmission information
- Medications
- Reason for hospitalization – surgical, test, etc.
- Advance directive
- Contact information, LAR, patient, primary care provider
- Discharge planning
- Personal health record (if available)

C. Use of HIT

- EMR – institution/system specific implementation

Process

A. Care team processes

- Monitoring patient status
- Treatment prior to admission documented
- Hospital treatment planned

B. Information transfer/communication between providers

- Timeliness, completeness, and accuracy of information transferred
- Protocol of shared accountability in effective information transfer
- Insurance requirements met

C. Patient education and engagement

- Communication with patient regarding current status

Outcomes

- Patient experience
- Provider experience
- Health care utilization and costs (e.g., readmissions)
- Health outcome (e.g., functional status, adverse events, etc)

Evaluation Questions for Exchange 1:

Question 1: Did the hospital receive the appropriate information from the PCP and from the patient prior to the admission?

Question 2: Was the patient sent a prehospitalization packet prior to admission?

Question 3: Was a case manager/admissions personnel/social worker assigned to the patient?

Appendix B: Hospital Receipt of Patient

Step 1. Select what you plan to study

For Exchange 2, the study and measurement processes take place in the hospital environment.

Exchange 2: Hospital receipt of patient

1. Patient arrives at hospital
2. Admissions personnel enters patient information into system (e.g., name, social security number, insurance information, reason for hospitalization, etc)
3. PCP office called to obtain any missing information
4. Patient information transferred to physician order form and/or medication reconciliation form for physician confirmation and signature
5. Physician/provider signs orders
6. Patient condition managed/surgical procedure in hospital
7. Discharge planning started

Step 2. Assess the current process

Create a detailed process map to help determine the structure, process, and outcome for this exchange (See <http://www.isixsigma.com/library/content/c060724a.asp> for additional information on process maps).

Exchange 2 Structure, Process, Outcome

Structure

- A. Accountable provider at point of transition
- Physician/hospitalist/other provider
 - Receiving nurse/accountable staff
 - Case manager/admissions personnel/social worker
 - Patient
 - Family and/or paid caregiver
 - Administrative coordinator
 - Pharmacist

B. Plan of care

- Medication list (required medication reconciliation)
- Medical history (medical record document)
- Physical and mental functional assessment
- Contact information, LAR, PCP
- Medical record document
- Advance directive
- Discharge planning
- Personal health record

C. Use of HIT

- Electronic medical record (EMR) – system specific implementation

Process

A. Care team processes

- Medication reconciliation – compare at-home, admission, and PCP list
- Test/procedure tracking – recent labs and diagnostics tests from PCP documented
- Admission and discharge planning – care plan document by case manager/admissions personnel/social worker; transportation and home care needs

B. Information transfer/communication between providers

- Timeliness, completeness and accuracy of information transferred
- Protocol of shared accountability in effective transfer of information

C. Patient education and engagement

- Patient education for self-management – medical condition/procedure specific
- Patient/caregiver education using simple language, materials in the patient's own language, and medical interpreters
- Post-testing (e.g., teach-back), where possible

Outcomes

- Patient/LAR experience and understanding
- Provider experience
- Health care utilization and costs (readmissions, etc.)
- Health outcome (e.g., functional status, adverse drug events, etc.)

Medication Reconciliation

Medication reconciliation is the process of creating the most complete and accurate list of medications possible, comparing that list against medication orders at each stage of the

patient's hospitalization, and resolving any discrepancies. Perform medication reconciliation at admission, transfer to another service/level of care, and at discharge. Medication reconciliation is a Joint Commission National Patient Safety goal for hospitals. In order to be in compliance with this standard, there must be documentation that the reconciliation has taken place. Many hospitals have developed forms to facilitate this documentation, some having the document also serve as a standardized physician order form for medications. In our scenario, the hospital will likely either receive a printed list from the PCP or a patient maintained list. It is possible the patient does not have a complete, accurate maintained medication list. In this case, effort must be made to determine appropriate medications for the patient, through communication with the PCP, community pharmacy, family members, or other means.

There are numerous published examples of implementing a successful medication reconciliation process, so the process will not be described here. The following are a few resources for implementing or improving medication reconciliation programs:

Rogers G, Alper E, Brunelle D et al. Reconciling medications at admission: safe practice recommendations and implementation strategies. *Jt Comm J Qual Patient Saf* 2006;32:37-50.

Medication Reconciliation Toolkit. A Department of Defense patient safety program. Available at <http://dodpatientsafety.usuhs.mil/modules.php?name=News&file=article&sid=451>

Varkey P, Cunningham J, O'Meara J et al. Multidisciplinary approach to inpatient medication reconciliation in an academic setting; *Am J Health-Syst Pharm* 2007;64:850-4.

Once again, by looking at the framework, determine which elements should be included on the evaluation.

Evaluation Questions for Exchange 2:

- Question 1: Did the hospital receive the appropriate information from the PCP?
- Question 2: Were admitting medications reconciled with the medication information provided by the PCP and patient?
- Question 3: Did the patient enter the hospital with the necessary information or did the patient complete the preadmission package forms?
- Question 4: Was a case manager/admissions personnel/social worker assigned to the patient?

Step 3. Determine your current level of performance

Evaluation Question 1: Did the hospital receive the appropriate information from the PCP?

A key component of an effective transition is receipt of the appropriate information from the PCP. Based on the literature review, the key pieces of information that are going to be measured are outlined in the measurement chart. When determining this list, try to collaborate with a coalition of stakeholders—community physicians and office practices, admission personnel, social workers, hospital staff, etc. to create a list that meets everyone’s needs. Be willing to negotiate and compromise over exactly what the list entails.

Incorporate the information received from the PCP into the hospital medical record. Information gathered will be aggregated based on the evaluation questions. As stated for Exchange 3, each piece of information might need to be asked as a separate question. All data is included in one question for the purpose of illustration. Data will be reported as a number and percent for each measure.

Evaluation Question 2: Were admitting medications reconciled with the medication information provided by the PCP and patient?

Medication reconciliation can be assessed as a static event (i.e., performance documentation by signature and completion of a medication reconciliation form) and by detecting errors that occurred during the process (i.e., medication discrepancies resolved). Incorporate these two procedures into the evaluation questions. This addresses the Joint Commission patient safety goal on medication reconciliation.

Medication reconciliation requires a multidisciplinary team approach, usually consisting of a nurse, a pharmacist, and a physician. There are resources that describe medication reconciliation in detail and offer guidance on performance measurement. One such resource is available from the Institute for Healthcare Improvement available at <http://www.ihl.org/IHI/Topics/PatientSafety/MedicationSystems/Tools/Medication+Reconciliation+Review.htm>

If an institution requires electronic ordering of medications, specific instructions for the multidisciplinary team members should be developed to assure an accurate and complete



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medication reconciliation process. An example of one health system's process is available at the Legacy Health System website. <http://www.legacyhealth.org/body.cfm?id=1878>.

The form and system used to record admission medications, whether paper or electronic, should include a minimum set of data elements. NTOCC developed a document containing suggested common/essential data elements for medication reconciliation.

Evaluating resolution of medication discrepancies is critical to evaluating the effectiveness of medication reconciliation. For Exchange 3, the person responsible for this component of the evaluation will need to use the PCP list and patient's list from home to compare the medication reconciliation form or physician order form completed on admission. This process can be enhanced by using a list of categories to organize the discrepancies into logical groups (e.g., patient level, system level). The Medication Discrepancy Tool (MDT) is a published, validated data collection instrument that accomplishes this task.

There are several published examples of documenting and measuring medication discrepancies including the following:

Coleman EA, Smith JD, Raha D, Min S. Posthospital medication discrepancies; prevalence and contributing factors. *Arch Intern Med* 2005;165:1842-47.

Cornish PL, Knowles SR, Marchesano R et al. Unintended medication discrepancies at the time of hospital admission. *Arch Intern Med* 2005;165:424-29.

Varkey P, Cunningham J, O'Meara J et al. Multidisciplinary approach to inpatient medication reconciliation in an academic setting; *Am J Health-Syst Pharm* 2007;64:850-4.

As there is a direct relationship between adverse drug events and medication discrepancies during admission or discharge, it may be beneficial to measure and plot the rate of adverse drug events as performance on achieving your objectives for medication reconciliation is plotted.



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Suggested Common/Essential
Data Elements for Medication
Reconciliation

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Evaluation Question 3: Did the patient enter the hospital with the necessary information or did the patient complete the preadmission package forms?

The medical record is the source document to assess current level of performance for evaluation question 3. There are many things a patient should know or have available at the time of admission. The hospital has a preadmission packet that should be sent when hospital staff becomes aware of the upcoming hospitalization. The hospital may not know what the patient typically has with them at admission, and staff will have ascertain what was brought with the patient into the hospital.

Aggregate information gathered based on the evaluation questions (e.g., number of patients who had a list of their current physicians, including specialists, and phone numbers) Data will be reported as a number and percent for each measure.

Evaluation Question 4: Was a case manager/admissions personnel/social worker assigned to the patient?

The case manager should be assigned at the time the patient is admitted. Aggregate the information based on the evaluation questions (e.g., number of patients received for whom case manager was assigned at admission). Data will be reported as a number and percent for each measure.

Figure 8. Evaluation Matrix for Exchange 2

Measure	Data source	Reporting Guidance
<i>Evaluation Question 1: Did the hospital receive the appropriate information from the PCP?</i>		
1. # patients for whom there was a plan of care from the PCP	Medical record	Number and percent
2. # patients for whom there was a medication list	Medical record	Number and percent (Joint Commission – National Patient Safety Goal 8, Medication Reconciliation)
3. # patients for whom there was recent laboratory values, other tests	Medical record	Number and percent
4. # patients for whom there was a baseline mental status assessment	Medical record	Number and percent
5. # patients for whom there was a advance directive	Medical record	Number and percent (ACOVE-3 QI)
<i>Evaluation Question 2: Were admitting medications reconciled with the medication information provided by the PCP and patient?</i>		
6. # patients for whom there was a medication reconciliation form filled out completely and signed?	Medical record	Number and percent (Joint Commission – National Patient Safety Goal 8, Medication Reconciliation)
7. # patients for whom the form was accurate with all medication discrepancies resolved?	Medical record	Number and percent (Joint Commission – National Patient Safety Goal 8, Medication Reconciliation)
<i>Evaluation Question 3: Did the patient enter the hospital with the necessary information or did the patient complete the preadmission package forms?</i>		
8. # patients who had received the preadmission packet	Medical record	Number and percent
9. # patients who had insurance/payment information and identification	Medical record	Number and percent
10. # patients with a list of their physicians, including specialists, and phone numbers	Medical record	Number and percent
11. # patients who knew caregivers/family availability for post-discharge	Medical record	Number and percent (ACOVE-3 QI, Continuity and coordination of care, No.7)
12. # patients who knew the anticipated length of the hospital stay	Medical record	Number and percent
<i>Evaluation Question 4: Was a case manager/admissions personnel/social worker assigned to the patient?</i>		
13. # patients that had a case manager/discharge planner assigned to the patient upon admission	Medical record	Number and percent
14. # patients that had a case manager/discharge planner communicate with the patient/client system within 24 hour of admission	Medical record	Number and percent

Measure	Data source	Reporting Guidance
15. # patients that had an initial discharge assessment conducted that included: Cognitive status Functional status Volume status Monitoring needs (weight/volume status) Literacy assessment Medication compliance	Medical record	Number and percent
17. # patients that had an estimated home-going date	Medical record	Number and percent

Step 4. Determining Your Intervention Strategy

Implementation of a strategy

It is difficult to develop a universally applicable policy and procedure for medication reconciliation as health systems vary greatly in HIT implementation. However, there are several documents available to the public that are useful in developing a policy for the first time.

They are:

Medication reconciliation review, Luter Midelfort – Mayo Health System, and Institute for Healthcare Improvement. Available at <http://www.ihl.org/ihl/topics/patientsafety/medicationsystems/tools/medication+reconciliation+review.htm>

Medication Reconciliation, Bridging Communication Across the Continuum of Care, Legacy Health System. Available at <http://www.legacyhealth.org/body.cfm?id=1878>

Kramer JS, Opkins PJ, Rosendale JC et al. Implementation of an electronic system for medication reconciliation. Am J Health-Syst Pharm 2007;64:404-22.

Summary of Safe Practice Recommendations for Reconciling Medications at Admission

<p>Collect complete and accurate pre-admission medication lists</p> <ol style="list-style-type: none"> 1. Collect a complete list of current medications (including dose and frequency) for each patient on admission. 2. Validate the pre-admission medication list with the patient (whenever possible). 3. Assign primary responsibility for collecting the preadmission list to someone with sufficient expertise, within a context of shared accountability (the ordering prescriber, nurse, and pharmacist must work together to achieve accuracy). <p>Write accurate admission orders</p> <ol style="list-style-type: none"> 4. Use the pre-admission medication list when writing orders. 5. Place the reconciling form (see Recommendation 8) in a consistent, highly visible location within the patient chart (easily accessible by clinicians writing orders). <p>Reconcile all variances</p> <p>Assign responsibility for identifying and reconciling variances between the pre-admission medication list and new orders to someone with sufficient expertise.</p>	<ol style="list-style-type: none"> 6. Reconcile patient medications within specified time frames. <p>Provide continuing support and maintenance</p> <ol style="list-style-type: none"> 7. Adopt a standardized form to use for collecting the pre-admission medication list and reconciling the variances (includes both electronic and paper-based forms). 8. Develop clear policies and procedures for each step in the reconciling process. 9. Provide access to drug information and pharmacist advice at each step in the reconciling process. 10. Improve access to complete medication lists at admission. 11. Provide orientation and ongoing education on procedures for reconciling medications to all healthcare providers. 12. Provide feedback and ongoing monitoring (within context of non-punitive learning from mistakes/near misses).
<p>* Although the Safe Practice Recommendations provided here were developed focusing particularly on reconciling medications at admission, the same vigilance must occur at all critical transitions. The reconciling practices also offer significant safety benefits at patient handoffs on transfer between services and at discharge.</p> <p>Source: Rogers G, Alper E, Brunelle D et al. Reconciling medications at admission: safe practice recommendations and implementation strategies. Jt Comm J Qual Patient Saf. 2006;32:37-50.</p>	

As with Exchange 3, the first step is to create a policy and procedure document and educate the staff on what should occur at admission. Include findings from the baseline evaluation and specific examples of problems caused by poor communication or documentation during the transition.

Work with the health information technology departments to find how the transfer documents could be set to be automatically generate on discharge.



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For more information about transitions of care related to hospitalization, see the following resources.

Phillips CO, Wright SM, Kern DE et al. Comprehensive discharge planning with postdischarge support for older patients with congestive heart failure: a meta-analysis. *JAMA* 2004;291:1358-67.

Moore C, McGinn T, Halm E. Tying up loose ends: discharging patients with unresolved medical issues. *Arch Intern Med* 2007;167:1305-11.

Kind AJ, Smith MA, Frytak JR, Finch MD. Bouncing back: patterns and predictors of complicated transitions 30 days after hospitalization for acute ischemic stroke. *J Am Geriatr Soc.* 2007;55:365-73.

Forster AJ, Murff HJ, Peterson JF et al. The incidence and severity of adverse events affecting patients after discharge from the hospital. *Ann Intern Med* 2003;138:161-7.

Australian Council for Safety and Quality in Health Care. Clinical hand-over and Patient Safety literature Review Report. March 2005. Available at [http://www.health.gov.au/internet/safety/publishing.nsf/Content/AA1369AD4AC5FC2ACA2571BF0081CD95/\\$File/clinhovrlitrev.pdf](http://www.health.gov.au/internet/safety/publishing.nsf/Content/AA1369AD4AC5FC2ACA2571BF0081CD95/$File/clinhovrlitrev.pdf)

Step 5. Implementing an Intervention Strategy

As discussed previously, planning is critical. These tasks should be completed during the planning phase.

- Fully describe all facets of what is to be implemented in one clear and concise document.
- Get the leadership support needed for the implementation to be successful.
- Determine the “what’s in it for me” for each of the accountable stakeholders.

- Convene a work group from the institution.

Learn from Others

As with everything else, do your homework. There are groups conducting quality improvement initiatives related to medication reconciliation, hospital admission, and transitions of care. See Appendices K & L for additional information.

As outlined in Exchange 3, steps 6 and 7 involve reassessing performance at an agreed upon time and making modifications to the intervention as necessary.

Appendix C: Patient Receives Care Through PCP

Step 1. Select what you plan to study

For Exchange 4, it is important that the patient follow the discharge. This step ideally would include collaboration with community providers.

Exchange 4: Patient received care from PCP or other entity

1. Care continues at home (self or assisted)
2. Follow-up with case manager/hospital nurse for missing information, questions or concerns
3. PCP resume/starts patient's care
4. Maintenance health care by PCP or other entity

Step 2. Assess the Current Process

Exchange 6 Structure, Process, Outcome

Structure

- A. Accountable provider at point of transition
 - Case manager/social worker/discharge planner
 - PCP/other entity
 - Patient
 - Family and paid caregivers
- B. Plan of care
 - Medication reconciliation form
 - Hospital discharge summary/transition record
 - Advance directives
 - Patient self-care instructions
 - Lab data, x-rays, vital signs
 - Referrals, follow-up appointments
- C. Use of HIT
 - Electronic medical record (EMR) - system specific implementation

Process

A. Care team processes

- Medication reconciliation – Compare discharge hospital medication reconciliation form with the pre-hospitalization medications
- Test/procedure tracking and followup – monitor for appropriate follow-up from hospital procedures
- Test/procedure scheduling and result followup – ensure scheduled
- Referral tracking – monitor follow-up physician visits, referrals

B. Information transfer/communication between providers

- Timeliness, completeness and accuracy of information transferred
- Protocol of shared accountability in effective transfer of information

C. Patient education and engagement

- Patient/caregiver education for self-monitoring
- Patient personal “My Medicine List”
- Patient care tool
- Appropriate communication with patients with limited English proficiency

Outcomes

- Patient experience (CTM)
- Provider experience
- Health care utilization and costs (readmissions)
- Health outcome (e.g., functional status, medical errors, etc.)



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Step 3. Evaluate Your Current Level of Practice

Evaluation Questions for Exchange 4

Question 1: Did the patient/client followup with their physician within the recommended time frame and as scheduled by the hospital?

Question 2: Was the patient available for followup from the nurse/discharge planner who conducted the followup?

Question 3: Did the patient return to the hospital or emergency department within 30 days?

Figure 9. Evaluation Matrix for Exchange 4

Measure	Data source	Reporting Guidance
<i>Evaluation Question 1: Did the patient/client followup with their physician within the recommended time frame and as scheduled by the hospital?</i>		
1. # of patients who were compliant with the followup appointment as scheduled upon discharge	Phone interview with patient	Number and percentage (ABIM/PCPI Care Transitions Performance Measurement Set, 2009, Measure #5)
<i>Evaluation Question 2: Was the patient available for followup from the nurse/discharge planner who conducted the followup?</i>		
2. # of patients who spoke to/were seen by the case manager/nurse following discharge within specified time period	Hospital medical record/phone interview with patient	Number and percentage (ABIM/PCPI Care Transitions Performance Measurement Set, 2009, Measure #5)
<i>Evaluation Question 3: Did the patient return to the hospital or emergency department within 30 days?</i>		
3. # of patients who were seen in the emergency department or readmitted to the hospital for a related condition following discharge	Phone interview with patient	Number and percentage (NQF #0330)

See Exchange 1 for examples of steps 4 through 6.

Appendix D: Evaluation: A Basic Primer

Quality Improvement And Evaluation

Introduction to Evaluation

Evaluation is the conscious reflection on what we do, with the aim of discovering:

- Opportunities to improve practice (e.g., flaws in systems or processes)
- Whether or not we have achieved the outcomes that we set out to achieve for patients; and/or whether key areas within our services are performing as expected over time
- Whether or not an improvement has been made as a result of a quality improvement activity (e.g., a project or new process)

Opportunities to improve practice might be discovered through ongoing evaluation of risks, incidents, clinical indicators, or other data. Peer review, caregiver/patient surveys, and observations of practice are also forms of evaluation. In fact, any data could be used, as long as it informs us about flaws (or potential flaws) in practice, and creates questions about how these flaws could be addressed.

Continuous, ongoing reflection and evaluation of clinical practice is an important part of creating safer, higher quality health care environments.

Evaluation of goal achievement is also important to improving health care. Evaluating goal achievement makes us focus on our effectiveness in practice: are we achieving what we hoped to achieve? Goal achievement for individual patients might include evaluation of:

- Clinical improvement
- Functional improvement
- Improvement in well-being/quality of life

Goal achievement is often evaluated using outcome measurement tools. While reflecting on patient improvements over time is a standard part of clinical care, outcome measurement tools allow this improvement to be quantified. Examples of tools are:

- Goal-based measures, such as the Goal Achievement Scale (GAS). These measures are often 'open' and can be tailored towards any goal for a patient.
- Functional outcome measures, such as the Functional Independence Measure for children (WeeFIM). Some of these measures are designed to be used across patient groups, while others are specific to disorders, diseases, or parts of the body that you might want to measure.
- Quality of life or well-being focused outcome measures. These measures often ask patients to rate their response to questions about their feelings, coping, ability to participate, and other areas.

Individual patient outcome measurement allows clinicians to quantify patient progress towards goals over time. If measures are used that can be 'summed' across patients, outcome measurement allows us to track the outcome of a group of patients over time (e.g., all patients who have had orthopaedic surgery). They can also be used in order to compare the outcomes of two different approaches to patient care- for example, the well-being of patients with cancer who have received social work input, versus those who have not.

Evaluation is also part of the quality improvement cycle. A key component to any QI project is evaluating the effectiveness or otherwise of the strategies used. For example, if you hold study days, give reminders, and use nurse facilitators as strategies to try and improve documentation in patient file notes, have these efforts actually led to any improvement? Evaluation in QI is specific to the aim of the QI effort. Often, data about the process in question (e.g., documentation) is needed before and after the strategies are put into place, so that the actual improvement can be documented.

Clinical and Key Performance Indicators

Clinical indicators and key performance indicators are another way of evaluating services. Indicators allow a broad overview of performance over time. They don't give a lot of detail about what is happening, but they do allow us to monitor and track (on an ongoing basis) key areas of practice, in order to 'flag' areas that need improvement. Clinical and key performance indicators can be used to compare our performance against other health care services, to ensure that we are providing the best possible service for children.

Clinical indicators can reflect patient outcomes (e.g., central line infection rate), safety issues (e.g., falls), or the appropriateness of care given (e.g., appendectomy with normal histology). Clinical indicators flag potential clinical problems that are happening, and allow us to follow this up with appropriate action (e.g., improved process for placing central lines to decrease infection rate). For example, an increased rate of patient falls in the hospital may indicate a need to review policy and re-educate staff and families about children's safety and supervision.

Other examples of clinical indicators might be:

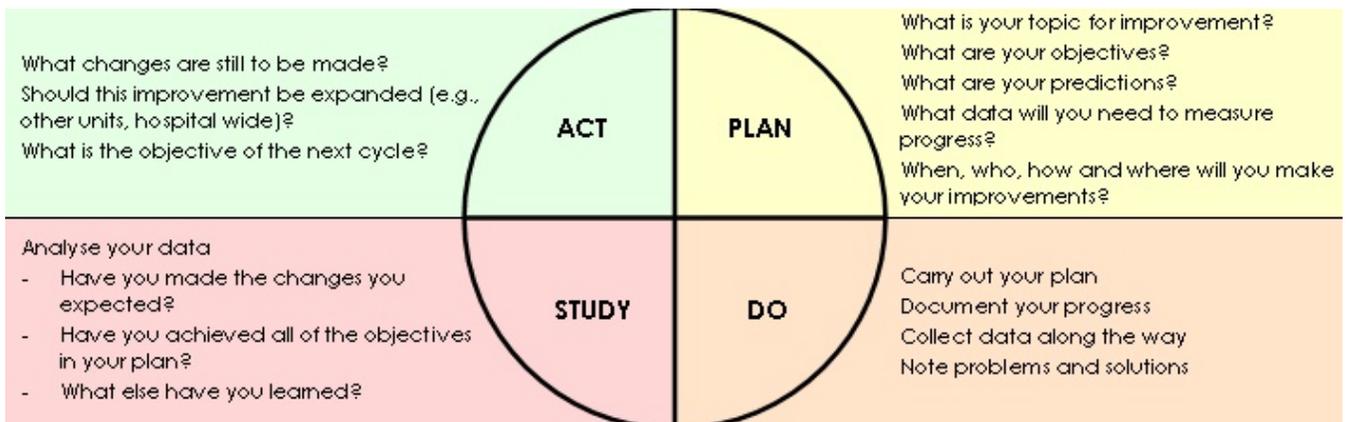
- Number of patients who develop pressure ulcers whilst in the hospital
- Percentage of patients who undergo transfers from acute care to home
- Rate of medication incidents in the nursing home

Key performance indicators (KPIs) are similar to clinical indicators, but reflect overall hospital, department, or group 'performance' rather than just clinical problems or outcomes. KPIs often reflect administrative, service, or business areas, such as staffing levels, under or over utilization of services by certain groups of patients, and efficiency. KPIs, like clinical indicators, can reflect the quality of a service – particularly relating to quality areas of efficiency (e.g., waiting times for services; cost of a service) and access (e.g., types of patients who are utilizing the service).

Introduction to Quality Improvement

Quality improvement is about ensuring that our focus is on improving, not just maintaining, our services. Quality improvement involves a focus on the safety, effectiveness, efficiency, acceptability, accessibility and appropriateness of services for consumers (who might be patients, caregivers, other health care professionals, or the health care facility).

Quality improvement is a continuous cycle of planning, implementing strategies, evaluating the effectiveness of these strategies and reflection to see what further improvements can be made (plan-do-study-act – PDSA approach – see figure below).



PDSA approaches promote action by getting clinicians to reflect and brainstorm strategies that they hope will lead to improvement. It also promotes evaluation of these changes once the strategies have been implemented.

This is the beginning of a continuous cycle which allows for the initiation of changes for improvement through a process that requires evaluation to prove that the desired outcome is achieved.

Strategies for Quality Evaluation and Improvement

Examine the Current Situation (Plan)

Find areas for improvement

'Walk through' (observational survey or process mapping method): A walk-through is a data collection method that allows you to consider the patient and caregiver perspective in care, and to evaluate how and where the process of care could be improved for consumers. For example, members of the health care team go through the experience just as the patient and caregivers would, and provide feedback on this experience to the rest of the team. A walk-through allows you to clarify the current process of care—what happens to patients when they come into your department—and suggest areas for improvement.

'Why' Technique: Asking 'why' for any given problem allows you to get closer to the true root of the problem. The five why's technique supports identification of the best focus for quality improvement, by identifying the root cause of a problem (rather than just the cause that is the most obvious).

Define and quantify the problem and study aims

Ask the 5 W-questions and the 1-H question: Who, What, Where, Why, When and How often-about your problem. This helps you clearly define your problem and aims. For example, if your broad aim is to improve documentation, consider:

- What is the exact problem? (e.g., poor documentation of clinical progress)
- Whose documentation do you want to improve? (e.g., nurses? multidisciplinary staff?)
- When/where does this problem occur? (e.g., poorer documentation in night shift)
- Why does this problem occur? (as identified above using the 'why' technique).
- How often does this problem occur? (quantify the percentage of patient files in which documentation is inadequate)

Look for possible solutions

Identify the barriers to change: There is often more than one thing that stops change from happening. Identifying barriers helps you to identify the best strategies to support change. Areas to consider include:

- Personal barriers – For example, a person's attitude toward change, or their knowledge/skill in relation to the new behavior
- Social barriers – For example, poor leadership or support from peers for new behaviors
- Process barriers – For example, lack of clarity about the actual process, or competing processes that are higher priority
- Environmental barriers – For example, a lack of some physical resource needed to carry out the new behavior

Implement a Plan for Change (Do)

Presuming that you have identified the most appropriate area to change, and you are now ready to take action, what is your strategy for making change and improving practice?

The most important factor in choosing a strategy is ensuring that it matches your goal/aims and provides an adequate solution to the problem identified above. For example, if a lack of knowledge is identified as a key problem, then environmental modification is not an appropriate solution.

Strategies that target personal/group knowledge, attitudes and behaviors have been evaluated in the evidence, and their known effectiveness is summarized in the following table.

Strategies that Target Knowledge, Behavior, Attitudes

Effectiveness

Disseminating information/recommendations to staff:

Sending staff information about new policies, recommendations, or guidelines in an accessible form

LOW – This is a fairly passive strategy for change. It requires staff to take the initiative to read, assimilate and apply the new information in their practice. Current evidence suggests that it is not an effective strategy for encouraging change in practice.¹

Posters/ visual reminders: A visual reminder, such as a poster or handout may be effective in the short term for getting an issue at the forefront of people's minds. It is going to have more impact if it is placed immediately in the area in which it is relevant (e.g., if the issue is procedural pain management, then a poster should be in the procedure room, not the tea room), but remember to be sensitive to families who will also be able to read the posters in clinical areas, and make sure that the poster is in line with hospital policy. Visual reminders are also more effective if they are not surrounded by a hundred other posters, all trying to bring issues to the forefront of staff's minds!

UNTESTED – Although similar strategies (e.g., sending staff information, above) have not been found to be effective, it is unclear whether or not posters and other visual reminders are more or less effective in changing behavior.

Use of local opinion leaders: Using respected staff to model appropriate behaviors and encourage new practices is a strategy that is widely used.

LOW – The use of local opinion leaders can successfully promote evidence-based practice. However the feasibility of its widespread use remains uncertain.²

Tailored approaches: Tailoring a strategy means addressing the specific barriers to change that have been identified. There is usually more than one barrier, and a tailored approach may include several strategies so that all of the barriers are addressed. For example, if knowledge, leadership and process issues have been identified, strategies may include teaching and training (to address knowledge barriers), 'selling' the idea to leadership (by demonstrating benefits that are important to them), and restructuring processes.

UNCLEAR – At this stage, more evidence is needed to show whether 'tailoring' an approach to the barriers identified is more effective than a 'one size fits all' strategy.³

Monitoring (audit) and feedback: Monitoring and feedback approaches require someone to consistently assess staff adherence to expected behaviors and provide this feedback to staff, in the expectation that they will change their practice. This approach targets consistency of practice by showing staff how their behavior differs from the 'ideal' behavior or from that of their peers.

MODERATE – There is some evidence that monitoring and feedback combined are effective, and this is more likely where the strategy is used intensively. However, the two must go hand in hand; monitoring of practice alone does not improve practice.⁴

Strategies that Target Knowledge, Behavior, Attitudes	Effectiveness
<p>Interactive workshops: Both interactive workshops and traditional teaching approaches target knowledge and skills of staff, which is important if these areas have been identified as barriers to change. For example, a new protocol within the hospital may need to be taught to staff before they can start to apply it.</p> <p>Traditional teaching sessions: Didactic learning is the traditional approach, where a teacher talks and 'students' (or staff) listen and learn.</p>	<p>MODERATE-HIGH – There is evidence that teaching/training in the form of interactive workshops can result in moderate- large changes in practice.^{5,6}</p> <p>LOW – Didactic sessions alone (traditional teaching methods) are not effective in changing behavior.^{5,6}</p>
<hr/> <ol style="list-style-type: none">1. Freemantle N et al. Printed educational materials: effects on professional practice and health care outcomes. <i>Cochrane Database Syst Rev</i> 2000;(2):CD000172.2. Doumit G et al. Local opinion leaders: effects on professional practice and health care outcomes. <i>Cochrane Database Syst Rev</i> 2007;(1):CD000125.3. Shaw B et al. Tailored interventions to overcome identified barriers to change: effects on professional practice and health care outcomes. <i>Cochrane Database Syst Rev</i> 2005;(3):CD005470.4. Jamtvedt G et al. Audit and feedback: effects on professional practice and health care outcomes. <i>Cochrane Database Syst Rev</i> 2006;(2):CD000259.5. Thomson O'Brien MA et al. Continuing education meetings and workshops: effects on professional practice and health care outcomes. <i>Cochrane Database Syst Rev</i>. 2001;(2):CD0030306. Davis D et al. Impact of formal continuing medical education: do conferences, workshops, rounds, and other traditional continuing education activities change physician behavior or health care outcomes? <i>JAMA</i> 1999;282:867-74. <hr/>	

Other strategies:

Environmental 'modification': Sometimes specific physical changes are needed to the environment to support the change/improvement. For example, the lighting in a recovery room might be modified to support better documentation by staff, while still allowing patients to wake gently following surgery.

System or process redesign: Addressing deficiencies in the system or process can play an important part in quality improvement. Process redesign is about ensuring that a new 'path' is introduced (and reinforced) that supports the ideal behavior/outcome.

'Mistake proofing': Mistake proofing is a specific type of environmental modification and/or process redesign. It involves modifying a process or equipment in such a way that it is impossible (or at least very difficult) for a mistake to be made. For example, a problem where letters are being placed in the wrong envelopes and therefore sent to the wrong patients can be 'mistake proofed' by switching to envelopes with windows. If done correctly, this method can take human error out of the picture.

Evaluate Your Success (Study)

Evaluating the success or otherwise of your QI project is an essential step.

Some tips for effective measurement are:

1. *Examine data at more than one time point.* Improvement requires change, and in order to see change you need to examine data over time.
2. *Aim for useful data, not perfect data.* Measurement is not the goal; improvement is the goal. In order to move forward to the next step, a team needs just enough data to know whether changes are leading to improvement.
3. *Sample, don't measure everyone.* A well-chosen sample can represent the rest of the data. Sampling can save time and resources while accurately tracking performance.
4. *Make measurement simple.* Useful data are often easy to obtain from existing information systems. However, if there is too long a gap between the data going in and you getting meaningful reports, use another method. A simple data collection form can get you the data that you need to measure improvement.
5. *Target your measurement.* Ensure that you measure what you set out to achieve—this means looking back at your aims and targeting the data toward those aims. For example, if you wanted to improve patient ID bands (e.g., make them more durable), then counting the number of patients wearing an ID band at any given time is NOT your best measure. If your aim is a more durable ID band, use a measure of durability (e.g., get nurses to note the number of broken ID bands).
6. *Consider qualitative and quantitative aspects.* Quantifying change is important. For example, the change in the average number of days on the waiting list following the introduction of a new clinic designed to reduce waiting times. However, it is important to also consider qualitative information, such as how staff feel about the new clinic, what the impressions of patients are about the new process, and how both groups feel further changes could be made.

Note: Some of the above tips are modified from: Institute for Healthcare Improvement Tips for Effective Measurement.

Take Action Based on the Results (Act)

The last phase in the PDSA cycle is act on the information that you have gathered. This means looking in depth at what has been learned and how the knowledge should be applied.

If the change worked, look at expanding the project (e.g., across your department, into other departments, into other problem areas). If the change did not work, look at what you have learned and start the cycle again, with a different plan. In either case, use what you learned to plan new improvements, beginning the cycle again.

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http://www.rch.org.au/css/qie/index.cfm?doc_id=10112 and
http://www.rch.org.au/css/qie/index.cfm?doc_id=10131.

Appendix E: Literature Review - Transitions From the Hospital to Home

Balaban RB, Weissman JS, Samuel PA, Woolhandler S. Redefining and redesigning hospital discharge to enhance patient care: a randomized controlled study. J Gen Intern Med. 2008;23:1228-33.

This was a randomized controlled study of a hospital intervention designed to promptly reconnect patients to their medical home after hospital discharge. The Intervention patients received a standardized, user-friendly, patient discharge form, and upon arrival at home, a phone call outreach from a nurse at their primary care site. Patients included a diverse group of patients admitted to a small community teaching hospital.

Four undesirable outcomes were measured after hospital discharge: (1) no outpatient follow-up within 21 days; (2) readmission within 31 days; (3) emergency department visit within 31 days; and (4) failure by the primary care provider to complete an outpatient workup recommended by the hospital doctors. Outcomes of the intervention group were compared to concurrent and historical controls.

- 25.5% of intervention patients had 1 or more undesirable outcomes compared to 55% of the concurrent and historical controls.
- About 15% of the intervention patients failed to follow-up within 21 days compared to 41% of the concurrent and 35% of the historical controls.
- 12% of recommended outpatient workups in the intervention group were incomplete versus 31% in the concurrent and 31% in the historical controls.

The investigators concluded that this low-cost discharge-transfer intervention may improve the rates of outpatient follow-up and of completed workups after hospital discharge

Kripalani S, Jackson AT, Schnipper JL, Coleman EA. Promoting effective transitions of care at hospital discharge: a review of key issues for hospitalists. J Hosp Med. 2007;2:314-23.

This article reviews several important challenges to providing high-quality care as patients leave the hospital. These include the discontinuity between hospitalists and primary care physicians, changes to the medication regimen, new self-care responsibilities that may stress available resources, and complex discharge instructions. The authors discuss approaches to promoting more effective transitions of care, including improvements in communication between inpatient and outpatient physicians, effective medication reconciliation, adequate patient education about medication use, closer medical follow-up, social support system engagement, and achieving physician-patient communication clarity.

OIG Report – June '07

- Consecutive Medicare stays involving inpatient and skilled nursing facilities in CY 2004
- Key findings
 - 35% of consecutive stays were associated with quality-of-care problems and/or fragmentation of services
 - 11% of individual stays within consecutive stay sequences involved problems with quality-of-care, admission, treatments or discharges

Phillips CO, Wright SM, Kern DE, et al. Comprehensive discharge planning with postdischarge support for older patients with congestive heart failure: a meta-analysis. JAMA. 2004;291:1358-67.

The authors evaluated the effect of comprehensive discharge planning plus postdischarge support on the rate of readmission in patients with heart failure, all-cause mortality, length of stay, quality of life, and medical costs. They reviewed publications of randomized clinical trials that described interventions to modify hospital discharge for older patients with heart failure (mean age \geq 55 years), delineated clearly defined inpatient and outpatient components, compared efficacy with usual care, and reported readmission as the primary outcome.

Eighteen studies representing data from 8 countries randomized 3304 older inpatients with heart failure to comprehensive discharge planning plus postdischarge support or usual care. During a pooled mean observation period of 8 months, fewer intervention patients were readmitted compared with controls (555/1590 vs 741/1714, number needed to treat = 12; relative risk [RR], 0.75; 95% confidence interval [CI], 0.64-0.88). Studies reporting secondary outcomes suggested a trend toward lower all-cause mortality for patients assigned to an intervention compared with usual care (RR, 0.87; 95% CI, 0.73-1.03; $n = 14$ studies), similar initial length of stay (mean [SE]: 8.4 [2.5] vs 8.5 [2.2] days, $P = .60$; $n = 10$), greater percentage improvement in quality of life scores compared with baseline scores (25.7% [95% CI, 11.0%-40.4%] vs 13.5% [95% CI, 5.1%-22.0%]; $n = 6$, $P = .01$), and similar or lower charges for medical care per patient per month for the initial hospital stay, administering the intervention, outpatient care, and readmission (-359 dollars [95% CI, -763 dollars to 45 dollars]; $n = 4$, $P = .10$ for non-US trials and -536 dollars [95% CI, -956 dollars to -115 dollars]; $n = 4$, $P = .03$, for US trials).

The authors concluded that there is evidence to support that comprehensive discharge planning plus postdischarge support for older patients with heart failure reduced readmission rates and may improve health outcomes such as survival and quality of life without increasing costs

Dharma G, Fletcher KE, Zhang D, et al. Continuity of outpatient and inpatient care by primary care physicians for hospitalized older adults. JAMA. 2009;301:1671-80.

This study was designed to describe care continuity in older hospitalized patients, change in continuity over time, and factors associated with discontinuity. The investigators conducted a retrospective cohort study of 3,020,770 hospital admissions between 1996 and 2006 using enrollment and claims data for national sample of Medicare beneficiaries 67 years of age and older.

Patients who during hospitalization were seen by any outpatient physician they had visited in the year before hospitalization (continuity with any outpatient physician) or by their primary care physician (PCP) (continuity with a PCP) were included. Investigators found that in 1996, 50.5% (95% confidence interval [CI], 50.3%-50.7%) of hospitalized patients were seen by at least 1 physician that they had visited in an outpatient setting in the prior year, and 44.3% (95% CI, 44.1%-44.6%) of patients with an identifiable PCP were seen by that physician while hospitalized. These percentages decreased to 39.8% (95% CI, 39.6%-40.0%) and 31.9% (95% CI, 31.6%-32.1%), respectively, in 2006. Greater absolute decreases in continuity with any outpatient physician between 1996 and 2006 occurred in patients admitted on weekends (13.9%; 95% CI, 12.9%-14.7%) and those living in large metropolitan areas (11.7%; 95% CI, 11.1%-12.3%) and in New England (16.2%; 95% CI, 14.4%-18.0%). In multivariable multilevel models, increasing

Improving Transitions of Care: Hospital to Home

involvement of hospitalists was associated with approximately one-third of the decrease in continuity of care between 1996 and 2006.

The authors conclude that between 1996 and 2006, physician continuity from outpatient to inpatient settings decreased in the Medicare population.

Snow V, Beck D, Budnitz T, Miller DC, Potter J, Wears RL et al. Transitions of Care Consensus Policy Statement American College of Physicians-Society of General Internal Medicine-Society of Hospital Medicine-American Geriatrics Society-American College of Emergency Physicians-Society of Academic Emergency Medicine. J Gen Intern Med. 2009.

The American College of Physicians (ACP), Society of Hospital Medicine (SHM), Society of General Internal Medicine (SGIM), American Geriatric Society (AGS), American College of Emergency Physicians (ACEP), and the Society for Academic Emergency Medicine (SAEM) developed consensus standards to address the quality gaps in the transitions between inpatient and outpatient settings. The following summarized principles were established: 1.) Accountability; 2) Communication; 3.) Timely interchange of information; 4.) Involvement of the patient and family member; 5.) Respect the hub of care coordination; 6.) All patients and their caregivers should have a medical home or coordinating clinician; 7.) At every point of transitions the patient and/or their family/caregivers need to know who is responsible for their care at that point; 8.) National standards; and 9.) Standardized metrics related to these standards in order to lead to quality improvement and accountability. Standards were developed describing necessary components for implementation: coordinating clinicians, care plans/transition record, communication infrastructure, standard communication formats, transition responsibility, timeliness, community standards, and measurement.

Since the original publication of this document, the group released a Care Transitions Performance Measurement Set (Phase I: Inpatient Discharges & Emergency Department Discharges) for public comment.

The Joint Commission has goals that address transitions of care in its National Patient Safety Goals for hospitals and nursing homes.

NPSG.02.05.01

The [organization] implements a standardized approach to hand-off communications, including an opportunity to ask and respond to questions. Health care has numerous types of [patient] hand-offs, including, but not limited to, nursing shift changes; physician transfer of complete responsibility for a [patient]; physician transfer of on-call responsibility; acceptance of temporary responsibility for staff leaving the unit for a short time; anesthesiologist report to post-anesthesia recovery room nurse; nursing and physician hand-off from the emergency department to inpatient units, different hospitals, nursing homes, and home health care; and critical laboratory and radiology results sent to physician offices. The primary objective of a hand-off is to provide accurate information about a [patient]'s care, treatment, and services; current condition; and any recent or anticipated changes. The information communicated during a hand-off must be accurate in order to meet [patient] safety goals.

Elements of Performance for NPSG.02.05.01

1. The hospital's process for effective hand-off communication includes the following: Interactive communication that allows for the opportunity for questioning between the giver and receiver of

patient information.

2. The hospital's process for effective hand-off communication includes the following: Up-to-date information regarding the patient's condition, care, treatment, medications, services, and any recent or anticipated changes. (See also NPSG.08.01.01, EP 4)

3. The hospital's process for effective hand-off communication includes the following: A method to verify the received information, including repeat-back or read-back techniques.

4. The hospital's process for effective hand-off communication includes the following: An opportunity for the receiver of the hand-off information to review relevant patient historical data, which may include previous care, treatment, and services.

5. Interruptions during hand-offs are limited to minimize the possibility that information fails to be conveyed or is forgotten.

Appendix F: Institute for Healthcare Improvement Tips for Effective Measures

The Institute for Healthcare Improvement prepared an AHRQ report in 2007 that examines the link between health information technology (HIT) and quality improvement in a range of primary care settings. Here is a table from that report that has some tips for effective measures.

Tips for Effective Measures

- 1. Track data over time.** Improvement requires change, and change is, by definition, a temporal phenomenon. System information and targets for improvement is often obtained by plotting data over time. (e.g., length of stay, volume, patient satisfaction data) and then observing trends and other patterns. Tracking a few key measures over time is the single most powerful tool a team can use.
- 2. Seek useful information, not perfect information.** Improvement is the goal, not measurement. For a team to move forward to the next step, they need enough data to know whether changes are leading to improvement.
- 3. Use sampling.** Sampling is a simple, efficient way to help a team understand how a system is performing. Sampling can save time and resources while accurately tracking performance.
- 4. Integrate measurement into the daily routine.** Useful data are often easy to obtain without relying on information systems. Don't wait two months to receive data when a simple data collection form can be developed, and data collection made part of someone's job. Often, a few simple measures will yield all the information you need.
- 5. Use qualitative and quantitative data.** In addition to collecting quantitative data, be sure to collect qualitative data, which often are easier to access and highly informative. For example, ask the nursing staff how the new medication reconciliation is going or how to improve the protocol. Or, in order to focus your efforts on improving patient and family satisfaction, ask patients and their families about their experience with their hospital discharge.

Adapted from:

<http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/Measures/tipsforestablishingmeasures.htm>

Appendix G: NTOCC Tools

Suggested Common/Essential Data Elements for Medication Reconciliation



Suggested Common/Essential Data Elements for Medication Reconciliation

ASSESSMENT ON ACCESS TO CARE SETTING (E.G, HOSPITAL ADMISSION, NURSING HOME ADMISSION)				
Category	Element	Source(s)	Barrier(s)	Comments
Demographic	Name	Patient/caregiver	Cognitive status	Universally available unique identifier information
	Date of birth			
	ID Number			
	Gender			
	Contact information	Caregiver	Caregiver knowledge of patient	
	Caregiver name and contact information			
Allergies/intolerances	Patient/caregiver			
Date of assessment	Interviewer			May also include time of transport of info
Medications (active, taken chronically)	Name – generic/trade	Patient/caregiver	Patient/caregiver knowledge of complete medication list, cognitive status	NDC will be used in automated systems – name + dose
	Dose			
	Form			
	Frequency			
	Reason for use			
Other medications/OTC/herbal remedies/nutritional supplements/time-limited medications	Name – generic/trade			Stop dates for short term medications
	Dose			
	Form			
Frequency				
Other elements for consideration				
Demographic	Primary language	Patient/caregiver	Patient/caregiver knowledge of complete medication list, cognitive status	
	Religious, cultural factors			
Medications	Prescriber			Variety of methods to provide info on

My Medicine List

How to use My Medicine List:

"My Medicine List" can help you and your family keep track of everything you take to keep you healthy—your pills, vitamins, and herbs. Having all of your medicines in one place also helps your doctor, pharmacist, hospital, or other healthcare workers take better care of you. Start using "My Medicine List" today!

1. With help from your healthcare professional, fill out the form.
2. In order to fill out the form, you need a list of all of your medicines or everything you take in front of you. Be sure you include medicine you take from all pharmacies that you use as well as any over-the-counter medicines, vitamins, herbs or minerals you may take.
3. Next, think about what you take in the morning, afternoon, around dinner time, and before you go to bed.
4. For every medicine (including ones you get without a prescription), vitamin or herb you take, you need to write down these things:
 - The name of what you take (like Tylenol, Acetaminophen 500 mg)
 - How much you take of this (1 pill, 3 drops, 2 puffs)
 - What it looks like (round, white and red, clear liquid)
 - How you take it (by mouth, with food, with a needle)
 - You started taking this on: (Sept. 15, 2007)
 - You will stop taking this on: (Sept. 30, 2007)
 - Why you take it (for my arthritis, for my heart, to lower cholesterol)
 - Who told me to use it (my internist, my rheumatologist)

Here's an example:

Drug name (brand name, generic name, dose)	This looks like	How many?	How I take it	I started taking this on:
Zocor, Simvastatin, 40 mg	yellow pill	1 pill	with water	June 2001

5. Always keep this card with you. Fold it and keep it in your wallet or purse, so you will have it in case of an emergency.



My Medicine List

This medicine list is for:

Name: _____ Birth date: _____

If you need to get in touch with me, use:

this phone number: _____

this e-mail: _____

Emergency contact: _____

The best way to get in touch with my emergency contact is:

Phone: _____ E-mail: _____

I am allergic to: _____

I also have some other problems with medicines: _____

Keeping My Medicine List up-to-date:

It is very important to keep this information current. Use the chart below to review and update your "My Medicine List". You can do this with your doctor, pharmacist, nurse, or other health care professional.

Reviewed by:	Reviewed on:	Updated on:	Updated by:

Elements of Excellence in Transitions of Care (TOC) Checklist



Elements of Excellence in Transitions of Care (TOC)

TOC Checklist

*The purpose of this checklist is to enhance communication—among health care providers, between care settings, and between clinicians and clients/caregivers—of patient assessments, care plans, and other essential clinical information. The checklist can serve as an adjunct to each provider's assessment tool, reinforcing the need to communicate patient care information during transitions of care. This list may also identify areas that providers do not currently assess but may wish to incorporate in the patient's record. Every element on this checklist may not be relevant to each provider or setting.

*For purposes of brevity, the term *patient/client* is used throughout this checklist to describe the client and client system (or patient and family). The *patient/client system* (or family), as defined by each patient/client, may include biological relatives, spouses or partners, friends, neighbors, colleagues, and other members of the patient/client's

Appendix H: NTOCC Proposed Framework for Measuring Transitions of Care

I. Structure

- A. Accountable provider at all points of transition.** Patients should have an accountable provider or a team of providers during all points of transition. This provider(s) should be clearly identified and will provide patient-centered care and serve as central coordinator of his/her care across all settings, across other providers.
- B. Plan of Care.** The patient should have an up-to-date, proactive care plan that includes clearly defined goals, takes into consideration the patient's preferences, and is culturally appropriate.
- C. Use of health information technology (HIT).** Management and coordination of transitional care activities is facilitated through the use of integrated electronic information systems that are interoperable and available to patients and providers.

II. Processes

A. Care team processes

- Medication reconciliation
- Test tracking (lab and diagnostic procedures)
- Referral tracking
- Admission and discharge planning
- Follow up appointment

B. Information transfer/communication between providers

- Timeliness, completeness, and accuracy of information transferred
- Protocol of shared accountability in effective transfer of information

C. Patient education and engagement

- Patient prepares for transfer
- Patient education for self-management
- Appropriate communication with patients with limited English proficiency and health literacy

III. Outcomes

- Patient experience (including family or caregiver)
- Provider experience (individual practitioner or health care facility)
- Patient safety (medication errors, etc.)
- Health care utilization and costs (reduced avoidable hospitalization)
- Health outcomes (clinical and functional status, intermediate outcomes, therapeutic endpoints)

Appendix I. Interventions for Low Health Literacy

Interventions for Improving Comprehension among Patients with Low Health Literacy and Impaired Cognitive Function

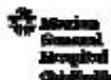
Target Population	Intervention
Low health literacy	<ul style="list-style-type: none"> • Provide graphic instructions • Provide instructions using a variety of media • Use pictures to illustrate instructions • Provide verbal and written instructions • Teach-Back/check for understanding/simulations • Engage patient in dialogue/fact-to-face communication • Implement follow-up telephone calls to reinforce instructions • Tailor materials to individuals' strengths • Make effective communication an organizational priority/promote organizational awareness of health literacy • Focus print materials on patient action and level of motivation • Check for patient understanding, then reframe instructions if needed • Computerized assistant to reinforce discharge instructions • Provide post visit services/support • Implement Ask Me 3 • With appropriate provisions for privacy, include literacy levels in medical record to increase awareness among all providers
Impaired cognitive functioning	<ul style="list-style-type: none"> • Evaluate cognitive status at admission • Provide additional detailed counseling to family caregivers, paid and unpaid caregivers • Involve social services from time of admission to explore whether patient may need to be in a more supervised care setting
Both low health literacy and impaired cognitive functioning	<ul style="list-style-type: none"> • Involve family caregivers and schedule discharge instructions when they can be present • Train interdisciplinary team in strategies to improve comprehension • Simplify written materials and discharge instructions • Redesign written instructions, including use of larger fonts, color • Limit instructions to focus on essential information • Restructure sequence of written instructions: put most important points first • Provide an illustrated medication schedule • Employ pharmacist based interventions for improving medication comprehension and adherence

Source: Chugh A et al. Front Health Serv Manage 2009;25:11-32.

Appendix J. Sample Heart Failure Standardized Discharge Instructions

HEART FAILURE – CONGESTIVE HEART FAILURE DISCHARGE INSTRUCTIONS: GUIDELINES TO FOLLOW AT HOME		Page 1 of 2
SPECIAL INSTRUCTIONS: <input type="checkbox"/> CHF Teaching Packet given and discussed <input type="checkbox"/> CHF Discharge video viewed <input type="checkbox"/> Sudden Cardiac Arrest (SCA) DVD viewed <input type="checkbox"/> SCA Teaching Packet given and discussed • Labs: ProBNP _____ Potassium _____ BUN _____ Creatinine _____ • Ejection Fraction (EF) _____ % Date: _____		
MEDICATIONS: • You have received instructions on the medications your physician has prescribed at discharge. A list of these medications has been provided to you. • Keep a list of all current medications and the dates when you received the Flu and Pneumococcal (Pneumonia) Vaccines. <input type="checkbox"/> Flu Vaccination Date: _____ <input type="checkbox"/> Pneumococcal (Pneumonia) Vaccination Date: _____		
ACTIVITY: • You can do normal everyday activities as your body allows. • Take rest breaks if you feel tired. Do not over exert. • Stop activity if you have pain, shortness of breath or feel dizzy. <input type="checkbox"/> Limitations: _____		
SMOKING – TOBACCO USE: • If you smoke, you are strongly encouraged to stop. If you have recently quit smoking, congratulations! For further information to stop smoking or to remain smoke-free, call MGH Respiratory Therapy at 740.383.8711 or the Ohio Tobacco Quit Line at 800-QUIT-NOW (800.784.8669).		
DIET: • Follow a low sodium (salt) diet. Your doctor recommends: _____ • Your doctor may also recommend a fluid limit to about _____ cups/day. • Choose foods and drinks with low or no salt. Remove salt shaker from the table. • Free Heart Healthy Eating Class – Call 740.383.8484 to schedule.		
WEIGHT MONITORING: • Weigh yourself every day at the same time and write it down. • Take your weight log to doctor visits. • Call your doctor if you gain 3-5 pounds over 2-3 days • Weight today _____		
EQUIPMENT/SUPPLIES: <input type="checkbox"/> Not Applicable <input type="checkbox"/> Home Oxygen _____ liters/min _____ company <input type="checkbox"/> Hand Held Nebulizer (HHN) <input type="checkbox"/> Scale		
TREATMENTS: <input type="checkbox"/> Not Applicable		
REPORT TO YOUR DOCTOR OR SEEK MEDICAL ASSISTANCE: • Shortness of breath or have more difficulty breathing • Swelling of your feet, ankles, hands or abdomen • Feeling tired with normal activity or experiencing dizziness or fainting • Trouble sleeping or waking up feeling short of breath or coughing • Chest pain or pressure • Weight gain of 3-5 pounds over 2-3 days • Inability to take medications or follow treatment plan	HEART ATTACK WARNING SIGNS • Chest discomfort • Discomfort or pain in one or both arms, back, neck, jaw or stomach • Shortness of breath • Breaking out in cold sweat, nausea, or light-headedness If you are having heart attack warning signs: Call 9-1-1 Don't wait more than a few minutes – 5 minutes at most – to call 9-1-1.	

PATIENT LABEL



• WHITE: CHART • YELLOW: PATIENT •
 • PINK: PHYSICIAN •

CHF DISCHARGE INSTRUCTIONS

FORM # 536 CHF
 FORMULATED: 10/01/04
 REVIEWED: 5/06, 8/06
 REVISED: 8/06, 3/08, 10/08

December 9, 2008

H:\ClinicalPathways\CHF\HeartFailureCHFDischIns

Sample Heart Failure Standardized Discharge Instructions (Con't)

HEART FAILURE – CONGESTIVE HEART FAILURE DISCHARGE INSTRUCTIONS: GUIDELINES TO FOLLOW AT HOME					
					Page 2 of 2
FOLLOW-UP APPOINTMENTS/OUTPATIENT SERVICES: <ul style="list-style-type: none"> Unless an appointment has already been made, contact your Primary Care Physician's office to schedule a follow-up appointment. 					
Doctor	Date/Time	Test/Procedure	Date/Time	Other	Date/Time
		Follow-Up Echocardiogram			
REFERRAL TO SOCIAL WORK AGENCY? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, which agency? _____ _____ _____					

This form is not all inclusive. Your physician may give you additional instructions. Should you have any questions, please contact your physician. Please bring this discharge instruction form and the discharge medication list to your next physician appointment. I have read and understand my plan of discharge.

PHYSICIAN SIGNATURE (OPTIONAL)

DATE

NURSE SIGNATURE

DATE

SIGNATURE OF PATIENT OR SIGNIFICANT OTHER

DATE

PATIENT LABEL



- WHITE: CHART • YELLOW PATIENT •
- PINK: PHYSICIAN •

CHF DISCHARGE INSTRUCTIONS

FORM # 536 CHF
 FORMULATED: 10/01/04
 REVIEWED: 5/06,8/06
 REVISED: 8/06,3/08,10/08

December 9, 2008
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Appendix K: Annotated Bibliography and References

Transitions of Care intervention programs and literature

Transforming Care At The Bedside, How-to Guide: Creating an Ideal Transition Home For Patients With Heart Failure: This program is part of a national quality improvement program, the Transforming Care at the Bedside, launched in 2003 by the Institute for Healthcare Improvement and the Robert Wood Johnson Foundation. It consists of 3 sections that describe key components of an ideal transition home, practical step-by-step sequence of activities, and tools and resources intended to be used as practical ideas that can be implemented in many types of settings. Available at: <http://www.rwjf.org/pr/product.jsp?id=38311>

The Care Transitions ProgramSM: This program received funding from The John A. Hartford Foundation and The Robert Wood Johnson Foundation. The Care Transitions InterventionSM was designed to be a patient-centered, interdisciplinary intervention that addresses continuity of care across multiple settings and practitioners. The goal of the intervention is to improve care transitions by providing patients with tools and support that promote knowledge and self-management of their condition as they move from hospital to home. Available at http://www.caretransitions.org/intervention_design.asp.

Project BOOST and the Care Transitions Implementation Guide. The Society of Hospital Medicine (SHM) launched Project BOOST (Better Outcomes for Older Adults Through Safe Transitions) to improve transitions out of the hospital to risk assess patients on admission, and plan and execute risk specific discharge planning activities. Available at http://www.hospitalmedicine.org/AM/Template.cfm?Section=Quality_Improvement&TEMPLATE=/CM/HTMLDisplay.cfm&CONTENTID=14413.

Guided Care. Guided Care is designed to be a practical, interdisciplinary model of health care designed to improve the quality of life and resource efficiency for persons with medically complex health conditions. The model was created by researchers at Johns Hopkins University in 2001. A guided Care Nurse works in partnership with primary care physicians to provide coordinated, patient-center, cost-effective care for chronically ill patients. The guided care nurse is based on a primary care physician's office. www.guidedcare.org

Best Practice Intervention Package – Transitional Care Coordination. The Home Health Quality Improvement Organization Support Center (HHQIOSC) created this package for to assist home health agencies in understand the concept of transitional care coordination, recognize the necessity for home health to assert its role in and to implement transitional care coordination strategies to promote collaboration with other providers to improve care coordination. Available at <http://www.homehealthquality.org/hh/hha/interventionpackages/default.aspx>.

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Appendix L: Transition of Care Intervention Programs

The Hospital-to-Home Transition: What can we learn from others?

The Study or Program

Kohler BE, Richter KM, Youngblood L, et al. Reduction of 30-day postdischarge hospital readmission or emergency department (ED) visit rates in high-risk elderly medical patients through delivery of a targeted care bundle. *J Hospital Med* 2009;4:211–18.

Objective: To determine whether a supplemental elderly care bundle, targeted to high-risk patients by hospital staff as an enhancement to existing care coordination, would affect postdischarge readmission and ED visit rates.

Who was targeted: Individuals ≥ 70 years of age, using ≥ 5 medications regularly, had ≥ 3 chronic medical conditions, required assistance with ≥ 1 activity of daily living, and living at home or assisted living prior to admission. Those selected had to speak English, have a reliable phone contact, and have a proxy caregiver. Patients were asked to participate within the first 72 hours of admission.

Who was excluded: Individuals with a life expectancy ≤ 6 months, recent surgery, or living in a long term care facility prior to admission.

The Intervention

What did they do: The care bundle was provided by 1 of 3 care coordinators (CCs) and 1 of 4 clinical pharmacists (CPs).

The CCs did the following:

- Daily condition specific education
- Identified and addressed discharge barriers
- Extra discharge teaching focusing on self-management and contingency plan for problems encountered
- Provided follow-up call 5 – 7 days postdischarge (followed a structured script to review medical equipment needs, medication, home health care, and scheduled follow-up appointments)

The CPs did the following:

- Medication reconciliation at admission and discharge
- Daily medication review and education
- Offered additional input into medication changes as needed
- Medication counseling at discharge
- Called patient 5–7 days post-discharge to review of medication regimen, side effects, and symptoms

The following documents were completed and given to the patient in the care bundle group:

- Personal health record (as developed by Coleman)
- Supplemental discharge form given to patient and faxed to PCP

Authors comments or suggestions:

- Focus on a specific disease or condition
- Targeting medication management appears to be a high-yield intervention to reduce unplanned health care utilization following hospitalization
- An average of 20 minutes/patient/day for the intervention for both the CC and CP was realistic

What they accomplished

- Demonstrated the short-term efficacy of the coordinated delivery of a targeted care bundle
- Reduced 30-day readmission rate from 28% to 10%
- Overall the effect of the intervention waned over time and at 60 days readmissions increased

The Study or Program

Jack BW, Chetty VK, Anthony D et al. A reengineered hospital discharge program to decrease rehospitalization. *Ann Intern Med* 2009;150:178-87.

Objective: To test the effects of an intervention designed to minimize hospital utilization after discharge

Who was targeted: English-speaking patients 18 years of age or older who were admitted to the medical teaching service of Boston Medical Center. Patients had to have a telephone, be able to comprehend study details and the consent process in English, and have plans to be discharged to a U.S. community.

Who was excluded: Patients could not be admitted from a skilled nursing facility or another hospital, be admitted for a planned hospitalization, be on hospital precautions or suicide watch, or be deaf or blind.

The Intervention

What did they do: Randomized patients to usual care or intervention group, The intervention group received the following care, collectively called the reengineered discharge (RED):

Nurse discharge advocates (DAs) carried out all aspects of the in-hospital intervention. This included:

- Educating about diagnoses
- Scheduling appointments, reinforcing importance of appointment, making travel arrangements
- Discussing pending test/studies and follow-up
- Organizing post-discharge services, reinforcing important of services, how to receive services
- Confirming medication plan, explaining medication purpose, how to take, side-effects, ability to get medications
- Reconciling the discharge plan with national guidelines and critical pathways
- Reviewing who to contact for problems, what constitutes an emergency
- Transmitting discharge summary to physicians and services providing post-hospital care
- Assessing the degree of patient understanding – having patient repeat in own words
- Providing the patient with a written discharge plan (the After-Hospital Care Plan, referred to as the AHCP) at the time of discharge which includes reason for hospitalization, discharge medications list, contact information (primary care provider, discharge advocate), information for follow-up primary care, specialty care, and outpatient test appointments, calendar labeled with appointments/tests, pending test/studies

A clinical pharmacist (CP) provided the postdischarge telephone component of the intervention. This included:

- A phone call to the patient within 2 – 4 days after discharge to reinforce the discharge plan, review medications, and solve problems.

Authors comments or suggestions

- Implementing the discharge intervention required about 1.5 hours of nursing time and 30 minutes of pharmacist time per participant.
- Some of DA activities were redundant with those of existing hospital personnel
- Information technology could make more this process more efficient

What they accomplished

- Fewer follow-up emergency visits and rehospitalizations with RED compared to usual care
- Improved patient self-perceived preparation for discharge
- Increase in rate of PCP follow-up

The Study or Program

Coleman EA, Parry C, Chalmers S, Min Sung-Joon. The care transitions intervention; results of a randomized controlled trial. Arch Intern Med 2006;166:1822-28.

Objective: To test whether an intervention, designed to encourage older patients and their caregivers to assert a more active role in their care transitions, can reduce rates of rehospitalization.

Who was targeted: English-speaking individuals 65 years of age or older living in the community prior to hospitalization, residing within a specific geographic area (making home visit feasible), who have a working telephone, no plans to enter hospice, with at least 1 of the following 11 diagnoses: stroke, chronic heart failure, coronary artery disease, cardiac arrhythmias, COPD, diabetes mellitus, spinal stenosis, hip fracture, peripheral vascular disease, deep venous thrombosis, and pulmonary embolism.

Who was excluded: patients with a dementia diagnosis or failing a mental status exam without a caregiver willing to participate in the study

The Intervention

What did they do: Randomized patients to usual care or intervention group. The intervention group received the following care through a series of visits and telephone calls with a transition coach, referred to as the Care Transitions Intervention:

- Assistance with medication management
- A patient-centered record owned and maintained by the patient to facilitate cross-site information transfer
- Timely follow-up with primary or specialty care, and
- A list of "red-flags" indicative of a worsening condition and instructions on how to respond to them

The intervention was operationalized by creating a Personal Health Record (PHR) containing:

- An active medical problem list
- A list of medications and allergies
- A list of warning signs and symptoms relevant to the patient's chronic illnesses
- A space for the patient to record questions for health care providers

The PHR was compiled by the transition coach who first met with the patient in the hospital to establish initial rapport, introduce the PHR, and to arrange a home visit 48 to 72 hours after hospital discharge.

At the home visit, the transition coach and patient (and caregiver if appropriate) reviewed each medication to ensure that the patient understood its purpose, instruction, and potential adverse effects. The patient was coached in how to effectively communicate with health care professionals. "Red-flags" were also reviewed with the patient during this visit. Following the home visit, the transition coach maintained continuity with the patient/caregiver by telephoning 3 times during a 28-day posthospitalization period.

Authors comments or suggestions

- Encourage patients and their caregivers to assert a more active role in their care transitions
- A transition coach and PHR can enable patients and caregivers to meet their needs during transitions

What they accomplished

- Reductions in rehospitalization rates in the intervention group at 30, 90 and 180 days (180 days not statistically significant)
- Projected annual cost savings projected to be \$295,594 for the 379 intervention patients

The Study or Program

Naylor MD, Brooten DA, Campbell RL et al. Transitional care of older adults hospitalized with heart failure: a randomized, controlled trial. J Am Geriatr Soc 2004;52:675-84.

Objective: Examine the effect of a comprehensive transitional care intervention by advanced practice nurses for elders hospitalized with heart failure.

Who was targeted: Patients aged 65 and older admitted to study hospitals from home; English speaking, alert and oriented, reachable by phone after discharge, residing within a 60-mile radius of hospital

Who was excluded: patients with end-stage renal disease

The Intervention

What did they do: Assigned patients to intervention group with advanced practiced nurses (APN) and compared them to a group that received usual care

APN intervention included:

- an initial APN visit within 24 hours of hospital admission
- APN visit each day during hospitalization
- At least 8 APN home visits, the first within 24 hours of discharge, weekly visits during the first post-discharge month, bi-monthly visit for months 2 and 3
- APN accompanied patient visit to post-discharge PCP visit
- APN availability via phone, 7 days per week, (8 am - 8 pm weekdays; 8 am - noon weekends)
- APN resumed daily visits for rehospitalization

APN intervention did not extend beyond 3 months of the original hospital discharge. APNs underwent orientation and training for the program that focused on developing competencies related to early cognition and treatment of heart failure episodes in the elderly.

Authors comments or suggestions

- Intervention effect declined as the postintervention time increased
- The complexity of heart failure patient's health needs may necessitate ongoing APN involvement
- Program was successful to the care continuity provided by the same APN and use of highly skilled APNs with the ability to use a holistic approach to navigate care

What they accomplished

- Increased length of time between hospital discharge and readmission or death in the intervention group
- Reduced total number of rehospitalizations
- Decreased healthcare costs – the cost of the APN involvement was more than offset by by savings from reductions in other home care visits, acute care visits, and hospitalizations.