

Reducing Acute Care Hospitalization



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*Quality Care
Quality Life*



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Welcome

Welcome to the Acute Care Hospitalization quality improvement initiative. By partnering with your Quality Improvement Organization (QIO), you will be collaborating with other home health agencies to test and implement quality improvement strategies aimed at reducing acute care hospitalizations.

The Centers for Medicare and Medicaid Services (CMS) has a vision for Medicare beneficiaries—that every person receives the right care every time. CMS seeks to achieve “transformational change” in the healthcare system so that health care is consistently safe, timely, effective, efficient, equitable and patient-centered. CMS intends to accelerate the rate of improvement through its health care quality improvement program using four broad strategies: measuring and reporting performance, adopting health information technology, redesigning care processes, and transforming organizational culture. CMS has selected the acute care hospitalization quality measure for national focus in the home health setting beginning in August 2005.

QIOs are committed to providing support and resources for quality improvement to home health agencies. More information and contacts can be found at <http://www.MedQIC.org>.

About this Resource



This resource (referred to as the Change Binder) is directed to quality improvement professionals in home health agencies (HHAs) and in QIOs. It is not intended as a prescriptive, ready-to-use program of care, but rather as a resource for guiding an agency's quality improvement work to reduce avoidable acute care hospitalizations.

Under contract with CMS, the national Home Health QIO Support Center (Delmarva Foundation) partnered with the Center for Home Care Policy and Research of the Visiting Nurse Service of New York and other experts to develop this resource. It presents the vision, goals, and methodology of the campaign to reduce the rate of acute care hospitalization of home health patients. Because emergent care is closely related to acute care hospitalization and both represent an acute decline in health status, this resource is also applicable to reducing emergent care. The Change Binder contains information gathered from research and practice, and offers strategies and actions that, if implemented at the agency level, can improve care and patient outcomes. Evidence sources are seldom specific to home health care; therefore, the strategies, actions, tools, and resources most appropriate and adaptable to the home health setting were included.

Home health agencies in 12 states voluntarily participated in a pilot test of this resource from March 29, 2005, through July 11, 2005. The purpose of the pilot test was to determine if these materials were useful to HHAs in their quality improvement initiatives for acute care hospitalization and to identify suggestions for improving the content. A total of 113 HHAs developed a quality improvement Plan of Action (POA) using the strategies, actions, and tools contained in this resource and collected monitoring data. From interviews and surveys conducted during the pilot, we learned that agencies found the change binder and materials useful and that they believed the actions they implemented would reduce hospitalizations. We also learned that agencies felt they could benefit from more direction about how to use the materials and incorporate them into their OBQI process. In response, the Change Binder was reorganized and the Improvement section was modified to more clearly integrate these materials into the OBQI process.

Thank you for participating in this important quality improvement initiative.



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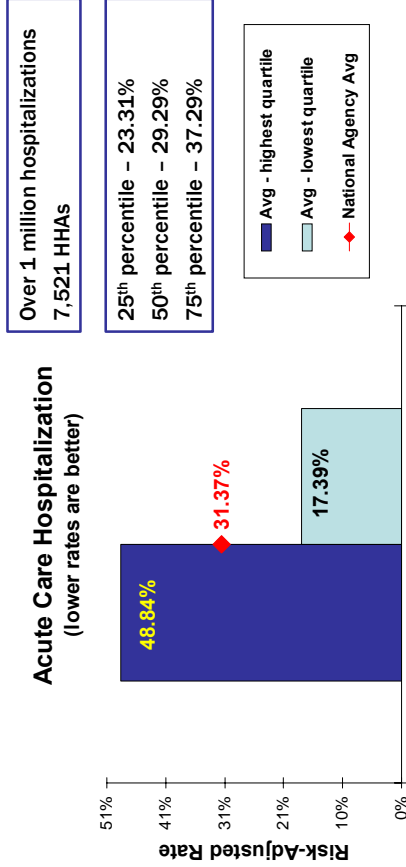
The Challenge

Imagine if all patients receiving home care had all the support they needed to manage their conditions or diseases efficiently and effectively, thus avoiding unwanted hospitalizations and emergent care. Imagine smooth and safe transitions from hospital to home care, timely and effective communication and coordination among health care providers. Imagine systems of care delivery that identify patients at risk for hospitalization so they can receive more intensive care management to prevent deterioration or identify the first signs of decline for early intervention. The challenge is substantial because reducing the rate of hospitalizations is a multi-dimensional objective that is influenced by patient, caregiver, healthcare provider, and health system factors. Evidence exists that hospitalization rates can be reduced.^{1,2} However, the gap between science and practice is often wide. The causes for this divide are many, including fragmentation of care across settings and providers, lack of commitment on the part of senior leadership and organizations, inefficient use of resources, and inadequate information and communication systems.

The OASIS-derived outcome measures of acute care hospitalization and any emergent care are indicators of deteriorating patient health status. For the period March 2004–February 2005, 28.41% of all Medicare and skilled Medicaid home health care episodes ended with an acute care hospitalization, and 21.35% used emergent care. With more than 3.6 million home health episodes overall, that represents more than 1 million hospitalizations—a significant burden to patients and to the health care system. Moreover, the rate of hospitalization has been increasing slightly but steadily, since CY2000, when the rate was 27.27%.³



Outcome Performance Gap – Opportunity for Improvement



Mar04-Feb05

Source: QIES, OBQI Rollup Summary

Not all hospitalizations are avoidable and although the optimal rate of hospitalization of home health patients is not known, a Technical Expert Panel formed to study the topic agreed that there is opportunity for improvement. Evidence includes the variability in rates across agencies and the fact that lower rates have been attained by some agencies. Twenty-five percent of all agencies have achieved a risk-adjusted rate of approximately 23% or less, and in the national and New York demonstrations, using the OBQI methodology, HHAs overall were able to attain hospitalization rates in the low 20% range.⁴ As seen in the graphic, the average risk-adjusted rate for the quarter of all agencies with the highest rates is nearly three times that of the average for the quarter of agencies with the lowest rates.

Improving patient outcomes can be achieved if home health organizations make a commitment to strive for significant and breakthrough results by adopting a culture of quality and implementing strategies for change.

The Centers for Medicare and Medicaid Services (CMS) has selected the acute care hospitalization quality measure for national focus beginning in August 2005.

The Mission

The mission of this quality improvement campaign is to implement care delivery systems that prevent the deterioration in health status of home health patients resulting in the need for hospitalizations and emergent care. Feasible and effective strategies have been identified that, if implemented at the agency level, will improve patient outcomes.

The Goal

The goal is to reduce avoidable hospitalizations and emergent care for home health patients.

The Solution

Just as the cause of acute care hospitalizations is multi-dimensional, the solution also is multi-dimensional and will involve patient, caregiver, healthcare provider, and health system factors. Actions taken by home health providers are not the entire solution, but HHAs can improve their care processes and influence and lead improvements in transitions and coordination across settings.

Recent analyses of OASIS data suggest that hospitalized home health patients have relatively unstable chronic conditions. In CY2003, 25% of the hospitalizations occurred within seven days of the beginning of the home health episode; 45% occurred within two weeks; and nearly 58% occurred within the first three weeks of home health care. Emergent care use was associated with hospitalization—84% of episodes with emergent care ended with a hospitalization. Furthermore, according to an analysis of CY2003 hospital claims data for five states (MD, MI, NY, RI, VA), individual diagnoses do not account for most of the hospitalizations. For example, congestive heart failure was the most frequent single diagnosis but accounted for only 9% of the hospitalizations.¹



These analyses suggest that the focus of improvement efforts should be on coordinating care transitions, identifying patients at risk, stabilizing and managing complex and chronic conditions, supporting patient/caregiver self-management, improving communication, and creating systems to support these practices. Because such changes will affect patients with all types of diagnoses and at all stages of home care, these interventions have the greatest potential to prevent decline and to reduce avoidable hospitalizations and emergent care.

The comprehensive change framework presented in this resource contains the key elements of achieving such a system of excellent care organized into five areas for improvement that are based on the Chronic Care Model.²

- Promoting Patient Self-Management
- Implementing Evidence-Based Practices and Guidelines
- Using Systems and Technology to Promote Effectiveness and Efficiency
- Improving Care Delivery Systems and Mobilizing Community Resources
- Creating a Culture of Quality.



Organization of the Change Framework and Improvement Matrix

The Change Framework used in this resource provides change ideas in levels of detail from general, high-level strategies to specific actions and tools and resources that can be tested and implemented by HHAs. The Change Framework represents a comprehensive approach to quality improvement that is based on the premise that sustainable, high-quality patient care requires systems and an organizational culture that supports clinicians in providing the right care for every patient, every time.

The “big picture” of the Change Framework is provided in an easy-to-read **Improvement Matrix**. It can be used by reading either down columns or across rows, depending on the topic an agency wants to address.

- The columns in the matrix reflect five **Areas for Improvement**, which are based on the Chronic Care Model.¹
 - Promoting Patient Self-Management
 - Implementing Evidence-Based Practices and Guidelines
 - Using Systems and Technology to Promote Effectiveness and Efficiency
 - Improving Care Delivery Systems and Mobilizing Community Resources
 - Creating a Culture of Quality

More information on the Chronic Care Model can be found at <http://www.improvingchroniccare.org/change/model/components.html>.

- The rows in the matrix represent the patient’s **Stage of Care**—from referral/pre-admission, to admission and the first week of home health care, through the episode of care, and when the patient presents at the emergency department.

- The individual blocks on the matrix contain high-level **Strategies** for change. The strategies marked with an asterisk are considered high leverage as identified by experts and supported in the literature.

On subsequent pages, the Change Framework is presented in greater detail. Each **Area for Improvement** is described. The evidence sources for the Area for Improvement are identified by a superscript number and can be found in the Summary of Evidence. The Strategies are further broken down into specific ideas for **Actions** that can be tested and implemented at the agency level.

Many of the actions have related **Tools and Resources**, which have been assigned a number. More information about each Tool and Resource is provided in the Index of Tools and Resources, and some Tools are provided in the accompanying Toolkit.

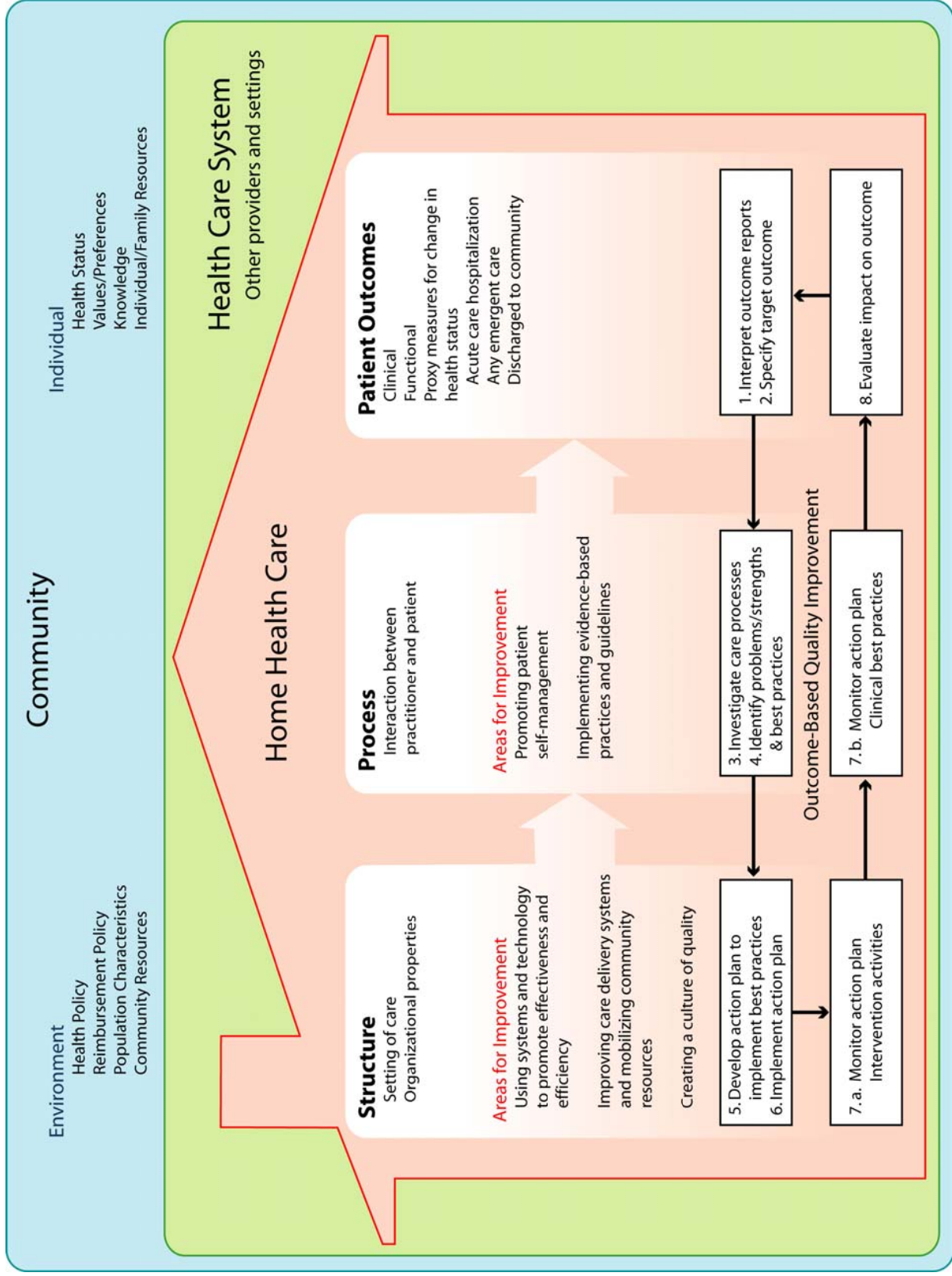
Stage of Care
Strategies for Change

Improvement Matrix				
A. Promoting Patient Self-Management	B. Implementing Evidence-Based Practices	C. Using Systems and Technology to Promote Effectiveness and Efficiency	D. Improving Care Delivery Systems and Reducing Community Disparities	E. Creating a Culture of Quality
<p>STAGE OF CARE—REFERRAL/PRE-ADMISSION</p> <p>A.1. Engage patients and caregivers in decisions about care in the home</p> <p>A.2. Provide patient and caregiver education on self-management</p> <p>A.3. Provide patient and caregiver education on emergency department care</p> <p>STAGE OF CARE—THROUGHOUT THE EPISODE OF HOME CARE</p> <p>A.4. Provide patient and caregiver education on self-management</p> <p>A.5. Provide patient and caregiver education on emergency department care</p>				
<p>STAGE OF CARE—IF THE PATIENT HAS REACHED THE EMERGENCY DEPARTMENT</p> <p>A.6. Provide patient and caregiver education on self-management</p> <p>A.7. Provide patient and caregiver education on emergency department care</p>				

Improvement Matrix The strategies marked with an asterisk (*) are considered high leverage as identified by experts and supported in the literature.

AREAS FOR IMPROVEMENT			
A. Promoting Patient Self-Management	B. Implementing Evidence-Based Practices and Guidelines	C. Using Systems and Technology to Promote Effectiveness and Efficiency	D. Improving Care Delivery Systems and Mobilizing Community Resources
E. Creating a Culture of Quality			
STAGE OF CARE— BEFORE THE HOME HEALTH AGENCY ACCEPTS THE PATIENT FOR CARE Ensure that agency accepts patients who are suitable candidates for home care and has sufficient information to care for them appropriately			
A.1 Engage patients and caregivers in the determination of whether home care is the right option	B.1 Use evidence-based guidelines to assess clinical readiness for hospital discharge	*C.1 Increase home health agency organizational capacity to screen patients for safe/appropriate admission	*D.1 Collaborate with hospitals to establish key criteria for safe, appropriate discharge from the hospital to home care
STAGE OF CARE— THE FIRST WEEK OF CARE Identify patients who are at risk of hospitalization, and put a plan in place from the start for making that less likely			
*A.2 Provide patients and caregivers with information and options to address immediate/urgent care needs	*B.2 Use evidence-based risk assessment tools to identify high-risk patients, and incorporate risk factors into individualized patient care plans	*C.2 Implement systems to identify and track patients at increased risk for hospitalization and related problems	*D.2. Establish transition protocol for transfers from hospital or other facilities (e.g., SNF) to home care
*A.3 Establish patient and caregiver expectations and assess their capacity to engage in self-management		D.3 Organize care teams to promote consistency and continuity	
STAGE OF CARE— THROUGHOUT THE EPISODE OF HOME CARE Ensure that the agency's systems maintain a high level of vigilance for high-risk patients			
A.4 Prepare patient and caregiver to participate in self-management and monitoring of conditions e.g.: <ul style="list-style-type: none"> • Heart Failure (HF) • Diabetes • Chronic Lung Disease • Pressure ulcer • Pain management • Fall prevention • Immunizations • Medication adherence 	B.3 Use evidence-based condition-specific/ problem-specific interventions, e.g.: <ul style="list-style-type: none"> • Heart failure • Diabetes • Chronic Lung Disease • Pressure ulcer • Pain management • Fall prevention 	*C.3 Use systems to enhance effective internal and external communication and continuity of care <ul style="list-style-type: none"> • Staff communication within and between disciplines (including paraprofessionals), between office-based and frontline staff • Communication with patients/families • Communication with primary care providers and specialists 	*D.4 Match intensity of clinical resources and services to patient risks/conditions/problems as identified by risk assessment <ul style="list-style-type: none"> • At the individual patient level • At the staff caseload/population level
A.5 Prepare patient and caregiver to identify and manage problems that may arise after discharge from home care	B.4 Screen patients for depression and refer for treatment when appropriate	C.4 Use decision support tools that prompt clinicians to implement evidence-based practices	*D.5 Coordinate with primary care providers and specialists to promote continuity of outpatient/in-home care
STAGE OF CARE— IF THE PATIENT HAS REACHED THE EMERGENCY DEPARTMENT Prevent hospital admission for patients who can be stabilized and returned home safely			
A.6 Prepare patient and/or caregiver to maintain and convey key health and treatment information	C.6 Implement systems to track patients who go to the emergency department	D.7 Coordinate with ED to reroute patients home rather than to hospital inpatient stay	

The following graphic depicts the relationship between the Areas for Improvement in the Change Framework; traditional quality assessment components of structure, process, and outcome; and steps in the home health Outcome-Based Quality Improvement (OBQI) process.



Methods and Expectations

QIOs will partner with HHAs to organize and run quality improvement initiatives to improve care and reduce acute care hospitalization. The HHAs will work individually and collaboratively to improve processes and outcomes for home health patients at risk for hospitalization by integrating evidence-based care into everyday practice.

Agencies will focus on making changes in processes related to the care of patients at risk for hospitalization and tracking their results. The QIOs will aid the participating agencies throughout their quality improvement initiatives. They also may help HHAs capitalize on the lessons learned by working with senior leaders to develop techniques and systems for increasing their capacity to spread their results.

QIOs participating in an acute care hospitalization quality improvement initiative may:

- Recruit HHAs to participate in an acute care hospitalization initiative
- Organize an acute care hospitalization initiative for HHAs
- Provide information on avoidable hospitalization and how it relates to home health care, on ways to apply the Change Framework, and on ways to achieve process improvement
- Provide consultation on measurement strategies and monitoring systems to the participating agencies
- Offer support and coaching to participating HHAs
- Provide communication strategies to keep participating agencies connected to their colleagues
- Work with participating agency senior leaders to develop techniques and systems for increasing their capacity to spread results

HHAs participating in an acute care hospitalization quality improvement initiative may:

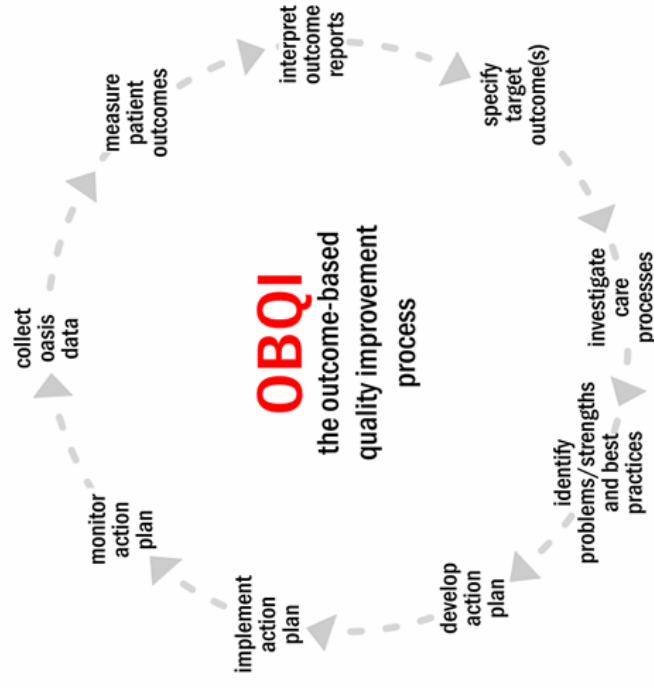
- Identify a senior leader to serve as sponsor for the team working on quality improvement initiatives
- Connect the goals of the quality improvement work to a strategic initiative in the organization
- Send people with significant responsibilities in quality management, clinical care, operations, or education to participate in workshops
- Participate in conference calls
- Ensure that necessary staff time and other resources be allocated to support the participating team's implementation and monitoring efforts
- Conduct a Process of Care Investigation and other diagnostics to identify opportunities for improvement
- Develop a Plan of Action to reduce avoidable hospitalization
- Perform tests of change leading to process improvements in their organization
- Measure and monitor their performance
- Share information, including details of changes tested and implemented, and their evaluation of the results of their changes



Improvement Model – Using OBQI with the Change Framework

Outcome-Based Quality Improvement (OBQI) is a tested and validated performance improvement methodology designed specifically for the home healthcare setting. OBQI consists of a series of steps that assists an agency to identify opportunities for improvement and to implement changes with a view to improving patient outcomes.

The strategies and actions identified in this binder complement this process. When an agency selects the acute care hospitalization quality measure as a target outcome, it is not expected nor intended that the agency try to implement all of the change ideas offered in the change framework. Each agency should utilize the OBQI process and other assessment activities as a systematic way to conduct its own investigation to identify, prioritize, and focus the changes in care practices, processes, and systems. Following is a suggested approach for incorporating the Change Framework into the OBQI process.



Interpret Outcome Reports and Specify Target Outcome

Although you may have already decided to participate in a quality improvement initiative on acute care hospitalization, it is still important to review your agency's outcome and case mix data.

- First, identify your agency's hospitalization rate for the most recent 12-month period, and compare it to the national reference and the prior 12-month period on your OBQI report.
- Then compare your **risk-adjusted rate** to that of other agencies in your state (e.g., on Home Health Compare or data provided by your QIO). This information will give you an understanding of potential goals for improvement. For example, 25% of HHAs across the country have achieved **risk-adjusted rates** of 23% or less.

Conduct a Case Mix Analysis

- In the OBQI process, the case mix report can assist an agency to prioritize its potential target outcomes for consideration by identifying high-volume conditions.

- The next step is to examine differences in characteristics (e.g., demographic, function, diagnosis category) between those patients who are hospitalized and those who are not hospitalized. This can be accomplished using your Case Mix Tally Report with a **Case Mix Analysis Tool**. Sample output from a **Case Mix Analysis Tool** and Frequently Asked Questions about the tool's output are included in the Appendix. Alternatively, patient characteristics can be collected through the Process of Care Investigation. HHAs can contact their QIO for more information (<http://www.MedQIC.org>).





- Understanding the characteristics of patients from your agency who have higher rates of hospitalization can be used to focus your process of care investigation and/or your agency's improvement strategies. For example, if your case mix analysis reveals that there are a higher percentage of episodes of patients with diabetes in the hospitalized vs. those not hospitalized group, you may want to examine that more closely in your Process of Care Investigation to determine common themes or causes for hospitalization among those patients.

Investigate Care Processes to Identify Areas for Improvement

- In this step, a team from the agency examines clinical care, systems, and processes within the agency. The goal of this step is to identify care processes that are problematic and need to be remedied (in the case of an unfavorable outcome) or those that are excellent and should be reinforced (in the case of a favorable outcome).

Conduct an Organizational Assessment to Narrow Focus

- Conducting an organization-level assessment using the **Improvement Matrix Checklist** can help identify the **Areas for Improvement** and/or **Stages of Care** that should be considered for the focus of your agency's quality improvement efforts. The Checklist is located in the Appendix.
- The results of this organization-level assessment can help you focus your process of care investigation. For example, if your agency does not have policies and procedures to consistently use the strategies for Patient Self-Management, you might want to address that in your Process of Care Investigation to determine if individual clinicians use those strategies and whether the strategies used influence hospitalizations.

The process for investigating care delivery includes:

- a) Identifying a list of "should be done" care processes linked to the outcome. Using the **Strategies** and **Actions** from the Area for Improvement or Stage of Care that was identified as problematic in your organizational assessment could be a starting point.
Brainstorming, flow-charting, fishbone diagramming, or other quality improvement techniques can be used to enhance this list.
- b) Narrowing the "should be done" list to the MOST IMPORTANT items.
- c) Developing a chart audit tool or clinician interview guide based on the narrowed "should be done" list. The chart review process may help to further identify the process and system variations that may lead to avoidable hospitalizations. A **Stages of Care Record Review Tool** and additional sample chart review tools are included in the Appendix. These audit tools can be modified to best suit your agency's needs.
- d) Using the patient tally report, randomly select up to 30 patient care episodes for review. Some episodes should consist of patients who were hospitalized, and some of those who were not hospitalized. If you have many cases to choose from, you may want to focus on the most recent episodes. If you have a **Case Mix Analysis**, you may wish to focus on patients with particular characteristics.
- e) Reviewing the care episodes for the specified patients. The chart audit tool is used to review clinical records, or the interview guide is used to conduct clinician interviews. (Sample chart audit tools are in the Appendix.)
- f) Summarizing findings from the investigation by identifying patterns in care delivery that need improvement or reinforcement.



Identify Problems/Strengths and Best Practices

- Specifically worded statements of the care problems (or strengths) and their corresponding best practices from the **Actions** in the Change Framework are the foundation for a Plan of Action to improve poor care or to reinforce excellent care.
- The team develops a statement of problem or strength in care provision that meets the following criteria:
 - a) Describes specific aspects of care provision that demonstrate inadequate care (or excellent care to reinforce, for a superior outcome);
 - b) Contains specific, concrete wording to which clinical staff can relate;
 - c) Addresses issues within the agency's control;
 - d) Focuses on patient care delivery instead of documentation; and
 - e) Contains a sufficiently narrow focus to keep a plan of action manageable.
- Corresponding clinical best practice statements are developed. The specific **Actions** identified for the Areas for Improvement in the Change Framework provide a starting point for identifying best practices. All the Actions from the Change Framework for Promoting Patient Self-Management and Implementing Evidence-Based Practices and Guidelines relate to clinical practices. Actions for Using Systems and some both clinical best practices, but are primarily organizational intervention actions.
Best practice statements should include the following characteristics:
 - a) Focus on specific clinical actions;
 - b) Relate directly to the target outcome;
 - c) Use specific, concrete wording to identify exactly what the clinician should do and when and how to do it;
 - d) Focus on patient care delivery instead of documentation;
 - e) Address issues within the agency's control; and
 - f) Adequately address the identified problem (or strength).

Develop Action Plan

- The Plan of Action (POA) is an implementation-planning tool to guide the application of concrete **Actions** from the Change Framework to create a comprehensive improvement plan. A sample POA is included in the Appendix.
- The preceding steps of the OBQI process are used to develop an action plan to inform the clinical staff of care practice changes that are needed and to ensure that those changes are taking place. The investigation and identification of care issues may indicate the need to change not only clinical care behaviors, but agency processes and systems as well. The team identifies **Actions** and **Tools and Resources** from the Change Framework to address the prioritized focus Area for Improvement revealed in the investigation of care processes.
 - The action plan contains the following elements:
 - a) Problem/strength statement determined by the team to have contributed to the outcome results.
 - b) Corresponding clinical best practices expected to impact the specified outcome.
 - c) A small set of intervention activities that are designed to inform clinical staff about the desired changes in care behaviors and ensure those changes actually occur. The activities should be specifically related to the best practices, practical and achievable within HHA constraints (e.g., budgetary constraints), adequate to change or support clinician behavior, and implemented according to a planned schedule. The



strategies and actions for “Using Systems and Technology to Promote Effectiveness and Efficiency” and “Improving Care Delivery Systems and Mobilizing Community Resources” include organizational system changes that may be appropriate for intervention actions to ensure that the clinical best practices are consistently implemented. The strategies and actions for “Creating a Culture of Quality” apply primarily to organizational level activities.

- d) Specific individuals responsible for intervention activities and specific time frames for completion of activities. Time frames should include interventions scheduled to begin immediately and some to be used as periodic reminders after the initial push.
- e) Activities to ensure the intervention activities are carried out as planned (e.g., in-service sign-in sheets, chart reviews to ensure new forms are being used, supervisor meeting notes to document mentoring).
- f) Monitoring activities to ensure the desired changes in clinician care practices are occurring.
- g) Small tests of change to refine the changes before agency-wide implementation

Strategy Combinations

An effective action plan is likely to incorporate actions from a combination of strategies. Based on the experience of the HHAs that participated in the pilot, combinations of strategies relating to three topics were utilized most often. These strategy combinations may not provide a comprehensive action plan for reducing avoidable hospitalizations, but do offer evidence-based solutions to begin addressing common opportunities for improvement. Specific actions, tools, and resources for these strategies can be found in the Change Framework under each Area for Improvement.

1. The first focus for improvement is on **Identifying Patients at Risk of Hospitalization and Implementing Actions to Address the Risk Factors**. This is a good place to begin because it is considered a high leverage area. Agencies should consider the following combination of strategies.

Number	Description
A.2	Provide patients and caregivers with information and options to address immediate/urgent care needs
B.2	Use evidence-based risk assessment tools to identify high-risk patients and incorporate risk factors into individualized patient care plans
C.2	Implement systems to identify and track patients at increased risk for hospitalization and related problems
D.4	Match intensity of clinical resources and services to patient risks/conditions/problems as identified by risk assessment at individual patient level and staff caseload/population level

The sample POA in the Appendix contains this strategy combination.



2. Another focus for improvement is Disease Management for specific conditions. An agency may choose this focus if it has identified that patients with a specific condition have high rates of hospitalization. A recommended combination of strategies for this focus includes the following.

Number	Description
A.2	Provide patients and caregivers with information and options to address immediate/urgent care needs
A.3	Establish patient and caregiver expectations and assess their capacity to engage in self-management
A.4	Prepare patient and caregiver to participate in self-management and monitoring of conditions, e.g. heart failure, diabetes, chronic lung disease, pressure ulcer, pain management, fall prevention, immunizations, medication adherence
B.3	Use evidence-based, condition-specific/problem-specific interventions, e.g. heart failure, diabetes, chronic lung disease, pressure ulcer, pain management, fall prevention

(The agency may refer to other sources for evidence-based strategies, such as the Agency for Healthcare Research and Quality (AHRQ) National Guideline Clearinghouse and other specific disease management resources, to develop a comprehensive plan to reducing avoidable hospitalizations)

3. A third focus for improvement is the **Transition from the Hospital to Home Health Care**. An agency may choose this focus if it has identified that hospitalizations are due to inappropriate discharges or problematic transfers from the hospital. A suggested combination of strategies for this focus includes the following.

Number	Description
B.1	Use evidence-based guidelines to assess clinical readiness for hospital discharge
C.1	Increase home health agency organizational capacity to screen patients for safe/appropriate admission
D.1	Collaborate with hospitals to establish key criteria for safe, appropriate discharge from the hospital to home care
D.2	Establish transition protocol for transfers from hospital or other facilities (e.g., SNF) to home care

Implement Action Plan

- Through the intervention actions, clinical staff should be informed of the expected changes in care practices and be educated on how the changes should occur in the routine provision of patient care, so they understand what is expected of them.
- The individuals designated in the action plan as responsible for specific intervention activities actually carry out those activities.
- All specified activities (e.g., development of new materials for patient education, small tests of change, reminder notices implemented, planned case conferences) occur at the designated times.

Perform a Small Test of Change

Most changes should be tested on a small scale before being implemented agency-wide. This is especially important if the change being considered is costly, complex, or involves large numbers of patients or staff.

The Institute for Healthcare Improvement (IHI) Improvement Model consists of three questions and a Plan-Do-Study-Act (or PDSA) cycle. PDSA is a “trial-and-learning” method to test changes quickly to see how they work. These small tests of change can be integrated into the OBQI process, as depicted in the figure.

The completion of each PDSA cycle can lead directly into the start of the next cycle. A team learns from the test (What worked and what didn’t work? What should be kept, changed, or discarded?) and uses the new knowledge to plan the next test. The team continues linking PDSA cycles, refining the change until it is ready for broader implementation.

1. Plan a change.
2. Do it on a small scale.
3. Study results.
4. Act to refine the change. Based on the feedback from the first test, the team may decide to make modifications or totally revise and test again, or if the test was successful, implement the change agency-wide.
5. Continue to follow the monitoring schedule as outlined in your original POA, making certain that results are communicated to the entire agency staff and appropriate actions are taken (continue to monitor, if satisfied that change is occurring or utilize another PDSA cycle to modify the plan.)

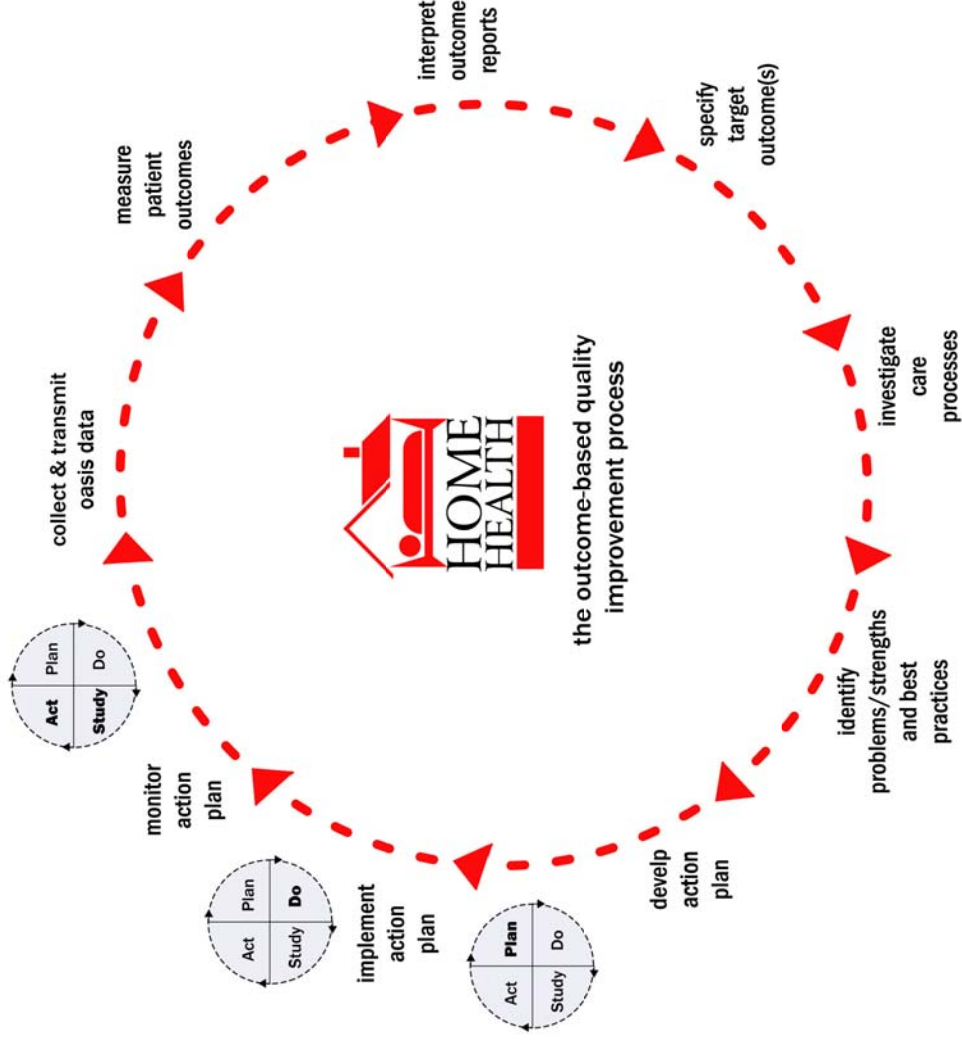
Monitor Action Plan

A plan of action (POA), once developed, is a dynamic tool, not something set in stone. Monitoring results may indicate that the QI team needs to modify their POA. If the monitoring results indicate that the best practices were implemented and the clinicians have incorporated them into their practice, but the outcome rate has not improved (or in the case of a stabilization outcome, remained stable), the QI team may need to conduct a new Process of Care Investigation, utilizing different care behaviors and small tests of change where appropriate.

- To positively impact a target outcome, the POA must be implemented and the identified best practices incorporated into patient care; therefore, monitoring activities are planned to allow early identification of issues that require modification of the plan.
- Monitoring activities relate to completion of the intervention actions and performance of the specified best practices.
- The team evaluates adherence to the designated best practices on a regular (e.g., monthly, quarterly) basis through reviewing the results of monitoring activities.



- Monitoring activities can include chart reviews, staff interviews, staff meeting discussions, staff surveys, or other methods to ensure that the specified best practices are being used in everyday patient care activities.
- Monitoring activities should begin at a high frequency. If the specified best practices are occurring, their frequency can taper off.
- If the specified best practices are not occurring, additional intervention actions are indicated.
- The ultimate effectiveness of the action plan is determined by assessing whether the target outcome rate improves (in the case of an outcome selected for remediation) or does not decline (for an outcome selected for reinforcement) over a subsequent time period.
- If the monitoring results indicate that the best practices were implemented and the clinicians have incorporated them into their practice, but the outcome rate has not improved (or in the case of a stabilization outcome, remained stable), the QI team may need to conduct a new process of care investigation, utilizing different care behaviors and small tests of change where appropriate.



Plan a change
Do it on a small scale
Study the results
Act to refine the change as needed

IHI	OBQI POA
1. What are we trying to accomplish?	*Target outcome *Improve-Remediation *Strengthen-Reinforcement
2. How will we know that a change is an improvement?	*Monitoring activities *Evaluate impact on outcome
3. What changes can we make that will result in improvement?	*Clinical care behaviors/processes *Organizational intervention

Change Framework in Detail

On the following pages, the Change Framework is presented in greater detail. Each **Area for Improvement** is described. The evidence sources for the Area for Improvement are identified by a superscript number and can be found in the Summary of Evidence. The **Strategies** are further broken down into specific ideas for **Actions** that can be tested and implemented at the agency level.

Many of the actions have related **Tools and Resources**, which have been assigned a number. More information about each Tool and Resource is provided in the Index of Tools and Resources. Full copies of some of the Tools and Resources are provided in the accompanying Toolkit.

Areas for Improvement

Promoting Patient Self-Management

Implementing Evidence-Based Practices and Guidelines

Using Systems and Technology to Promote Effectiveness and Efficiency

Improving Care Delivery Systems and Mobilizing Community Resources

Creating a Culture of Quality



Area for Improvement: Promoting Patient Self-Management

Chronic conditions are now the leading cause of illness, disability, and death in the United States, and affect the majority of elderly home health patients.¹ People with chronic conditions are the heaviest users of health care services and account for 76% of all hospital inpatient stays,² many of them potentially avoidable. One key element of improving chronic illness care is promoting effective patient self-management. This means involving patients as “active, informed participants in their care” and giving them the opportunity to exercise the degree of control they choose over health care decisions.^{3,4} Patient self-management involves teaching problem-solving skills and emphasizing self-efficacy and confidence to carry out behavior necessary to reach a desired goal. Evidence from controlled trials has found that programs teaching self-management skills are more effective than traditional information-only patient education in improving clinical outcomes and reducing hospitalization.⁵ Home health care nurses are in a unique position to motivate and educate patients in their own homes, and to help them adjust their daily routines to avoid illness exacerbations that might result in an unwanted hospital stay.



- Strategy # A.1** Engage patients and caregivers in the determination of whether home care is the right option
- Strategy # A.2*** Provide patients and caregivers with information and options to address immediate/urgent care needs
- Strategy # A.3*** Establish patient and caregiver expectations and assess their capacity to engage in self-management
- Strategy # A.4** Prepare patient and caregiver to participate in self-management and monitoring of conditions, e.g., heart failure, diabetes, chronic lung disease, pressure ulcer, pain management, fall prevention, immunizations, medication adherence
- Strategy # A.5** Prepare patient and caregiver to identify and manage problems that may arise after discharge from home care
- Strategy # A.6** Prepare patient and/or caregiver to maintain and convey key health and treatment information

AREA FOR IMPROVEMENT: PROMOTING PATIENT SELF-MANAGEMENT

Strategy

Action

Tools and Resources

Stage of Care: Before the Home Health Agency Accepts the Patient for Care

Strategy # A.1
Engage patients and caregivers in the determination of whether home care is the right option

A.1.1 Design/adapt/implement a tool to help patients and families decide if home care is a safe option and make available to potential patients and discharge planners

Total Living Choices Care Interpreter™(1)
 Discharge Preparation Checklist (2)

Stage of Care: The First Week of Care

Strategy # A.2
***Provide patients and caregivers with information and options to address immediate/urgent care needs**

A.2.1 Use reminders and other patient support tools to enable patients and caregivers to act on signs and symptoms of worsening condition [Within first 24-48 hours at home]

Zones for Chronic Disease Management: Diabetes (3)
 Zones for Chronic Disease Management: CHF (4)
 Zone for Chronic Disease Management: Asthma (5)
 Sample Transition Coach Charting Form (6)
 How to Care for Your Heart if You Have Heart Failure (7)
 Module 4 Self Care: Following Your Heart Failure Treatment Plan and Dealing with Your Symptoms (8)
 Self Management for COPD (9)
 Sample Emergency Care Plan (10)
 Patient Emergency Plan (11)

Strategy # A.3
***Establish patient and caregiver expectations and assess their capacity to engage in self-management**

A.2.2 Establish individualized urgent/emergent care contact plan for each patient
 A.3.1 Design/adapt/implement patient/caregiver-friendly tools to clarify values and expectations

Sample Values Assessment Protocol (12)
 PAM Patient Activation Measure (13)

A.3.2 Assess cognitive capacity and implications for self-management, and identify key caregiver support that may be necessary [Within first week at home]
 A.3.3 Assess for self efficacy and see where/when it can be bolstered

Short Portable Mental Status Questionnaire (SPMSQ) (14)
 Differential Diagnosis of Dementia (15)

Belief in Personal Control Scale (16)

AREA FOR IMPROVEMENT: PROMOTING PATIENT SELF-MANAGEMENT		
Strategy	Action	Tools and Resources
	A.3.4 Develop and implement clinician “scripts” to prepare for eliciting and responding to patient/caregiver expectations	Script for Adherence Counseling Session One (17)
Stage of Care: Throughout the Episode of Home Care		
Strategy # A.4 Prepare patient and caregiver to participate in self-management and monitoring of conditions, e.g., heart failure, diabetes, chronic lung disease, pressure ulcer, pain management, fall prevention, immunizations, medication adherence	<p>A.4.1 Design/adapt/implement individualized condition & problem specific self-management plans. Incorporate key components such as: Medication regimen Treatment regimen Specific goals and acceptable ranges for key health parameters Actions to take when outside established range Frequency of parameter monitoring Frequency of medical and preventive follow-up</p> <p>A.4.2 Develop/use “scripts” to assist clinicians in implementing the patient self-management plans</p> <p>A.4.3 Use “stages of change” model to identify self-management actions that patients/families are ready to embrace</p> <p>A.4.4 Establish, monitor, and provide feedback on patient/caregiver goals for symptom/disease management</p> <p>A.4.5 Reinforce self-monitoring of key symptoms (red flags)</p>	<p>Self Management Plan for Congestive Heart Failure (18) Heart Care Instructions & Information (19) Heart Care Medication List (20) American Heart Association Caregiver’s Guide (21) Pain Notebook (22) My Diabetes Diary (23) Diabetes Goal Contract (24) Instructions for Using Inhalers (25) COPD–Education for Patients and Care Givers Integrated Care Pathway (26) What You Can Do About a Lung Disease Called COPD (27)</p> <p>Prochaska-DiClemente’s Stages of Change Model (28)</p> <p>Daily Weight Chart (29) Increase Your Patient’s Success with Self-Care for Heart Failure (30) My Heart Failure Goals (31)</p>

AREA FOR IMPROVEMENT: PROMOTING PATIENT SELF-MANAGEMENT

Strategy	Action	Tools and Resources
<p>Strategy # A.5 Prepare patient and caregiver to identify and manage problems that may arise after discharge from home care</p>	<p>A.5.1 Establish home care discharge goals and plans with patient/caregiver from beginning of home health episode</p> <p>A.5.2 Identify knowledge, skills and support necessary to sustain patient/caregiver self management without HHA services</p>	
<p>Stage of Care: If the Patient Has Reached the Emergency Department</p>		
<p>Strategy #A.6 Prepare patient and/or caregiver to maintain and convey key health and treatment information</p>	<p>A.6.1 Provide and teach patient/caregiver to keep and use a personal health record, copy of key test results, and names and numbers of 24-hour HHA liaison and primary care provider</p>	<p>Personal Health Record (32)</p>

Area for Improvement: Implementing Evidence-Based Practices and Guidelines

The consensus of national experts on improving quality of care is that “the best care results from the conscientious, explicit, and judicious use of current best evidence and knowledge of patient values by well-trained, experienced clinicians.”^{1,2} This is the definition of “evidence-based practice.” Yet in two path-breaking reports—*To Err is Human* and *Crossing the Quality Chasm*^{3,4}—the Institute of Medicine (IOM) has highlighted the large gap that exists between the quality of care that Americans could and should receive and the quality of care that is generally delivered.

Congestive heart failure, diabetes, and pneumonia—conditions that often are associated with complex treatment and medication regimens—are significant contributors to potentially avoidable hospitalizations among home health patients.⁵ Yet for these conditions—and for others, such as chronic lung disease, pain, and depression—there is a strong foundation of evidence-based guidelines that have been developed by national bodies based on the best available science. The challenge is to translate these guidelines into practice by assessing and monitoring patients and establishing evidence-based interventions to improve their care. Research shows that effective implementation of such interventions can significantly improve clinical outcomes and lower the risk of hospitalization.^{6,7,8,9}



- | | |
|------------------------|---|
| Strategy # B.1 | Use evidence-based guidelines to assess clinical readiness for hospital |
| Strategy # B.2* | Use evidence-based risk assessment tools to identify high-risk patients and incorporate risk factors into individualized patient care plans |
| Strategy # B.3 | Use evidence-based, condition-specific/problem-specific interventions, e.g., heart failure, diabetes, chronic lung disease, pressure ulcer, pain management, fall prevention |
| Strategy # B.4 | Screen patients for depression and refer for treatment when appropriate |

AREA FOR IMPROVEMENT: IMPLEMENTING EVIDENCE-BASED PRACTICES AND GUIDELINES

Tools and Resources

Action

Stage of Care: Before the Home Health Agency Accepts the Patient for Care

<p>Strategy # B.1 Use evidence-based guidelines to assess clinical readiness for hospital discharge</p>	<p>B.1.1 Identify/adapt/adopt evidence-based clinical parameters for safe/appropriate discharge from the hospital (e.g., vital sign stability, signs of infection, ability to eat)</p>	<p>Discharge Considerations for COPD and CHF (33)</p>
<p>Stage of Care: First Week of Care Strategy #B.2 *Use evidence-based risk assessment tools to identify high-risk patients and incorporate risk factors into individualized patient care plans</p>	<p>B.2.1 Identify/adapt/adopt an evidence-based assessment tool to identify patients who are at risk of hospitalization and train clinicians in its use</p>	<p>Assessment of Risk Factors for Hospitalization and Emergent Care (34) Pra™ Assessment Criteria (35) Naylor Screening Tool (36) Patient Hospitalization and Emergency Care Risk Assessment Tool (37) Fall Risk Assessment Tool (38) Safety and Fall Evaluation Form (39)</p>
	<p>B.2.2 Include interventions/surveillance in the care plan to address patient-specific risk factors Incorporate key components such as: Frequency of visits & supplemental telephone contact Acceptable ranges for key health parameters Actions to take when outside established range Frequency of parameter monitoring</p>	<p>Acute Care Hospitalization Flowchart (40) Suggested Clinical Visit Guide for Patients at Risk of Acute Hospitalization (41)</p>

AREA FOR IMPROVEMENT: IMPLEMENTING EVIDENCE-BASED PRACTICES AND GUIDELINES

Tools and Resources

Action

Stage of Care: Throughout the Episode of Home Care

<p>Strategy #B.3 Use evidence-based, condition-specific/problem-specific interventions, e.g., heart failure, diabetes, chronic lung disease, pressure ulcer, pain management, fall prevention, flu/pneumonia prevention</p>	<p>B.3.1 Identify/adapt/adopt evidence-based guidelines, protocols, interventions, and monitoring for disease- and problem-specific conditions that include:</p> <ul style="list-style-type: none"> • Appropriate medication regimen • Appropriate treatment regimen • Acceptable ranges for key health parameters and actions to take when deviate • Frequency of monitoring • Appropriate prevention, testing, and medical follow-up 	<p>These are a sample of condition-specific Tools and Resources</p> <p>National Guideline Clearinghouse (42) Clinical Practice Prompts for Heart Failure Management (42) Sample Heart Failure Clinic Visit Template (43) Clinician’s Guide to Heart Failure Management (44) Evaluation & Management of Chronic Heart Failure in the Adult (45) Clinical Practice Recommendations for Patients with Diabetes (46) Standards of Medical Care in Diabetes (47) Target Chronic Pain Pocket Guide (48) GOLD Pocket Guide to COPD Diagnosis, Management, and Prevention (49) GOLD At-A-Glance Outpatient COPD Management Reference (50) Home Health Immunizations Toolkit (51)</p>
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Stage of Care: Throughout the Episode of Home Care

<p>Strategy #B.4 Screen patients for depression and refer for treatment when appropriate</p>	<p>B.3.2 Train and motivate frontline managers and clinicians in the use of evidence-based interventions</p> <p>B.3.3 Develop and implement clinician “scripts” to prepare staff to discuss with physicians changing orders consistent with evidence-based guidelines</p> <p>B.4.1 Use a depression screening instrument to identify patients to refer for treatment</p>	<p>Scripts for Discussing Potential Medication Problems with Physicians (52)</p> <p>Depression Screen (53) Geriatric Depression Scale (54)</p>
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Area for Improvement: Using Systems and Technology to Promote Effectiveness and Efficiency

The literature on chronic care management, quality improvement, and patient safety points to the importance of putting in place organizational systems to facilitate and sustain evidence-based practice and practice improvements.¹ Systems to support effective care management range from the simple—such as changes in forms and documents, the introduction of laminated pocket cards or prompts, or the use of telephone or fax reminders—to the complex—such as the use of computerized tracking systems, electronic reminders, or home telehealth technologies (remote patient monitors) that rely on satellites or integrated digital networks. Systems have been designed to transmit coded messages, detect potential medication errors, send reminders for dispensing of medications, and provide continuous real-time monitoring.² Such systems can provide high-quality, cost-effective care and are being used to add new dimensions to the face-to-face care provided by clinicians.³



- Strategy # C.1*** Increase home health agency organizational capacity to screen patients for safe/appropriate admission
- Strategy # C.2*** Implement systems to identify and track patients at increased risk for hospitalization and related problems
- Strategy # C.3*** Use systems to enhance effective internal and external communication and continuity of care
- Staff communication within and between disciplines (including paraprofessionals) and between office-based and frontline staff
 - Communication with patients/families
 - Communication with primary care providers and specialists
- Strategy # C.4** Use decision support tools that prompt clinicians to implement evidence-based practices
- Strategy # C.5** Use telehealth/telemonitoring systems to supplement care of patients at risk of hospitalization
- Strategy C.6** Implement systems to track patients who go to the emergency department

AREA FOR IMPROVEMENT: Using Systems and Technology to Promote Effectiveness and Efficiency

Strategy	Action	Tools and Resources
Stage of Care: Before the Home Health Agency Accepts the Patient for Care		
Strategy # C.1 *Increase home health agency organizational capacity to screen patients for safer/appropriate admission	C.1.1 Incorporate safety/appropriateness criteria and tools into referral/intake processes and systems as early in the referral process as feasible C.1.2 Provide referring hospitals updated list of agency's available services and admission criteria	
Stage of Care: The First Week of Care		
Strategy # C.2 *Implement systems to identify and track patients at increased risk for hospitalization and related problems	C.2.1 Highlight high readmission risk items on OASIS SOC/ROC assessment. C.2.2 Implement paper or electronic system to track high risk patients from admission through discharge at both the individual and aggregate level C.2.3 Use electronic "pop-up" to trigger high-intensity care planning for patients with positive responses to predictive OASIS questions C.2.4 Analyze re-admission data to identify clusters of "frequent fliers"	

AREA FOR IMPROVEMENT: Using Systems and Technology to Promote Effectiveness and Efficiency

Strategy	Action	Tools and Resources
Stage of Care: Throughout the Episode of Home Care		
<p>Strategy # C.3</p> <p>*Use systems to enhance effective internal and external communication and continuity of care</p> <ul style="list-style-type: none"> • Staff communication within and between disciplines (including paraprofessionals), and between office-based and frontline staff • Communication with patients/families • Communication with primary care providers and specialists 	<p>C.3.1 Analyze current staff communication processes for adequacy related to high-risk patient management (e.g., timeliness and comprehensiveness)</p>	
Stage of Care: Throughout the Episode of Home Care		
	<p>C.3.2 Establish standard intra-agency communication pathways</p>	
	<p>C.3.3 Conduct weekly face to face or “virtual” case conferences to discuss high-risk patients and establish “virtual” rounds</p>	
	<p>C.3.4 Identify preferred modes of communication for high-volume physicians</p>	
	<p>C.3.5 Review and redesign primary care provider feedback process and reports to make them timely, concise, relevant, and useful (Engage physicians in this process)</p>	
	<p>C.3.6 Establish standing orders for particular types of patients/conditions</p>	
	<p>C.3.7 Use communication scripts for HHA–physician interactions</p>	<p>Scripts for Discussing Potential Medication Problems with Physicians (52) Communication Templates (55)</p>

AREA FOR IMPROVEMENT: Using Systems and Technology to Promote Effectiveness and Efficiency

Strategy	Action	Tools and Resources
	C.3.8 Establish paper/electronic system to provide on-call staff access to critical patient information	
Strategy # C.4 Use decision support tools that prompt clinicians to implement evidence-based practices	C.4.1 Implement a reminder system by email or other means to highlight optimal condition specific practices.	Heart Failure E-mail Reminder (56)
Strategy # C.5 Use telehealth/telemonitoring systems to supplement care of patients at risk of hospitalization	C.5.1 Implement a system of telephone reminders for patients	
	C.5.2 Implement remote patient monitoring (telehealth) for appropriate patients	Telehealth: are nurses and patients ready: assessment tool (57) VHA Home Telehealth Toolkit (58) Telemedicine Technical Assistance Documents: A Guide to Getting Started in Telemedicine (59) Home Telehealth Reference 2005 (60)
	C.5.3 Supplement home visits with structured telephone follow-up for high-risk patients to provide support and identify early warning of problems	Home Telehealth Reference 2005 (60)
Stage of Care: If the Patient Has Reached the Emergency Department		
Strategy # C.6 Implement systems to track patients who go to the emergency department	C.6.1 Establish formal communication pathway with ED	
	C.6.2 Identify and implement criteria for safe return to home care	

Area for Improvement: Improving Care Delivery Systems and Mobilizing Community Resources

Significant contributors to avoidable hospital admissions include delivery system problems such as suboptimal assessment of a patient's readiness for hospital discharge, fragmented or incomplete hospital discharge planning, poor communication and insufficient information transfer from hospital-based to community providers, or some combination thereof.^{1,2,3,4} A growing body of research has shown that significant reductions in hospitalization can be achieved by implementing delivery system strategies and interventions designed to rectify these problems. The strongest evidence exists for improvements in hospital discharge planning⁵ and in patient transitions from hospital to home.^{6,7} Effective delivery system changes include those that promote teamwork, enable productive MD–RN interaction, provide ready access to nurse case managers and advanced practice nurses, and improve the scheduling and organization of visits.⁸



- Strategy # D.1** ***Collaborate with hospitals to establish key criteria for safe, appropriate discharge from the hospital to home care**
- Strategy # D.2** ***Establish transition protocol for transfers from hospital or other facilities (e.g., SNF) to home care**
- Strategy # D.3** **Organize care teams to promote consistency and continuity**
- Strategy # D.4** ***Match intensity of clinical resources and services to patient risks/conditions/problems as identified by risk assessment at individual patient level and staff caseload/population level**
- Strategy # D.5** ***Coordinate with primary care providers and specialists to promote continuity of outpatient/in-home care**

- Strategy # D.6** **Identify/strengthen ties with community medical/social resources**
- Strategy # D.7** **Coordinate with ED to reroute patients home rather than to hospital inpatient stay**

AREA FOR IMPROVEMENT: IMPROVING CARE DELIVERY SYSTEMS AND MOBILIZING COMMUNITY RESOURCES

Strategy	Action	Tools and Resources
Stage of Care: Before the Home Health Agency Accepts the Patient for Care		
Strategy # D.1 Collaborate with hospitals to establish key criteria for safe, appropriate discharge from the hospital to home care	<p>D.1.1 Use standardized discharge checklist to increase consistency of screening and referral of patients for safe/appropriate admission</p> <p>D.1.2 Design/implement transition protocol for patients coming from hospital to ensure timely first visit and initiation of services, obtaining critical information, and identification of high-risk patients</p> <p>D.1.3 Conduct pre hospital discharge assessment and education sessions to enhance patient self care</p> <p>D.1.4 Deploy advance practice nurses or transition coaches to manage transition for high risk patients</p> <p>D.1.5 Establish disease specific multi-disciplinary discharge planning and management teams (hospital and HHA)</p>	<p>An Interdisciplinary Team Approach to Improving Transitions Across Sites of Geriatric Care (61) Heart Failure Discharge Information (62) Patient Transfer/HHC/Public Health Referral (63)</p> <p>An Interdisciplinary Team Approach to Improving Transitions Across Sites of Geriatric Care (61)</p>
Stage of Care: The First Week of Care		
Strategy # D.2 *Establish transition protocol for transfers from hospital or other facilities (e.g., SNF) to homecare	<p>D.2.1 Complete full medication reconciliation, verification and medication clean-up at home care admission for all patients</p> <p>D.2.2 Conduct primary care provider (PCP) verification and test communication with PCP for all new admissions</p>	<p>IHI Medication Reconciliation Tools (64) Medication Discrepancy Tool (65)</p> <p>Sample Transition Coach Charting Form (6)</p>

AREA FOR IMPROVEMENT: IMPROVING CARE DELIVERY SYSTEMS AND MOBILIZING COMMUNITY RESOURCES

Strategy	Action	Tools and Resources
Stage of Care: Before the Home Health Agency Accepts the Patient for Care	D.2.3 Reconnect patient to primary care provider after discharge from inpatient setting	Sample Transition Coach Charting Form (6) AAHCP House Call Network (66)
Strategy # D.3 Organize care teams to promote consistency and continuity	D.3.1 Examine/adopt patient assignment protocols and care teams to minimize the number of intra-agency handoffs D.3.2 Organize multidisciplinary teams to manage complex patients	
Stage of Care: Throughout the Episode of Home Care		
Strategy # D.4 *Match intensity of clinical resources to patient risks/conditions/ problems as identified by risk assessment <ul style="list-style-type: none"> • At the individual patient level • At the staff caseload/population level 	D.4.1 Design/adapt/implement individual care plans to improve process for matching resources to patient risks/conditions/problems. Components should include: <ul style="list-style-type: none"> • Visit frequency • Discipline mix • Type of visit and use of non-visit supplements D.4.2 Design/adapt/implement staff caseload and population management plan to match overall staff resources to patient population characteristics (e.g., severity, risk): Analyze visit frequency patterns Develop visit frequency standards <ul style="list-style-type: none"> • Monitor caseloads D.4.3 Implement higher intensity care protocol for high-risk patients D.4.4 Establish protocol for early identification and rapid response to worsening of patient condition	Easley-Storfjell Instruments for Caseload/Workload Analysis (67)

AREA FOR IMPROVEMENT: IMPROVING CARE DELIVERY SYSTEMS AND MOBILIZING COMMUNITY RESOURCES

Strategy	Action	Tools and Resources
Stage of Care: Before the Home Health Agency Accepts the Patient for Care		
Strategy # D.5 *Coordinate with primary care providers and specialists to promote continuity of outpatient/in-home care	D.5.1 Develop and implement communication plan with primary care providers and specialists to promote continuity.	
	D.5.2 Develop standing order process or protocols for patients at risk for hospitalization (condition specific and individualized)	
	D.5.3 Identify community health centers and physician office practices that can be linked to patients who do not have a usual source of medical care	AAHCP House Call Network (66)
Stage of Care: Throughout the Episode of Home Care		
Strategy # D.6 Identify/strengthen ties with community medical/social resources	D.6.1 Identify and recruit expertise in the community to augment agency resources as needed (e.g., hospitals, nursing homes, paramedical transporters, adult day care, assisted living, parish nurses, local agency on aging, senior centers)	
Stage of Care: If the Patient Has Reached the Emergency Department		
Strategy # D.7 Coordinate with ED to reroute patients home rather than to hospital inpatient stay	D.7.1 Track patients who go to the ED to communicate key clinical information	Community Acquired Pneumonia Standards (68)
	D.7.2 Develop/adapt/coordinate a plan to identify instances when ED staff should consult with HHA staff and primary care provider before a patient is admitted to the hospital	
	D.7.3 Establish criteria for identifying patients that can safely be sent home	

Area for Improvement: Creating a Culture of Quality

Research on quality of care has shown that vigorous leadership, clear goals, and compatible incentive systems are critical factors in influencing successful change.¹ Quality improvement is a complex process, and clinical quality improvement applications are more likely to be effective in organizations that are ready for change and have strong leaders who are committed to creating and reinforcing a work environment that supports quality goals.² Key leadership roles include providing clear and sustained direction, articulating a coherent set of values and incentives to guide group and individual activities, aligning and integrating improvement efforts into organizational priorities, obtaining or freeing up resources to implement improvement activities and creating a culture of “continuous improvement” that encourages and rewards the pursuit and achievement of shared quality aims.³

- Strategy # E.1** *Secure commitment of senior leaders to address the issue of reducing hospitalization
- Strategy # E.2** Work collaboratively with hospitals to establish a joint hospital/HHA quality agenda
- Strategy # E.3** *Establish an organizational quality improvement plan of action and allocate resources to implement and monitor it
- Strategy # E.4** *Integrate and sustain organizational changes demonstrated to achieve positive improvement



AREA FOR IMPROVEMENT: CREATING A CULTURE OF QUALITY

Tools and Resources

Action

Strategy

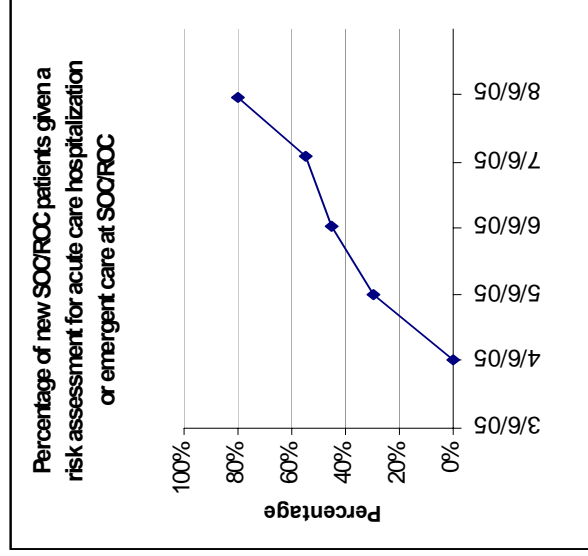
Stage of Care: All

<p>Strategy # E.1 *Secure commitment of senior leaders to address the issue of reducing hospitalization</p>	<p>E.1.1 Engage senior leaders in discussions about agency quality and quality improvement</p>	<p>What Will It Take to Move Big Dots? (69) Executive Review of Improvement Projects: A Primer for CEOs and Other Senior Leaders (70)</p>
<p>Strategy # E.2 Work collaboratively with hospital to establish a joint hospital/HHA quality agenda</p>	<p>E.2.1 Conduct joint aggregate root cause analysis with hospitals and HHA for patients readmitted within 2 weeks of hospital discharge to identify systems-based failures</p>	<p>The Team Memory Jogger™(71)</p>
<p>Strategy # E.3 *Establish an organizational quality improvement plan of action and allocate resources to implement and monitor it</p>	<p>E.3.1 Conduct retrospective chart review of hospitalized patients to identify opportunities for improvement</p>	<p>Chart Audit Tool – Acute Care Hospitalization (72) Acute Care Hospitalization Monthly Audit Tool (73) Hospital Readmissions Inventory (74) Hospital Re-admission Inventory Ohio (75) Rehospitalization Follow Up Tool (76)</p>
	<p>E.3.2 Use OBQI and other QI processes for investigating and establishing a plan of action</p>	<p>Medicare Quality Improvement Community (MedQIC) website (77)</p>
	<p>E.3.3 Train a critical mass of employees in quality improvement methods</p>	<p>Web-based OBQI training will be available on MedQIC Fall 2005 (78)</p>
	<p>E.3.4 Monitor and track the results and outcomes of implementation of best practices and actions in POA</p>	
<p>Strategy # E.4 *Integrate and sustain organizational changes demonstrated to achieve positive improvement</p>	<p>E.4.1 Establish monitoring and accountability mechanism and corresponding rewards</p>	
	<p>E.4.2 Involve all levels of staff in quality initiatives</p>	
	<p>E.4.3 Include patient and family members on quality improvement teams and other agency committees</p>	

Measurement Strategy

Your agency's objective is to improve care processes, thus preventing avoidable hospitalizations and emergent care of home health patients. The ultimate goal is to prevent the deterioration in health status that results in the need for patients to be hospitalized or use emergent care. We recognize that some hospitalizations are unavoidable; however, the goal is to reduce *avoidable* hospitalizations.

You do not need to implement an elaborate measurement system; however, measurement helps you to monitor and track your progress and to evaluate the changes that you have implemented. Measurement should be designed to accelerate improvement, not slow it down. Your team needs to do just enough measurement to be convinced that the changes you are making are leading to improvement. You will use outcome measures to evaluate whether there is an improvement in patient health outcomes and process measures to monitor whether your identified best practices, strategies, and actions are being implemented.



Tips to Get Started

- Understand and use OBQI Outcome Reports and Tally Reports
- Collect data for the patient population for whom the improvement activities apply (e.g., entire agency or subgroup of patients)
- Track measures over time
- Use process measures directly related to your improvement strategies/actions and best practices
- Design/modify a chart audit tool (see Appendix for a sample of a tool you might want to use)
- Assign responsibilities for data collection
- Establish a schedule and process for data collection
- Integrate data collection into your ongoing work and processes (e.g., admission and discharge chart reviews)
- Consider doing real-time data collection, (i.e., at the time of start/resumption of care or discharge/transfer)—See the Appendix for sample data collection forms
- Consider using electronic data collection/monitoring tools that your QIO can provide to track trends in your measurement data and monitor progress of your quality improvement initiative (e.g., the graph on the left is an example of a trending graph)



Outcome Measures

“An outcome of care is a health state of a patient resulting from health care.”¹ An outcome is measured as a “health status change between two or more time points, where the term “health status” encompasses physiologic, functional, cognitive, emotional, and behavioral health.”² Risk adjustment procedures are used to separate changes due to the health care received from natural progression of the disease or disability. Outcome measures can have long timeframes, (i.e., months or even years). In the OBQI system, some health utilization measures (acute care hospitalization, any emergent care, and discharged to community) are used as “proxy” measures for a change in health status. The outcome measures, acute care hospitalization and any emergent care, indicate an acute decline in health status.

OBQI System Outcome Measures

The source for the following information on the OBQI system outcome measures is the Report of the Technical Expert Panel Meeting on Home Health Measures, Agency for Healthcare Research and Quality (AHRQ) and Centers for Medicare and Medicaid Services (CMS), Rockville, MD, October 21–22, 2002, which can be found at <http://www.ahrq.gov/qual/nhqr02/hhmtep.htm>.

For the OBQI outcome measures, a home health **episode** begins with a start of care (SOC) or resumption (ROC) of care and ends with discharge or transfer to an inpatient facility. The outcome measures are reported for complete episodes that occur within a 12-month period.

Outcome Measures–OBQI System			
Measure	Definition	Operational Definition	Data Collection
<p>Acute Care Hospitalization measure–OBQI System</p> <p>Percentage of patient home health episodes in a 12-month period that end with an acute care hospitalization (for any reason)</p>	<p>Acute care hospitalization is defined as a response of 1 (Hospital) on OASIS item M0855–Inpatient Facility Admission.</p> <p>The measure includes hospitalizations for any reason (emergent, urgent, or elective).</p> <p>All patients are eligible for this outcome measure.</p> <p>Patients whose status at SOC/ROC indicates a non-responsive level of consciousness or whose episode(s) of home health care end with death are excluded.</p>	<p>Numerator = Total number of episodes in a 12-month period that end with an acute care hospitalization</p> <p>Denominator = Total number of episodes that began and ended (due to discharge or transfer) in a 12-month period.</p> <p>Observed Rate (Percentage) = (Numerator/Denominator) X 100</p>	<p>Current (observed) rate from OBQI outcome report</p>
			<p>Reduce the percentage of episodes in which the patient experiences deterioration in health status that requires acute care hospitalization.</p>

Outcome Measures—OBQI System			
Measure	Definition	Operational Definition	Data Collection
<p>Any Emergent Care—OBQI System</p> <p>Percentage of patient home health episodes in a 12-month period with use of emergent care</p>	<p>Any emergent care is defined as a response of 1 (Hospital emergency room), or 2 (Doctor's office emergency visit/house call), or 3 (Outpatient department/clinic emergency) on OASIS item M0830—Emergent Care.</p> <p>All patients are eligible for calculation of this outcome. If the value of the OASIS item M0830—Emergent Care at discharge or transfer is unknown, the patient is excluded.</p> <p>Patients who are nonresponsive at SOC/ROC, or whose episodes of home health care end with death, are excluded.</p>	<p>Numerator = Total number of episodes in a 12-month period that use emergent care</p> <p>Denominator = Total number of episodes that began and ended (due to discharge or transfer) in a 12-month period.</p> <p>Observed Rate (Percentage) = (Numerator/Denominator) X 100</p>	<p>Current (observed) rate from OBQI outcome report</p>
			<p>Reduce the percentage of episodes in which the patient experiences deterioration in health status that requires emergent care.</p>

OASIS Items

Information on the OASIS data set can be found at the CMS OASIS Home Page at: <http://www.cms.hhs.gov/oasis/default.asp>

(M0855) To which **Inpatient Facility** has the patient been admitted?

- 1 - Hospital [Go to **M0890**]
- 2 - Rehabilitation facility [Go to **M0903**]
- 3 - Nursing home [Go to **M0900**]
- 4 - Hospice [Go to **M0903**]
- NA - No inpatient facility admission

(M0830) **Emergent Care:** Since the last time OASIS data were collected, has the patient utilized any of the following services for emergent care (other than home care agency services)? **(Mark all that apply.)**

- 0 - No emergent care services **If no emergent care, go to M0855**
- 1 - Hospital emergency room (includes 23-hour holding)
- 2 - Doctor's office emergency visit/house call
- 3 - Outpatient department/clinic emergency (includes urgentcenter sites)
- UK - Unknown **[if UK, go to M0855]**



Alternative Outcome Measures

In the OBQI system, the outcome measures are reported for 12-month periods for the entire agency, and there is a 2.5-month lag before the latest OASIS data are included. The following outcome measures were used during the ACH pilot since, because of the short time frame of the pilot, current OBQI outcome measures were not available; also, many of the pilot agencies tested their improvement actions with a subset of their agency. If you want to monitor your acute care hospitalization or emergent care rates in near real time (i.e., without waiting for the 2.5-month data lag) or if you want to monitor these rates for a shorter time period (e.g., monthly) or for a subset of your agency, consider using these alternative outcome measures instead of (or in addition to) the OBQI outcome measures.

Alternative Outcome Measures that can be Computed Monthly for Entire Agency or for Agency Subgroup				
Measure	Definition	Operational Definition	Data Collection	Goal
<p>Outcome Measure #1 Percentage of home care patients requiring acute care hospitalization from start of care (SOC)/resumption of care (ROC) to discharge or transfer.</p>	<p>Acute care hospitalization is defined as answering 1 (Hospital) on OASIS item M0855-- Inpatient Facility Admission.</p>	<p>Numerator = Total number of episodes with an acute care hospitalization during the month among patients reviewed</p> <p>Denominator = Total number of episodes of patient group (or total number reviewed) who were discharged or transferred during month</p> <p>Percentage = (Numerator/Denominator) X 100</p>	<p>If HHA has a tracking system or ability to review OASIS discharge/transfer data, review all discharges and transfers (responses 6, 7, or 9 for M0100) from the identified patient group (agency or subset) in the month for the response to M0855.</p> <p>If HHA has no tracking system, pull a <i>random sample</i> of 30 charts from patients in the identified patient group who were either discharged or transferred during the month. If the agency has fewer than 30 discharges/transfers for the patient group during the month, review all charts of patients who were either discharged or transferred that month for the response to M0855.</p>	<p>Reduce the percentage of episodes in which the patient experiences deterioration in health status that requires acute care hospitalization.</p>

Alternative Outcome Measures that can be Computed Monthly for Entire Agency or for Agency Subgroup

Measure	Definition	Operational Definition	Data Collection	Goal
<p>Outcome Measure #2 Average number of days from SOC/ROC to acute care hospitalization.</p>	<p>Acute care hospitalization is defined as answering 1 (Hospital) to M0855. Start of care or resumption of care is defined as the date of the first patient home visit (M0030 or M0032). Acute care hospitalization date is defined as the hospital admission date recorded as the transfer date (M0906).</p>	<p>Numerator = Total number of days between SOC and acute care hospitalization for episodes reviewed. NOTE: <i>count both the SOC/ROC date and the hospitalization (transfer) date</i> Denominator = Total number of episodes of patient group (or total number reviewed) who were discharged or transferred during the month that required acute care hospitalization Average = Numerator/Denominator</p>	<p>If HHA has tracking system or ability to review OASIS discharge/transfer data, review all discharges and transfers from the identified patient group in the month (responses 6, 7, or 9 for M0100) for the response to M0855, M0906, and M0030 or M0032. If HHA has no tracking system, no additional data collection needed beyond the 30 records pulled for Outcome Measure #1.</p>	<p>Increase the average number of days of stable health status between SOC/ROC and acute care hospitalization.</p>
<p>Outcome Measure #3 Percentage of home care patients who received emergent care between SOC/ROC and discharge or transfer</p>	<p>Any emergent care is defined as a response of 1 (Hospital emergency room), 2 (Doctor's office emergency visit/house call) or 3 (Outpatient department/clinic emergency) on OASIS item M0830—Emergent Care.</p>	<p>Numerator = Total number of episodes reviewed that required emergent care during month Denominator = Total number of episodes of patient group (or total number reviewed) who were discharged or transferred during month Percentage = (Numerator/Denominator) X 100</p>	<p>No additional data collection needed beyond the 30 records pulled for Outcome Measure #1.</p>	<p>Reduce the percentage of episodes in which the patient experiences deterioration in health status that requires emergent care.</p>

Alternative Outcome Measures that can be Computed Monthly for Entire Agency or for Agency Subgroup

Measure	Definition	Operational Definition	Data Collection	Goal
<p>Outcome Measure #4 Average number of days from SOC/ROC to emergent care.</p>	<p>Emergent care is defined as answering 1 (Hospital emergency room), or 2 (Doctor's office emergency visit/house call) or 3 (Outpatient department/clinic emergency) to M0830.</p> <p>Start of care or resumption of care is defined as the date of the first patient home visit (M0030 or M0032).</p> <p>Emergent care date is defined as the date the emergent care occurred.</p>	<p>Numerator = Total number of days between SOC/ROC and emergent event for episodes reviewed <i>NOTE: count both the SOC/ROC date and emergent care date</i></p> <p>Denominator = Total number of episodes of the patient group (or total number reviewed) who were discharged or transferred during month that required emergent care</p> <p>Average = Numerator/Denominator</p>	<p>No additional data collection needed beyond the 30 records pulled for Outcome Measure #1. <i>NOTE: The emergent care date must be obtained from the clinical notes.</i></p>	<p>Increase the average number of days of stable health status between SOC/ROC and emergent event.</p>



Process Measures

“A process of care is a health care service provided to or on behalf of a patient.”¹ A process measure is a measure of whether a process occurred or not, or indicates the timing of the occurrence. Process measures may be time-limited to a health care encounter (e.g., during a home visit) or may refer to an episode of care. You will construct process measures that reflect the best practices (Actions) identified in your Plan of Action.

A general format for process measures is provided below to assist you with developing process measures. Also provided are examples process measures that represent some of the high-leverage strategies and actions for reducing acute decline in health status and, consequently, avoidable hospitalizations. Note that these particular strategies/actions might not be the most relevant to your agency's improvement plan; in this case, you would need to develop measures (using the general format for process measures) to track implementation of the actions you have chosen. CAUTION: Each process measure that you develop should indicate the implementation of only one action; if you are implementing three different actions, you will need to develop and track three process measures.

Process Measures: Choose or develop process measures based on the actions/best practices implemented				
Measure	Definition	Operational Definition	Data Collection	Goal
Process Measure Format Percentage of [patients, patients/caregivers, patients at risk of hospitalization] who [action being tested]		Numerator = Total number of episodes with evidence of [action being tested] Denominator = Total number of [episodes or specific subset of episodes] reviewed during month Percent = (Numerator/Denominator) X 100	Pull a random sample of 30 charts for [patients with SOC/ROC, patients/caregivers with SOC/ROC, or a specific subset of patients] during the month and check for [action being tested]. If the agency has fewer than 30 patients in the identified patient group with a SOC/ROC to home care during the month, review all charts for patients in the identified patient group with a SOC/ROC to home care during that month.	Increase percentage of [patients with SOC/ROC, patients/caregivers with SOC/ROC, specific subset of patients] who [received the action being tested]

Process Measures: Choose or develop process measures based on the actions/best practices implemented

Measure	Definition	Operational Definition	Data Collection	Goal
<p>Process Measure #1 Percentage of new SOC/ROC patients with a risk assessment for acute care hospitalization and emergent care completed at SOC/ROC.</p>	<p>Initial risk assessment for acute care hospitalization and emergent care should be completed at SOC/ROC.</p> <p>Agencies may develop/use their own risk assessment tools (which should include information such as admitting diagnoses, co-morbid conditions and caregiver availability) or use one of the tools provided in the Change Binder.</p>	<p>Numerator = Total number of episodes with evidence of a risk assessment for acute care hospitalization and emergent care completed at SOC/ROC among patients reviewed</p> <p>Denominator = Total number SOC/ROC patients reviewed during month</p> <p>Percent = $\frac{\text{Numerator}}{\text{Denominator}} \times 100$</p>	<p>Pull a <i>random sample</i> of 30 charts for patients in identified patient group with SOC/ROC during the month.</p> <p>Check for assessment of risk for an acute care hospitalization and emergent care.</p> <p>If the agency has fewer than 30 patients in the identified patient group with a SOC/ROC to home care during the month, review all charts for patients in the identified patient group with a SOC/ROC to home care during that month.</p>	<p>Increase percentage of SOC/ROC admissions with a risk assessment for acute care hospitalization and emergent care completed at SOC/ROC.</p>

Process Measures: Choose or develop process measures based on the actions/best practices implemented

Measure	Definition	Operational Definition	Data Collection	Goal
<p>Process Measure #2 Percentage of home health patients/caregivers who receive and demonstrate understanding of an emergent contact care plan at SOC/ROC.</p>	<p>An emergent contact care plan that outlines what a patient/caregiver should do in case of emergency should be distributed and explained at SOC/ROC. Agencies may develop/use their own plan (which should include information about conditions signifying when it is appropriate to call the home care nurse and when it is necessary to call 911) or use the tool provided in the ACH Change Binder.</p>	<p>Numerator = Total number of episodes of patients and/or caregivers who receive and demonstrate understanding of an emergency care plan at SOC/ROC among patients reviewed Denominator = Total number of SOC/ROC patients reviewed during the month Percent = (Numerator/Denominator) X 100</p>	<p>No additional sample of records needed beyond the 30 records pulled for Process Measure #1. Check for an emergent contact care plan and documentation of patient/caregiver understanding the plan.</p>	<p>Increase percentage of patients with SOC/ROC (or their caregivers) who receive and understand an emergent contact care plan at SOC/ROC.</p>
<p>Process Measure #3 Percentage of home health patients/caregivers who receive and demonstrate understanding of key signs and symptoms of a worsening condition within 5 calendar days of SOC/ROC.</p>	<p>Agencies should teach patients/caregivers about the key signs and symptoms that indicate that the patient condition is worsening, and patients/caregivers should be able to demonstrate that they understand this information. Examples of condition-specific tools that can be used to relay key signs and symptoms of a worsening condition are included in the Change Binder.</p>	<p>Numerator = Total number of episodes of patients/caregivers who have received and understand key signs and symptoms of a worsening condition within 5 calendar days of SOC/ROC among patients reviewed Denominator = Total number of SOC/ROC patients reviewed during month Percent = (Numerator/Denominator) X 100</p>	<p>No additional sample of records needed beyond the 30 records pulled for Process Measure #1. Check for documentation of understanding of key signs and symptoms of a worsening condition.</p>	<p>Increase percentage of patients/caregivers with SOC/ROC who understand the individual key signs and symptoms of a worsening condition within 5 calendar days of SOC/ROC.</p>

Process Measures: Choose or develop process measures based on the actions/best practices implemented

Measure	Definition	Operational Definition	Data Collection	Goal
<p>Process Measure #4 Percentage of new SOC/ROC home health patients who are judged to be “at-risk” for hospitalization or emergent care who have an individual care management plan within 5 calendar days of SOC/ROC that addresses their risk factors.</p>	<p>An individual care management plan outlining what “at-risk” patients/ caregivers should do to maintain their health should be distributed and explained within 5 calendar days of SOC/ROC. Agencies may develop/use their own plans or use the samples provided in the ACH Change Binder.</p>	<p>Numerator = Total number of episodes of patients reviewed that had been identified as “at-risk” and had an individual care management plan that addresses the at-risk factors within 5 calendar days of SOC/ROC Denominator = Total number of SOC/ROC patients reviewed during the month where patients were identified as “at-risk” Percent = (Numerator/Denominator) X 100</p>	<p>No additional sample of records needed beyond the 30 records pulled for Process Measure #1. Identify those patients for whom you pulled charts for Process Measure #1 who were “at-risk” for hospitalization or emergent care. For these “at-risk” patients, check for the presence of an individual care management plan and the date of that plan.</p>	<p>Increase number of patients identified as “at-risk” who have an individual care management plan within 5 calendar days that addresses their at-risk factors.</p>

Reducing Acute Care Hospitalization Index of Tools and Resources

The numbers in this index map back to the number of the Tools and Resources identified in the Change Framework for each Area for Improvement.

The Tools and Resources that are provided in a separate Toolkit are indicated by an triangle (▲).

Number	Title	Source	Description	Area for Improvement	Topic
1	"Total Living Choices' Care Interpreter™"	Total Living Choices' Seattle, WA http://www.tlchoices.com/	Free services for seniors and their families to help them find long term care solutions. Gives brief definitions of medical care, personal care services, medical equipment, etc.	Promoting Patient Self-Management	Care Transitions
2	Discharge Preparation Checklist	Care Transitions Project The Division of Health Care Policy and Research University of Colorado Health Sciences Center http://www.caretransitions.org/documents/checklist.pdf	A structured set of critical activities designed to empower patients before leaving the hospital or nursing facility.	Promoting Patient Self-Management	Care Transitions
3▲	Zones for Chronic Disease Management - Diabetes	Adapted from Alaska Native Medical Center, Anchorage, AK http://www.improvingchroniccare.org/improvement/docs/frvgdm.doc	Information for patients as to whether they are in a healthy zone according to their symptoms and appropriate actions to take if they are not.	Promoting Patient Self-Management	Diabetes
4▲	Zones for Chronic Disease Management - CHF	Improving Chronic Illness Care http://www.improvingchroniccare.org/improvement/docs/frvgchf.doc	Information for patients as to whether they are in a healthy zone according to their symptoms and appropriate actions to take if they are not.	Promoting Patient Self-Management	CHF
5▲	Zones for Chronic Disease Management - Asthma	Asthma Initiative of Michigan Lansing, MI http://www.getasthmahelp.org/MARK%20Professional/AIMadulactionplan.pdf	Information for patients as to whether they are in a healthy zone according to their symptoms and appropriate actions to take if they are not.	Promoting Patient Self-Management	Asthma
6▲	Sample Transition Coach Charting Form	University of Colorado Health Sciences Center Division of Health Care Policy and Research Denver, CO http://www.caretransitions.org/documents/Intervention-Pillars.pdf	Checklist clinicians can use to document areas covered during a home health visit. Areas include medication management, personal health record, medical care follow up, and red flags.	Improving Care Delivery Systems Promoting Patient Self-Management	Care Transitions
7▲	How to Care for Your Heart If You Have Heart Failure	American College of Cardiology http://www.acc.org/gap/or/oregon_gap.htm	2-page instructions for HF patients	Promoting Patient Self-Management	CHF

Number	Title	Source	Description	Area for Improvement	Topic
8	Module 4 Self-care: Following Your Heart Failure Treatment Plan and Dealing with Your Symptoms	Heart Failure Society of America http://www.aboutnf.org/module4/default.htm	This module is designed to help patients learn to live successfully with heart failure. It will provide information on: why it is important to follow your treatment plan; tips for following your doctor or nurse's advice; assessing your heart failure symptoms. It will help you: follow your treatment plan more closely and with less trouble; monitor and attend to your symptoms; learn when you should seek immediate help for your symptoms.	Promoting Patient Self-Management	CHF
9▲	Self Management for COPD	Washington Okanagan Regional Home Health and Hospice	One-page color patient teaching tool that addresses complications of COPD. It provides simple instructions for the patient to relieve discomfort and helps patients and family identify when to call the agency or 911.	Promoting Patient Self-Management	COPD
10▲	Sample Emergency Care Plan	Tool developed by Carolina Medical Review Columbia, SC http://www.mrncc.org/mrncc_web/documents/CMR/homehealth/EmergencyCarePlanSample.doc	Plan that outlines for the patient what to do in case of an emergency. Includes a range of signs and symptoms that should be called to the home health nurse, and when it is appropriate to call 911.	Promoting Patient Self-Management	Emergency plan
11▲	Patient Emergency Plan	Health Care Partners Michigan	Tool that specifies symptoms for various conditions that should trigger a call to the nurse or physician or 911.	Promoting Patient Self-Management	Emergency plan
12	Sample Values Assessment Protocol	Kane, RA ,Degenholtz, H. Assessing values and preferences: Should we, can we? <i>Generations</i> . 1997;21:19-24.	Tool that can be used to help assess patients and caregivers values and preferences.	Promoting Patient Self-Management	Patient Values
13	PAM – Patient Activation Measure	Hubbard, JH, Stockard J. Mahoney ER, and Tusler M. Development of the Patient Activation Measure (PAM): Conceptualizing and Measuring Activation in Patients and Consumers. <i>Health Serv Res</i> . 2004 Aug;39(4 Pt 1): 1005-1026.	A valid, highly reliable scale that reflects a patient's level of activation including believing that the patient role is important, having the confidence and knowledge necessary to take action, taking action to maintain and improve one's health, and staying the course even under stress.	Promoting Patient Self-Management	Patient Values/Readiness
14▲	Short Portable Mental Status Questionnaire (SPMSQ)	Adapted from Pfeiffer E.: "A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients." <i>J Am Geriatr Soc</i> 1975 Oct;23(10):433-441. http://www.medicine.uiowa.edu/igec/tools/categoryMenu.asp?categoryID=1	10-question tool that clinicians can use to assess the mental status of patients.	Promoting Patient Self-Management	Cognitive Ability

Number	Title	Source	Description	Area for Improvement	Topic
15▲	Differential Diagnosis of Dementia	Australian Government Department of Veterans' Affairs. July 2000. http://www.dva.gov.au/health/provider/community_nursing/pathways/dementia.pdf .	Guidelines to help clinicians manage patients with dementia. Includes a documentation form and assessment aims to detect potentially reversible causes of dementia.	Promoting Patient Self-Management Implementing Evidence-Based Practices	Cognitive Ability
16	Belief in Personal Control Scale (BPCS)	Fischer J, Corcoran K. Measures for Clinical Practice: A Sourcebook 2 nd edition, vol 2. New York, NY: The Free Press; 1994.	The instrument is designed to measure dimensions of personal control.	Promoting Patient Self-Management	
17	Script for Adherence Counseling Session One	Ogedegbe, G. et al. (Columbia University) Motivational Interview Script, adapted from "Multi-site RCT for BP control in Hypertensive African Americans" funded by the National Heart, Lung and Blood Institute, 2005	Motivational interviewing script that can be used by clinicians to determine patient level of adherence to medication.	Promoting Patient Self-Management	CHF
18▲	Self Management Plan for Congestive Heart Failure	Developed by Qualis Health Seattle, WA http://www.qualishealth.org/qi-washington/cardiovascular/tools.cfm/	Patient plan that provides prompts and tracking for medication management, blood pressure screening, LDL-cholesterol testing, daily weighing, as well as information for maintaining a low-salt diet and not smoking.	Promoting Patient Self-Management	CHF
19▲	Heart Care Instructions and Information	American College of Cardiology http://www.acc.org/gap/or/oregon_gap.htm	Template to write instructions for HF patients and information about HF medications.	Promoting Patient Self-Management	CHF
20▲	Heart Care Medication List	American College of Cardiology http://www.acc.org/gap/or/oregon_gap.htm	Template for listing patient-specific HF medication regimen	Promoting Patient Self-Management	CHF
21	American Heart Association Caregiver's Guide	American Heart Association Dallas, TX http://www.americanheart.org/presenter.jhtml?identifier=1412	Information for clinicians, families' physicians related to heart disease, care, treatment and building healthy life styles.	Promoting Patient Self-Management	CHF
22▲	Pain Notebook	American Pain Foundation http://www.painfoundation.org/page.asp?file=page_publications.htm	Format for patients to track their pain experience and what makes it better or worse.	Promoting Patient Self-Management	Pain

Number	Title	Source	Description	Area for Improvement	Topic
23▲	My Diabetes Diary	Based on the "My Diabetes Diary" booklet prepared by the Diabetes Quality Improvement Project: Qualidigm.	A 12-page booklet that patients can take with them to the doctor and can list and track the results of various tests, including eye exams, lipid screening, and blood pressure. There is also a place for the patient to write down their last pneumonia and flu vaccines. Information is included about the importance of each of these exams.	Promoting Patient Self-Management	Diabetes
24▲	Diabetes Goal Contract	Maine Network for Health Bangor, ME http://www.mainenetwork.org/pdf/files/diabetes_goal_contract.pdf	Form for the patient to list his/her target goal for specific improvement area (foot care, medication management, eating a healthy diet, exercising, checking blood sugar) related to diabetes.	Promoting Patient Self-Management	Diabetes
25	Instructions for Using Inhalers	GOLD (Global Initiative for Chronic Obstructive Lung Disease) http://www.goldcopd.com/	Specific instructions for using many types of inhalers and spacers.	Promoting Patient Self-Management	COPD
26	COPD-Education for Patients and Caregivers Integrated Care Pathway	Source Lincolnshire Care Pathway Partnership-NHS http://www.lcppp.nhs.uk/COPD.asp	Describes the guidance that the Lincolnshire Care Pathway Partnership (NHS) has issued in Educating Patients and Carers of COPD.	Implementing Evidence-Based Practices and Guidelines	COPD
27▲	What You Can Do About a Lung Disease Called COPD	GOLD (Global Initiative for Chronic Obstructive Lung Disease) http://www.goldcopd.com/	Based on the Global Strategy for Diagnosis, Management, and Prevention of COPD NHLBI/WHO Workshop Report. Patient and caregiver education material related to the condition and treatment of COPD.	Promoting Patient Self-Management	COPD
28	Prochaska-DiClemente's Stages of Change Model	UCLA Center for Human Nutrition http://www.cellinteractive.com/ucla/physician_ed/stages_change.html	Information about the stages of change, their characteristics, and associated techniques for helping patients work through that particular stage. Website also includes a motivation interviewing algorithm and sample scripts for stages of change.	Promoting Patient Self-Management Implementing Evidence-Based Practices and Guidelines	
29▲	Daily Weight Chart	Patient Powered, Pursuing Perfection. Bellingham, WA August 8, 2004. http://www.patientpowered.org/files/WeightChart.pdf	Tool for patients to track their daily weight so that they can share it with their health team.	Promoting Patient Self-Management	CHF

Number	Title	Source	Description	Area for Improvement	Topic
30▲	Increase your Patient's Success with Self-Care for Heart Failure	American College of Cardiology http://www.acc.org/gap/or/oregon_gap.htm	Questions & tips for clinicians to use as guide for creating a self-care plan with a heart failure patient	Promoting Patient Self-Management	CHF
31▲	Heart Failure Goals	American College of Cardiology http://www.acc.org/gap/or/oregon_gap.htm	Potential goals that can be used in discussions with HF patients in setting self-management goals	Promoting Patient Self-Management	CHF
32▲	Personal Health Record	Coleman, Eric; UCHSC The Division of Home Care Policy and Research http://www.caretransitions.org/caregiver_tools.htm	A patient-centered record that consists of the essential care elements for facilitating productive interdisciplinary communication during the care transition.	Promoting Patient Self-Management	Care transitions
33▲	Discharge Considerations for COPD and CHF	Hospital Medicine, edited by Robert Wachter, Lee Goldman and Harry Hollander. Philadelphia: Lippincott Williams & Wilkins; 2000.	List of actions to be considered prior to discharging patients with COPD or CHF	Improving Care Delivery Systems and Mobilizing Community Resources	COPD CHF
34▲	Assessment of Risk Factors for Hospitalization and Emergent Care	Tool developed by Carolina Medical Review and adapted from: Rosati, RJ, Liping H, Navaie-Waliser M, Feldman PH. Risk factors for repeated hospitalizations among home healthcare recipients. <i>Journal for Healthcare Quality</i> 2003;March/April. http://www.vhqc.org/inc/pdf/Utilization%20Risk%20Factor%20Assessment%20Revised%20050304.pdf	One-page tool that uses OASIS questions related to prior hospitalization pattern, chronic conditions, and factors to determine a patient's risk of hospitalization and emergent care.	Implementing Evidence-Based Practices and Guidelines	Risk Assessment
35	Pra™ Assessment Criteria	To obtain an instrument license, go to: http://www.jhsph.edu/LipitzCenter/Pra_PraPlus/	Information about where clinicians can obtain a license to use this tool that includes seven criteria for determining if a patient is at risk for hospitalization.	Implementing Evidence-Based Practices	Risk Assessment
36▲	Naylor Screening Tool	Mary Naylor, PhD, FAAN, RN University of Pennsylvania School of Nursing 2005	Screening tool to identify patients at high-risk for hospitalization.	Implementing Evidence-Based Practices and Guidelines	Risk Assessment
37▲	Patient Hospitalization and Emergency Care Risk Assessment Tool	A. T. Home Care of Richmond, Virginia	Tool that includes screening items based on OASIS to identify patients at high-risk for hospitalization. The tool also provides guidance for the follow-up during the first 72 hours.	Implementing Evidence-Based Practices	Risk Assessment

Number	Title	Source	Description	Area for Improvement	Topic
38 ▲	Fall Risk Assessment Tool	Available on MedQIC http://www.medqic.org http://www.medqic.org/dcs/ContentServer?cid=1105558778382&pagename=Medqic%2FMQTools%2FToolTemplate&c=MQTools	This falls assessment tool includes factors pertinent to ADLs and IADLs.	Implementing Evidence-Based Practices and Guidelines	Fall Risk Assessment
39 ▲	Safety and Fall Evaluation Form	Arizona Health Care	Two-page assessment form that identifies specific risk factors pertinent to ADLs and IADLs.	Implementing Evidence-Based Practices and Guidelines	Fall Risk Assessment
40 ▲	Acute Care Hospitalization Flowchart	Alabama Quality Assurance Foundation http://www.aqaf.com	Flowchart for clinician use with patients who are at high risk for acute care hospitalization. Steps in flowchart include identifying patient's knowledge of the diagnosis, teaching, setting goals, monitoring progress, and when it is appropriate to make referrals.	Implementing Evidence-Based Practices	
41 ▲	Suggested Clinical Visit Guide for Patients at Risk of Acute Care Hospitalization	Alabama Quality Assurance Foundation http://www.aqaf.com	Detailed clinical visit guide to target patients at risk of acute care hospitalization.	Implementing Evidence-Based Practices and Guidelines	Risk Assessment
42	National Guideline Clearinghouse	National Guideline Clearinghouse www.guideline.gov	An online, public resource for evidence-based clinical practice guidelines.	Implementing Evidence-Based Practices and Guidelines	Clinical Practice Guidelines
43 ▲	Sample Heart Failure Visit Template	American College of Cardiology http://www.acc.org/ggap/or/oregon_gap.htm	Sample clinic visit template for HF patient that could be modified for home health	Implementing Evidence-Based Practices and Guidelines	CHF
44 ▲	Clinician's Guide to Heart Failure Management	American College of Cardiology http://www.acc.org/ggap/or/oregon_gap.htm	Two-page overview of the issues commonly encountered in the management of heart failure.	Implementing Evidence-Based Practices and Guidelines	CHF

Number	Title	Source	Description	Area for Improvement	Topic
45 ▲	Evaluation and Management of Chronic Heart Failure in the Adult	American College of Cardiology http://www.acc.org/clinical/guidelines/failure/pdf/s/HF_pocketguide.pdf	Shortened version of ACC/AHA Guidelines for the Evaluation and Management of Chronic Heart Failure in the Adult	Implementing Evidence-Based Practices and Guidelines	CHF
46	Clinical Practice Recommendations for Patients with Diabetes	American Diabetes Association and the American College of Cardiology http://www.diabetes.org/for-health-professionals-and-scientists/cpr.isp	Small fold-out brochure for practitioners that includes criteria for the diagnosis of diabetes mellitus, recommendations for glycemic control, lipid and blood pressure goals, key tests/exams, special situations, determining BMI from height and weight, and nutritional goals.	Implementing Evidence-Based Practices and Guidelines	Diabetes
47	Standards of Medical Care in Diabetes	American Diabetes Association http://www.diabetes.org/for-health-professionals-and-scientists/cpr.isp	Evidence-based standards of care for diabetes.	Implementing Evidence-Based Practices	Diabetes
48 ▲	Target Chronic Pain Pocket Card	American Pain Foundation http://www.painfoundation.org/page.asp?file=page_publications.htm	Two-page guide for working with patients with pain	Implementing Evidence-Based Practices and Guidelines	Pain
49 ▲	GOLD Pocket Guide To COPD Diagnosis, Management, and Prevention	GOLD (Global Initiative for Chronic Obstructive Lung Disease) http://www.goldcopd.com/	Created to increase awareness of COPD among healthcare professionals, public health authorities, and the general public, and to improve prevention and management through a concerted worldwide effort.	Implementing Evidence-Based Practices and Guidelines	COPD
50 ▲	GOLD Outpatient – At A Glance Outpatient COPD Management Reference	GOLD (Global Initiative for Chronic Obstructive Lung Disease) http://www.goldcopd.com/	Overview of diagnosing, assessment & monitoring, severity classification, goals of management, and therapy at each stage of COPD.	Implementing Evidence-Based Practices and Guidelines	COPD
51	Home Health Immunizations Toolkit	Delmarva Foundation Available on MedQIC http://www.MedQIC.org	The toolkit also offers providers comprehensive and timely information related to immunization, in addition to sample guidelines and tools needed to run an effective and sustainable patient and staff immunization program.	Implementing Evidence-Based Practices and Guidelines	Immunization
52	Scripts for Discussing Potential Medication Problems with Physicians	Administration on Aging and Partners in Care Foundation Homemeds.org-Preventing Medication Errors: the Home Health Medication Model Medications Management Project http://www.homemeds.org/pdf_files/InforminMD.pdf	Sample scripts nurses can use when speaking to physicians when making changes to medication regimens for patients with specific problems/ conditions.	Implementing Evidence-Based Practices and Guidelines Improving Care Delivery Systems	Physician Communication

Number	Title	Source	Description	Area for Improvement	Topic
53	Depression Screen	Brown EL, Bruce ML, McAvay GJ, Raue PJ, Lachs MS, Nassisi P. Recognition of late-life depression in home care: Accuracy of the outcome and assessment information set. <i>J Am Geriatr Soc.</i> 2004 June;52(6):995-999.	OASIS questions that can be used as a basic screen to determine whether patients have depressive symptoms.	Promoting Patient Self-Management	Depression
54 ▲	Geriatric Depression Scale	Yesavage JA, Brink TL, Rose TL, et al. Development and validation of a geriatric depression rating scale: A preliminary report. <i>J Psych Res.</i> 1983; 17:27. Sheikh JI, Yesavage JA. Geriatric Depression Scale: Recent evidence and development of a shorter version. <i>Clin Gerontol.</i> 1986; 5:165-172. http://www.acsu.buffalo.edu/~drstall/gds.txt	30-question scale that clinicians can use to screen whether elderly patients have depressive symptoms.	Promoting Patient Self-Management	Depression
55 ▲	Communication Templates	Communication Templates: Tools for Nurse/Physician Communication Developed under the direction of Peter A. Boling, MD, Professor of Medicine, Medical College of Virginia at Virginia Commonwealth University, Past President, American Academy of Home Care Physicians. American Academy of Home Care Physicians http://www.aahcp.org	The communication templates outline the type of information that physicians need when making decisions about a patient' treatment plan. Templates on communicating with physicians regarding CHF and Diabetes are provided. The full Handbook is available from the American Academy of Home Care Physicians	Using Systems and Technology to Promote Effectiveness and Efficiency	Physician Communication CHF Diabetes
▲56	Heart Failure E-mail Reminder	Feldman PH, Murtaugh CM, Pezzin LE, McDonald MV, Peng TR. Just-in-time evidence-based e-mail "reminders" in home health care. Impact on patient outcomes. <i>Health Services Research.</i> In Press. Home Telehealthcare: Wired and Ready for Telehealth: November 2003 http://www.informationfortomorrow.com/Fullviewofnursestelehealthbook.pdf	E-mail reminder template for clinicians that contain a specific list of guidelines and actions to take in treating patients with CHF in order to improve outcomes.	Using Systems and Technology to Promote Effectiveness and Efficiency	CHF
57 ▲	Telehealth: Home Healthcare: Wired and Ready for Telehealth	Home Telehealthcare: Wired and Ready for Telehealth: November 2003 http://www.informationfortomorrow.com/Fullviewofnursestelehealthbook.pdf	A tool for clinicians to determine if home care patient is an appropriate choice for admission to a telehealth program.	Using Systems and Technology to Promote Effectiveness and Efficiency	Telehealth

Number	Title	Source	Description	Area for Improvement	Topic
58	VHA Home Telehealth Toolkit	Veterans Health Administration http://www.va.gov/occ/TH/toolkits.asp	This toolkit has been developed through a collaborative effort of VHA clinicians and administrators involved with delivering or overseeing the delivery of Home Telehealth services. The purpose of this toolkit is to provide standardized guidelines and procedures for the design and delivery of Home Telehealth services in VHA.	Using Systems and Technology to Promote Effectiveness and Efficiency	Telehealth
59	Telehealth Technical Assistance Documents: A Guide to Getting Started in Telemedicine	Office for the Advancement of Telehealth, Health Resources and Services Administration, U.S. Department of Health and Human Services http://www2.muhealth.org/~telehealth/geninfo/TAD.html	The focus of this document is "telemedicine" or simply put the clinical application of providing care at a distance. The information contained within is designed to give one a better understanding of the steps necessary to get started on their way to the development of a successful and sustainable telemedicine network.	Using Systems and Technology to Promote Effectiveness and Efficiency	Telehealth
60	Home Telehealth Reference 2005	Quality Insights of Pennsylvania Available on MedQIC http://www.medqic.org	This resource offers educational resources to home health agencies and Quality Improvement Organizations (QIOs) on home telehealth planning, implementation, and utilization.	Using Systems and Technology to Promote Effectiveness and Efficiency	Telehealth
61 ▲	An Interdisciplinary Team Approach to Improving Transitions Across Sites of Geriatric Care	Care Transitions Project The Division of Health Care Policy and Research University of Colorado Health Sciences Center http://www.caretransitions.org/documents/manual.01-05-04.pdf	A manual that outlines a patient-centered interdisciplinary team model that includes a patient-centered record, a checklist of critical activities designed to empower patients, and guidance for Nurse Transition Coach self-management sessions and follow-up visit(s).	Improving Care Delivery Systems	Care Transitions
62 ▲	Heart Failure Discharge Information	American College of Cardiology http://www.acc.org/gap/or/oregon_gap.htm	Hospital discharge instructions for HF patients	Improving Care Delivery Systems	CHF
63 ▲	Patient Transfer/HHC/Public Health Referral	Stratis Health Bloomington, MN www.stratishealth.org	Sample home health referral form developed as part of a hospital discharge planning package.	Improving Care Delivery Systems	Care Transitions
64	IHI Medication Reconciliation tools	Institute for Healthcare Improvement (IHI) Cambridge, MA http://www.ihl.org/IHI/Topics/PatientSafety/MedicationSystems/Changes/IndividualChanges/Reconcile+Admission+Orders+with+Home+Medication+Lists	Information about the importance of medication reconciliation and tools that can be used to facilitate the reconciliation of medications in the home, and hospital.	Improving Care Delivery Systems	Medication

Number	Title	Source	Description	Area for Improvement	Topic
65 ▲	Medication Discrepancy Tool	Care Transitions Project The Division of Health Care Policy and Research University of Colorado Health Sciences Center http://www.caretransitions.org/practitioner_tools.htm Smith JD, Coleman EA, Min SJ. A New Tool for Identifying Discrepancies in Postacute Medications for Community-Dwelling Older Adults. <i>The American Journal of Geriatric Pharmacotherapy</i> . June 2004;2(2):1-8.	A tool designed to facilitate reconciliation of medication regimen across settings and prescribers.	Improving Care Delivery Systems	Medication Transitions
66	AAHCP House Call Network	American Academy of Home Care Physicians http://www.aahcp.org/physicianreferral.shtml	The American Academy of Home Care Physicians provides this list of its members and medical groups providing home care physician services as a public service. This listing is intended for informational purposes only. The AAHCP does not check the compliance of its members with licensing, billing, or other regulatory requirements. It cannot attest to the qualifications and billing practices of individual physicians.	Improving Care Delivery Systems	Care transitions
67 ▲	Easley-Storjell Instruments for Caseload/Workload Analysis	Judith Lloyd Storjell, PhD, RN Associate Dean and Associate Professor of Administrative and Community Health Nursing The University of Illinois at Chicago Carol Easley Allen, PhD, RN Chair, Department of Nursing Oakwood College, Huntsville, Alabama Cheryl E. Easley, PhD, RN Dean, College of Nursing and Allied Health Science University of Alaska, Anchorage, Alaska American Academy of Home Care Physicians http://www.aahcp.org/pneumonia_standards.pdf	These instruments have been used successfully by home health managers to document the type, quantity, and complexity of services provided by clinicians, teams, and the entire nursing staff. By measuring both the time requirements and complexity of interventions, these tools have been useful in assigning cases, managing caseloads and workloads, establishing benchmarks, and monitoring productivity.	Improving Care Delivery Systems	Caseload management
68 ▲	Community Acquired Pneumonia Practice Standards	American Academy of Home Care Physicians http://www.aahcp.org/pneumonia_standards.pdf	Recommended practice standards for at-home care of patients with Community Acquired Pneumonia	Improving Care Delivery Systems	Community Acquired Pneumonia

Number	Title	Source	Description	Area for Improvement	Topic
69	What Will it Take to Move the Big Dots?	Institute for Healthcare Improvement http://www.ihl.org/IHI/Topics/LeadingSystemImprovement/Leadership/EmergingContent/WhatWillItTakeToMoveBigDots.htm	Briefing Paper for IHI IMPACT network, Pursuing Perfection, and League of Two Hundred Leaders on "Leadership Leverage Points for System-level Performance Improvement"	Creating a Culture of Quality	Leadership
70	Executive Review of Improvement Projects: A Primer for CEOs and other Senior Leaders	Institute for Healthcare Improvement http://www.ihl.org/IHI/Topics/LeadingSystemImprovement/Leadership/Tools/ExecutiveReviewofProjectsIHI%20Tool.htm	Executive review of projects can be a critical factor in whether the projects will help, or hurt, the transformation. The first step is for executives to make the decision to channel attention to project reviews, and to budget the time in their own schedules for this activity. The next step is to learn how to do a good project review—the principal focus of this brief practical guide.	Creating a Culture of Quality	Leadership
71	Team Memory Jogger™	Michael Brassard & Diane Ritter Available through pacePILOT http://www.pacepilot.com/jogger.shtml	Guide for creating a more productive work environment that includes information about process improvement, problem solving, and effective teamwork.	Creating a Culture of Quality	Teamwork
72▲	Chart Audit Tool—Acute Care Hospitalization	Iowa Foundation for Medical Care Available on MedQIC http://www.medqic.org http://www.medqic.org/dcs/ContentServer?cid=1104254946393&pagename=Medqic%2FMQTools%2FToolTemplate&c=MQTools	This 16-question form may be used as part of a focused clinical record review for acute care hospitalizations. The tool may be used during the process of investigation or monitoring phases of outcome based quality improvement. This monitoring tool evaluates the provided care given to patients. This worksheet comprises sixteen relevant audit questions that may be used as part of a focused clinical record review.	Creating a Culture of Quality	Audit
73▲	Acute Care Hospitalization Monthly Audit Tool	Center for Healthcare Quality (TN QIO) Memphis, TN Available on MedQIC http://www.medqic.org	Tool for conducting retrospective chart review of hospitalized patients to identify opportunities for improvement.	Creating a Culture of Quality	Audit

Number	Title	Source	Description	Area for Improvement	Topic
74▲	Hospital Readmissions Inventory	Anderson MA, Hanson KS, DeVilder NW, Helms LB. Hospital readmissions during home care: A pilot study. <i>J Community Health Nurs</i> 1996; 13(1):1-12. Mary Ann Anderson, PhD, RN Associate Professor and Co-Director Regional Nursing Program, Quad City Moline, IL	Chart audit tool designed to review cases of home health patients readmitted to the hospital during the first 31 days.	Creating a Culture of Quality	Audit
75▲	Hospital Re-admission Inventory Ohio	Elizabeth Madigan, PhD, RN Associate Dean International Health Programs Frances Payne Bolton School of Nursing Case Western Reserve University Cleveland, OH	Adaptation of the Anderson chart audit tool.	Creating a Culture of Quality	Audit
76▲	Rehospitalization Follow-Up Tool	Okanagan Regional Home Health and Hospice	Documentation tool for clinicians to use with patients who have experienced a hospitalization during their home care episode.	Creating a Culture of Quality	Audit
77	Medicare Quality Improvement Community (MedQIC)	Centers for Medicare and Medicaid Services http://www.MedQIC.org	The Centers for Medicare & Medicaid Services (CMS) developed this comprehensive online resource of quality improvement information for Medicare's National Quality Improvement Priority Topics.	Creating a Culture of Quality	Quality Improvement
78	OBQI Web-Based Training	Delmarva Foundation & Center for Health Services Research Available on MedQIC Fall 2005 http://www.MedQIC.org	This interactive learning program provides training on Outcome-Based Quality Improvement (OBQI). Two customized learning "paths" address the needs of both staff who are involved in the OBQI process and leaders and managers who are guiding the effort.	Creating a Culture of Quality	OBQI

References

This section contains a summary of the evidence cited for each Area for Improvement, followed by additional references for all sections of the Change Binder.

Summary of Evidence – Acute Care Hospitalization Areas for Improvement

Following are the references cited for in the description and evidence for each Area for Improvement. The assessment of the strength of the evidence was based on the following criteria.

Strength Criteria

- A Recommendation is supported by scientific evidence from properly designed and implemented controlled trials
- B Recommendation is supported by scientific evidence from properly designed and implemented research studies
- C Recommendation is supported by synthesis of literature compiled by expert researchers and clinicians
- D Recommendation is supported by expert opinion

Reference Number	Author/Citation/ Source	Purpose	Study Design/ Data source	Findings	Strength of Evidence
Area for Improvement: Promoting Patient Self-Management					
1	National Center for Chronic Disease Prevention and Health Promotion. Chronic Disease Prevention. http://www.cdc.gov/nccdphp/ .	To determine the number of Americans affected by chronic disease. Statistic includes those who have illness and/or disability caused by chronic disease, as well as people who have died due to chronic disease.	Statistics compiled by the CDC	Statistical data on people affected by chronic disease	B
2	Partnership for Solutions; Robert Wood Johnson Foundation; Johns Hopkins University. 2002. <i>Chronic conditions: Making the case for ongoing care.</i> Baltimore, MD: Johns Hopkins University.	Provides an overview of chronic health conditions in the United States and the impact of these conditions on individuals and their caregivers, as well as on the U.S. health care system.	Chartbook prepared by the Partnership for Solutions; data compiled from a number of sources	"People with multiple chronic conditions have substantially more physician contacts and are more likely to be hospitalized each year than those with only one chronic condition. As the elderly age, they face an increased risk of having multiple chronic conditions."	C

Reference Number	Author/Citation/ Source	Purpose	Study Design/ Data source	Findings	Strength of Evidence
3	Institute of Medicine. <i>Crossing the quality chasm: A new health system for the 21st century.</i> Washington, DC: National Academy Press; 2001:70-71.	Report that focuses on how the health care delivery system can be designed to innovate and improve care.	Report compiled by the Committee on Quality of Health Care in America	"In recent decades there has been a steady transition from authoritarian models of care to approaches that encourage greater patient access to information and input into decision making, but this transition is far from complete. The latter approaches correspond to a growing scientific literature in which it is shown that informed patients participating actively in decisions about their own care appear to have better outcomes, lower costs, and higher functional status than those held to more passive roles."	C
4	Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, & Bonomi A. Improving chronic illness care: Translating evidence into action. <i>Health Affairs</i> 2001;20(6):64-78.	Description of system changes associated with improvements in chronic illness care, the organization of these changes into a framework to guide quality improvement (the Chronic Care Model), and the use of the model by more than 100 health organizations in collaborative quality improvement activities.	Descriptive study - Implementation	"There is now considerable evidence that individual and group interventions that emphasize patient empowerment and the acquisition of self-management skills are effective in diabetes, asthma, and other chronic conditions."	C
5	Clark N, Gong M. Management of chronic disease by practitioners and patients: Are we teaching the wrong things? <i>British Medical Journal.</i> 2000;320:572-575.	To consider the quality of education for patients and practitioners who are trying to manage chronic disease. Authors argue that neither patients nor practitioners are taught the skills that will enable each to carry out his or her role and responsibility for disease management.	Literature Review	"Effective patient education should not be a matter of simply providing information about the disease but should allow patients to develop the capacity to observe themselves, make sensible judgments, feel confident, and recognize desirable outcomes. There is little correlation between general knowledge about asthma and health outcomes. Similarly, the link between general attitude and specific health behaviours is weak. Feeling able to carry out a management task makes people more likely to try the task, but confidence alone does not ensure suitable behaviour."	C

Reference Number	Author/Citation/ Source	Purpose	Study Design/ Data source	Findings	Strength of Evidence
Area for Improvement: Implementing Evidence-Based Practices and Guidelines					
1	Institute of Medicine. <i>Crossing the quality chasm: A new health system for the 21st century.</i> Washington, DC: National Academy Press; 2001:147.	Report that focuses on how the health care delivery system can be designed to innovate and improve care.	Report compiled by the Committee on Quality of Health Care in America	"Early definitions of evidence-based medicine or practice emphasized the "conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients". In response to concerns that this definition failed to recognize the importance of other factors in making clinical decisions, more recent definitions explicitly incorporate clinical expertise and patient values into the decision-making process.	C
2	Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. Evidence based medicine: What it is and what it isn't. <i>British Medical Journal</i> 1996;312(7023):71-72.	Description of the term evidence-based medicine	Editorial Article	"Evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. By individual clinical expertise we mean the proficiency and judgment that individual clinicians acquire through clinical experience and clinical practice."	D
3	Institute of Medicine. <i>To err is human: Building A safer health system.</i> Washington, DC: National Academy Press; 2000:1.	Report that addresses that patient safety is a serious issue affecting the quality of health care.	Report compiled by the Committee on Quality of Health Care in America	"Currently, there is a great deal of variability in medical practice and often times, a lack of adherence to medical standards based on scientific evidence."	C
4	Institute of Medicine. <i>Crossing the quality chasm: A new health system for the 21st century.</i> Washington, DC: National Academy Press;2001:18.	Report that focuses on how the health care delivery system can be designed to innovate and improve care.	Report compiled by the Committee on Quality of Health Care in America	"Americans should be able to count on receiving care that meets their needs and is based on the best scientific knowledge. Yet there is strong evidence that this frequently is not the case. Crucial reports from disciplined review bodies document the scale and gravity of the problems. Quality problems are everywhere, affecting many patients. Between the health care we have and the care we could have lies not just a gap, but a chasm."	C

Reference Number	Author/Citation/ Source	Purpose	Study Design/ Data source	Findings	Strength of Evidence
5	Delmarva QIO. Home Health National Priority Measures Technical Expert Panel, 2005.	To provide guidance and feedback on various approaches to establishing goals for rates of Acute Care Hospitalization among home health patients.	Technical Expert Panel	"Not unexpectedly, the largest diagnostic category for the hospital principal diagnosis was circulatory system disease, accounting for 27.11% of all the hospitalizations with congestive heart failure accounting for 9.65% of all the hospitalizations. Diseases of the respiratory system accounted for 14.47% of all hospitalizations with pneumonia accounting for 5.74% of all hospitalizations."	D
6	McAlister FA, Lawson FME, Teo KK, Armstrong PW. A systematic review of randomized trials of disease management programs to heart failure. <i>American Journal of Medicine</i> . 2001; 110:378-384.	To determine whether disease management programs improve outcomes for patients with heart failure.	Systematic Review – based on 11 randomized trials	"Disease management programs for the care of patients with heart failure that involve specialized follow-up by a multidisciplinary team reduce hospitalizations and appear to be cost saving."	C
7	McAlister FA, Lawson FME, Teo KK, Armstrong PW. Randomized trials of secondary prevention programs in coronary heart disease: systematic review. <i>British Medical Journal</i> . 2001;323:957-962.	To determine whether multidisciplinary disease management programs for patients with coronary heart disease improve processes of care and reduce morbidity and mortality.	Systematic Review – based on 12 trials	"The weight of the evidence from randomized controlled trials shows that comprehensive disease management programmes have a positive impact on processes of care (risk factor profiles, prescription of provided efficacious drugs) that are closely linked to subsequent morbidity and mortality in patients with coronary heart disease. Disease management has been defined as 'a combination of patient education, provider use of practice guidelines, appropriate consultation, and supplies of drugs and ancillary services.'"	C
8	Rich M. Heart failure in the elderly: Strategies to optimize outpatient control and reduce hospitalizations. <i>Am J Geriatr Cardiol</i> . 2003; 12(1):19-27.	Review of strategies to optimize outpatient control and reduce hospitalizations and recommendations of future studies.	Review article	"Management of heart failure in the elderly requires a coordinated, multidisciplinary approach, and a series of recent studies have documented the efficacy of heart failure disease management programs in reducing readmissions, enhancing medication and dietary compliance, and lowering cost of care."	C

Reference Number	Author/Citation/ Source	Purpose	Study Design/ Data source	Findings	Strength of Evidence
9	Damush TM, Smith DM, Perkins AJ, Dexter PR, Smith F. Risk factors for nonelective hospitalization in frail and older adult, inner city outpatients. <i>Gerontologist</i> . 2004; 44(1):68-75.	To improve the accuracy of predicting the risk of hospitalization and to identify older, inner-city patients who could be targeted for preventive interventions.	Randomized trial – 1,041 patients from a primary care practice living in the inner city who were either 75 years of age or older or were equal to or more than 50 years of age with severe disease.	“The following patient characteristics independently predicted an increased risk for nonelective hospitalization: having the diagnosis of congestive heart failure, diabetes mellitus, or anemia; and having more medications prescribed, having a lower body mass index, and having more emergency department visits during the previous year.”	A
Area for Improvement: Using Systems and Technology to Promote Effectiveness and Efficiency					
1	Wagner E, Austin B, Davis C, Hindmarsh M, Schaefer J, & Bonomi A. Improving chronic illness care: Translating evidence into action. <i>Health Affairs</i> . 2001; 20(6):64-78.	Description of system changes associated with improvements in chronic illness care, the organization of these changes into a framework to guide quality improvement (the Chronic Care Model), and the use of the model by more than 100 health organizations in collaborative quality improvement activities	Descriptive Article - Implementation	“Our experience in the three BTSs confirmed the premise that effective chronic illness management requires comprehensive system changes that entail more than simply adding new features to an unchanged system focused on acute care. It became apparent to them that changes in process and outcomes would not occur unless preceded by fundamental changes to the design of practice and the provision of self-management support.”	D
2	Bowles KH, Dansky KH. Teaching self-management of diabetes via telehomecare, <i>Home Healthc Nurse</i> . 2002 Jan;20(1):36-42.	To demonstrate that telehomecare is an effective way to improve patient education and self-management outcomes.	Review Article	“The cost effectiveness of this technology makes it an attractive medium for reaching patients who require close monitoring, reinforced teaching, and reassurance. Telehomecare can also support caregivers and connect socially isolated individuals to their care providers. It is a new tool in the arsenal for the home care nurse to use for monitoring patients and promoting knowledge and behavior change. The video visits are short, focused opportunities for increased patient teaching; the one-on-one focus, audio-visual aids, and opportunities for patients to use the machines to self-monitor are all positive aspects.”	C

Reference Number	Author/Citation/ Source	Purpose	Study Design/ Data source	Findings	Strength of Evidence
3	Bakken S, Hripcsak G. An informatics infrastructure for patient safety and evidence-based practice in home healthcare. <i>Journal of Healthcare Quality</i> . 2004; 26(3):24-30.	To highlight the role of informatics in promoting patient safety and enabling evidence-based practice, two significant aspects for ensuring quality in home health care.	Review Article	"...the components of an informatics infrastructure are available and applications that bring these components together promote patient safety and enable evidence-based practice have demonstrated positive or promising results in the acute care setting."	C
Area for Improvement: Improving Care Delivery Systems					
1	Philips C, Wright SM, Dern DE, Singa R, Sheppard S, Rubin H. Comprehensive discharge planning with post-discharge support for older patients with congestive heart failure: A meta-analysis. <i>JAMA</i> . 2004; 291(11): 1358-1367.	To evaluate the effect of comprehensive discharge planning plus post-discharge support on the rate of readmission in patients with CHF, all-cause mortality, length of stay, quality of life, and medical costs.	Systematic Review – 18 randomized controlled trials	"Comprehensive discharge planning plus postdischarge support for older patients with CHF resulted in a 25% relative reduction in the risk of readmission, a trend toward 13% relative reduction in all-cause mortality, and for a small subset of studies, improvement in QOL scores, without increasing the cost of medical care."	C
2	Coleman EA, Boulton C. Improving the quality of transitional care for persons with complex care needs. <i>J Am Geriatr Soc</i> . 2003; 51(4): 556-557.	Position statements to improve the quality of transitional care for persons with complex care needs.	Position Statement	"During transitions, these patients [whose conditions require complex, continuous care] are at risk for medical errors, service duplication, inappropriate care, and critical elements of the care plan "falling through the cracks." Ultimately, poorly executed care transitions may lead to poor clinical outcomes; dissatisfaction among patients; and inappropriate use of hospital, emergency, postacute, and ambulatory services."	D

Reference Number	Author/Citation/ Source	Purpose	Study Design/ Data source	Findings	Strength of Evidence
3	Naylor MD, McCauley KM. The effects of a discharge planning and home follow-up intervention on elders hospitalized with common medical and surgical cardiac conditions. <i>J Cardiovasc Nurs.</i> 1999; 14(1):44-54	To determine the effects of discharge planning and home follow-up intervention on elders hospitalized with common medical and surgical cardiac conditions.	Secondary Analysis of data collected on 202 patients hospitalized with common medical or surgical cardiac conditions who completed a 24-week postdischarge follow-up program as part of a large-scale randomized clinical trial. The intervention consisted of comprehensive discharge planning and home follow-up by an advanced practice nurse for 4 weeks after discharge.	"The findings of this study suggest that high-risk elders with significant cardiac problems may benefit from a care program that emphasizes collaborative, coordinated discharge planning and home follow-up that includes telephone and home visits by APNs."	B
4	Naylor MD, Brooten D, Campell R, Jacobsen BS, Mezey M, Pauly MV, Schwartz JS. Comprehensive discharge planning and home follow-up of hospitalized elders: A randomized clinical trial. <i>JAMA.</i> 1999; 281(7):613-620.	To examine the effectiveness of an advanced practice nurse-centered discharge planning and home follow-up intervention for elders at risk of hospital readmission.	Randomized clinical trial – 363 patients who were 65 years and older, hospitalized between August 1992 and March 1996, and had one of several medical and surgical reasons for admission. Intervention group patients received a comprehensive discharge planning and home follow-up protocol designed specifically for elders at risk for poor outcomes after discharge and implemented by advanced practice nurses.	"Control group patients were more likely than intervention group patients to be readmitted at least once. Fewer intervention group patients had multiple readmissions and the intervention group had fewer hospital days per patient. Time to first readmission was increased in the intervention group."	B

Reference Number	Author/Citation/ Source	Purpose	Study Design/ Data source	Findings	Strength of Evidence
5	Philips C, Wright SM, Dern DE, Singa R, Sheppard S, Rubin H. Comprehensive discharge planning with post discharge support for older patients with congestive heart failure: a meta-analysis. <i>JAMA</i> . 2004;291(11): 1358-1367.	To evaluate the effect of comprehensive discharge planning plus post-discharge support on the rate of readmission in patients with CHF, all-cause mortality, length of stay, quality of life, and medical costs.	Systematic Review – 18 randomized controlled trials	“Our findings confirm the efficacy of comprehensive discharge planning plus post-discharge support for patients with CHF and demonstrate benefit for a range of important clinical outcomes.”	C
6	Naylor MD. A decade of transitional care research with vulnerable elders. <i>J Cardiovasc Nurs</i> 2000;14(3):1-14; quiz 88-89.	Description of the contributions to knowledge development and clinical practice during the past decade resulting from testing and refining a transitional care model with hospitalized elders by a multidisciplinary research team.	Descriptive Article	“In addition to demonstrating positive outcomes for elders while reducing costs, findings from the testing of the transitional care model have advanced knowledge of important patient and caregiver issues including the effects of the model of elders with medical versus surgical conditions, the profile of elders at risk for poor outcomes, predictors of caregiver burden, the unique needs of elders and the contributions of advanced practice nurses in meeting these needs, and decision making regarding home care referrals.”	C
7	Naylor MD. Transitional care of older adults. <i>Annu Rev Nurs Res</i> . 2002;20:127-47.	Review of 94 published research reports on transitional care of older adults by nurse researchers and researchers from other disciplines.	Literature Review	“A high proportion of elders and their caregivers report substantial unmet transitional care needs, with the need for information and increased access to services consistently among the top priorities. Differences in expectations between and among patients, families, and health care providers, and the need for increased patient and family involvement in decision-making, are common themes in discharge planning studies. Gaps in communication have been identified through the discharge planning process.”	C

Reference Number	Author/Citation/ Source	Purpose	Study Design/ Data source	Findings	Strength of Evidence
8	Wagner E, Austin B, Davis C, et al. Improving chronic illness care: Translating evidence into action. <i>Health Affairs</i> 2001;20(6):64-78.	Description of system changes associated with improvements in chronic illness care, the organization of these changes into a framework to guide quality improvement (the Chronic Care Model), and the use of the model by more than 100 health organizations in collaborative quality improvement activities.	Descriptive Article— Implementation	"Delivering high-quality chronic illness care demands planning and the coordinated actions of multiple caregivers. Increasing evidence supports the value of access to more sophisticated clinical case manager functions. These functions, generally performed in studies by experienced chronic disease nurses or pharmacists, include support for self-management and behavior change, close follow-up to assess response to therapy and self-management competence, and adjustment of treatment by protocol.	D
Area for Improvement: Creating a Culture of Quality					
1	Institute of Medicine. <i>Crossing the quality chasm: A new health system for the 21st century</i> . Washington, DC: National Academy Press;2001:137.	Report that focuses on how the health care delivery system can be designed to innovate and improve care.	Report compiled by the Committee on Quality of Health Care in America	"Leaders must be responsible for creating and articulating the organization's vision and goals, listening to the needs and aspirations of those working in the front lines, providing direction, creating incentives for changes, aligning and integrating improvement efforts, and creating a supportive environment and a culture of continuous improvement that encourage and enable success."	C
2	Shortell S, Bennett C, Byck G. Assessing the impact of continuous quality improvement on clinical practice: what it will take to accelerate progress. <i>Milbank Quarterly</i> . 1998;76(4):593-624.	To examine the evidence on the clinical application of CQI and identify its strengths and limitations.	Literature Review	"Particularly important correlates of success appear to be the participation of a nucleus of physicians, feedback to individual practitioners, and a supportive organizational culture for maintaining the gains that are achieved. Failures tend to derive from nonacceptance by local physicians of national guidelines, poor dissemination, and vague, diffuse feedback to practitioners."	C
3	Institute of Medicine. <i>Crossing the quality chasm: A new health system for the 21st century</i> . Washington, DC: National Academy Press;2001:137..	Report that focuses on how the health care delivery system can be designed to innovate and improve care.	Report compiled by the Committee on Quality of Health Care in America	"Leaders must be responsible for creating and articulating the organization's vision and goals, listening to the needs and aspirations of those working in the front lines, providing direction, creating incentives for changes, aligning and integrating improvement efforts, and creating a supportive environment and a culture of continuous improvement that encourage and enable success."	C

Additional References

General References to Hospitalization and its Consequences

- Forster AJ, Murff HJ, Peterson JF, Gandhi TK, Bates DW. The incidence and severity of adverse events affecting patients after discharge from the hospital. *Annals of Internal Medicine*. 2003;138(3):161-167.
- Hirsch CH, Sommers L, Olsend A, Mullen L, Windoad CH. The natural history of functional morbidity in hospitalized older patients. *J Am Geriatric Soc*. 1990;38(12):1296-1303.
- Hoening HM, Rubenstein LZ. Hospital-associated deconditioning and dysfunction. *J Am Geriatric Soc*. 1991;39(2):220-222.
- Inouye SK. The dilemma of delirium: Clinical and research controversies regarding diagnosis and evaluation of delirium in hospitalized elderly medical patients. *Am J Med*. 1994;97(3):278-288.
- Mahoney JE, Eisner J, Havighurst T, Gray, S, Palta M. Problems of older adults living alone after hospitalization. *J Gen Intern Med*. 2000;15(9):611-619.
- Mahoney J, Sager M, Dunham NC, Johnson J. Risk of falls after hospital discharge. *J AM Geriatr Soc*. 1994;42:1006-1008.
- Partnership for Solutions; Robert Wood Johnson Foundation. *Chronic conditions: Making the case for ongoing care*. Baltimore, MD.: Johns Hopkins University; 2002.

The Challenge

1. Naylor MD, Brooten D, Campell R, Jacobsen BS, Mezey M, Pauly MV, Schwartz JS. Comprehensive discharge planning and home follow-up of hospitalized elders: A randomized clinical trial. *JAMA*. 1999;281(7):613-620.
2. Rich M. Heart failure in the elderly: Strategies to optimize outpatient control and reduce hospitalizations. *Am J Geriatr Cardiol*. 2003;12(1):19-27.
3. Pace K, Johnson K. Home Health QIOSC Analyses. 2005
4. Shaughnessy PW, Hittle DF, Crisler KS, Powell MC, Richard AA, Kramer AM, Schlenker RE, et al. Improving patient outcomes of home health care: Findings from two demonstration trials of outcome-based quality improvement. *JAGS* 2002;50:1354-1364.



The Mission

1. Pace K, Johnson K. Acute care hospitalization: What we have learned, where we are going. Presented at: AHQA Technical Conference; February 22, 2005; San Francisco, CA.
2. Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving chronic illness care: Translating evidence into action. *Health Affairs*. 2001;20(6):64-78.

Organization of the Change Framework and Improvement Matrix

1. Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving chronic illness care: Translating evidence into action. *Health Affairs*. 2001;20(6):64-78.

Area for Improvement: Promoting Patient Self-Management

- Bodenheimer T, Lorig K, Holman H, Grumbach K. Patient self-management of chronic disease in primary care. *JAMA*. 2002;288(19):2469-2475.
- DeBusk RF, Houston-Miller N, Superko R, Dennis CA, Thomas RF, Lew HT, Berger WE, Heller RS, Rompf J, Gee D, Dreamer HC, Bandura A, Ghandour, G, Clark, M, Shah RV, Fisher L, Barr Taylor C. A case management system for coronary risk factor modification after acute myocardial infarction. *Annals of Internal Medicine*. 1994;120(9):721-729.
- Glasgow R, Davis CL, Funnell MM, Beck A. Implementing practical interventions to support chronic illness self-management. *Joint Commission Journal on Quality and Safety*. 2003;29(11):563-574.
- Lorig KR, Sobel DS, Stewart AL, Brown BW Jr, Bandura A, Ritter P, Gonzalez VM, Laurent DD, Holman HR. Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization. *Medical Care*, 1999;37(1):5-14.
- McDonald HP, DiMatteo MR, Giordani PJ, Lepper HS, Croghan TW. Patient adherence and medical treatment outcomes: A meta analysis. *Medical Care*. 2002;40(9):794-811.
- Roter DL, Hall JA, Merisca R, Nordstrom B, Cretin D, Svarstad B. Effectiveness of interventions to improve patient compliance: A meta-analysis. *Medicare Care*. 1998;36(8):1138-1161.

Area for Improvement: Implementing Evidence-Based Practices and Guidelines

- Anderson MA, Helms LB, Hanson KS, DeVilder NW. Unplanned hospital readmissions: A home care perspective. *Nursing Research*. 1999;48(6): 299-307.
- Boult C, Pirie P, Pacala JT. Test-retest reliability of a questionnaire that identifies elders at risk for hospital admission. *JAGS*. 1994;42:707-711.
- Delmarva Foundation. *A summary of analysis of hospital claims for home health episodes ending with acute care hospitalization*; 2004.



- Gautam P, Macduff C, Brown I, Squair J. Unplanned readmissions of elderly patients. *Health Bulletin*. 1996;54(6):449-457.
- Institute of Medicine. *Improving the quality of long-term care*. Washington, DC: National Academy Press; 2001.
- Kliebsch U, Siebert H, Brenner H. Extent and determinants of hospitalization in a cohort of older disabled people. *Journal of the American Geriatric Society*. 2000;48:289-294.
- Mahoney J, Drinka TJ, Abler R, Gunter-Hunt G, Matthews C, Gravenstein S, Carnes M. Screening for depression: Single question versus GDS. *J Am Geriatric Soc*. 1994;42(9):1006-1008.
- McGlynn EA, Asch SM, Adams J, Keesey J, Hicks J, DeCristofaro A, Kerr, EA. The quality of health care delivered to adults in the United States. *New England Journal of Medicine*. 2003;348(26):2635-2642.
- Schwarz KA. Predictors of early hospital readmissions of older adults who are functionally impaired. *Journal of Gerontological Nursing*. 2000;26(6): 29-36.
- Walshe K, Rundall TG. Evidence-based management: From theory to practice in health care. *Milbank Quarterly*. 2001;79(3):429-457.

Area for Improvement: Using Systems and Technology to Promote Effectiveness and Efficiency

- Bates DW. Using information technology to reduce rates of medication errors in hospitals. *British Medical Journal*. 2000;320:788-791.
- Berwick DM. Taking action to improve safety: How to increase the odds of success. In: *Proceedings of enhancing patient safety and reducing errors in health care*. Chicago: National Patient Safety Foundation; 1998;1-10.
- Berwick DM, James B, Coye MJ. Connections between quality measurement and improvement. *Medical Care*. 2003;41(1, Supplement): 1-38.
- Bowles KH, Dansky KH. Teaching self-management of diabetes via telehomecare. *Home Healthcare Nurse*. 2002;20(1):36-42.
- Classen, DC. Adverse drug events and medication errors: The scientific perspective. In: *Proceedings of enhancing patient safety and reducing errors in healthcare*. Chicago: National Patient Safety Foundation; 1998:56-59.
- Leape LL, Bates DW, Cullen D, et al. Systems analysis of adverse drug events. *JAMA*. 1995;274(1):35-43.
- Leape LL. A systems analysis approach to medical error. *Journal of Evaluation Clinical Practice*. 1997;3(3):213-222.
- Perrow C. *Normal accidents*. New York: Basic Books; 1984.
- Sleigh A. Use of errors: Systemic causes. *The Lancet*. 2001;358:1364.

Reason, J. *Managing the risks of organizational accidents*. Brookfield, VT: Ashgate Publishing Company; 1997.

Reason J. Human error: Models and management. *British Medical Journal*. 2000;320:768-770.

Area for Improvement: Improving Care Delivery Systems and Mobilizing Community Resources

Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness. *JAMA*. 2002 Oct 9;288(14):1775-1779.

Naylor MD, Brooten D, Campell R, Maislin G, McCauley K, Schwartz, JS. Transitional care of older adults hospitalized with heart failure: A randomized, controlled trial. *JAGS*. 2004;52:675-684.

Naylor MD, Bowles KH, Brooten D. Patient problems and advanced practice nurse interventions during transitional care. *Public Health Nurs*. 2000;17(2):94-102.

Wagner EH. The role of patient care teams in chronic disease management. *BMJ*. 2000;320:569-572.

Area for Improvement: Creating a Culture of Quality

Classen DC. Adverse drug events and medication errors: The scientific perspective. In: *Proceedings of enhancing patient safety and reducing errors in health care*. Chicago: National Patient Safety Foundation; 1998:56-59.

Institute of Medicine. *To Err Is Human: Building a Safer Health System*. Washington, DC: National Academy Press; 2000.

Kotter JP. *A force for change: how leadership differs from management*. New York: The Free Press; 1990.

Kotter JP. Leading change: Why transformation efforts fail. *Harvard Business Review*. 1995;73(2):660-668.

La Porte TR, Consolini PM. Working in practice but not in theory: Theoretical challenges of high-reliability organizations. *Journal of Public Administration Research and Theory*. 1991;1:19-47.

O'Leary DS. Organizational evaluation and a culture of safety. In: *Proceedings of enhancing patient safety and reducing errors in health care*. Chicago: National Patient Safety Foundation; 1998:34-37.

Weick KE. Organizational culture as a source of high reliability. *California Management Review*. 1987;29(2):112-127.



Measurement Strategy

1. National Quality Measures Clearinghouse. Available at: <http://www.qualitymeasures.ahrq.gov/resources/glossary.aspx>. Accessed 4 April 2005.
2. Department of Health and Human Services, Centers for Medicare and Medicaid Services. 2002. Outcome-based quality improvement (OBQI) implementation manual, Chapter 2, p. 2.2. Available at: <http://www.cms.hhs.gov/oasis/obqi.asp>.

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Mary Ann Anderson, PhD, RN

Associate Professor and Co-Director
University of Illinois at Chicago
Regional Nursing Program, Quad City
Moline, IL

Peter Boling, MD

Professor of Medicine
Medical College of Virginia
Richmond, VA

Eric Coleman, MD, MPH

Associate Professor
Division of Health Care Policy and Research
University of Colorado Health Sciences Center
Aurora, CO

Kathryn Crisler, MSN,

Assistant Director
Center for Health Services Research
Division of Health Care Policy & Research
University of Colorado Health Sciences Center
Aurora, CO

Elizabeth Madigan, PhD, RN

Associate Dean
International Health Programs
Frances Payne Bolton School of Nursing
Case Western Reserve University
Cleveland, OH

Mary D Naylor, PhD, FAAN, RN

Marian S. Ware Professor in Gerontology
University of Pennsylvania School of Nursing
Philadelphia, PA

Kevin M. Nolan, MA

Consultant
Associates in Process Improvement (API) of Washington
Silver Spring, MD
Senior Fellow of the Institute for Healthcare Improvement (IHI)

Michael W. Rich, MD

Associate Professor, Cardiology
Co-Director, Cardiovascular Diseases Fellowship Training Program
Director, Cardiac Rapid Evaluation Unit
Director, Geriatric Cardiology Program
Washington University School of Medicine
St. Louis, MO

Michael P. Silver, MPH

Director, Scientific Affairs and Patient Safety
HealthInsight
Salt Lake City, UT

Visiting Nurse Service of New York

Home Health Agency Focus Group

Pilot QIOs and Home Health Agencies

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Appendix

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Improvement Matrix Checklist

The purpose of this tool is to help your agency determine which of the five **Areas for Improvement** outlined in the Improvement Matrix and/or Stage of Care offer the greatest opportunity for improvement.

How to Complete the Checklist

- Read the description of each Area for Improvement provided below.
- On the Improvement Matrix Checklist, *check* the strategies that are **fully and consistently implemented** in your agency.
- We recommend that you do this assessment with your team by having multiple staff complete the checklist individually, and then discuss in a team meeting to reach consensus on implementation across your agency.

Alternative Scoring

Another way to use the Improvement Matrix Checklist is to score the extent to which the strategies for each **Area for Improvement** are fully and consistently implemented in your agency on a scale of 1 to 10 with 10 representing full and consistent implementation. With this method, you can average scores across staff and compare scores over time. An alternative form also is provided if you prefer the scoring method.

Results

It is common for teams to begin with many unchecked (not fully implemented) strategies or low scores.

The Area for Improvement (column) that has the least number of items checked may be considered as a starting point for your improvement efforts. Also keep in mind, that the strategies marked with an asterisk are considered high leverage areas identified by experts and supported in the literature. The focus area can be further explored in your process of care investigation using or adapting one of the record review tools.

Using the Improvement matrix Checklist may also reveal opportunities for improvement related to the stage of care (row).

- Before the home health agency accept the patient for care
- The first week of home care
- Throughout the episode of home care
- If the patient reached the emergency department

Areas for Improvement

Promoting Patient Self-Management

Effective self-management support can help patients and caregivers cope with living with chronic illness and reduce complications and symptoms.

Implementing Evidence-Based Practices and Guidelines

Effective disease management requires that providers have access to and implement relevant, up-to-date, evidence-based practices.

Using Systems and Technology to Promote Effectiveness and Efficiency

Timely, useful information about individual patients and evidence-based information necessary to care for patients (decision support) is a critical feature of effective disease management and prevention programs.

Improving Care Delivery Systems and Mobilizing Community Resources

Effective chronic illness management involves more than simply adding interventions to a current system and may necessitate changes to the organization of practice. Linkages between the agency and community resources play an important role in the management of chronic illness.

Creating a Culture of Quality

Coordinated care programs are more effective if the overall system (organization) in which care is provided is oriented toward a culture of quality and led in a way that allows for a focus on chronic illness care.

Improvement Matrix Checklist

AREAS FOR IMPROVEMENT				
A. Promoting Patient Self-Management	B. Implementing Evidence-Based Practices and Guidelines	C. Using Systems and Technology to Promote Effectiveness and Efficiency	D. Improving Care Delivery Systems and Mobilizing Community Resources	E. Creating a Culture of Quality
STAGE OF CARE — BEFORE THE HOME HEALTH AGENCY ACCEPTS THE PATIENT FOR CARE Ensure that agency accepts patients who are suitable candidates for home care and has sufficient information to care for them appropriately				
<p>A.1 Engage patients and caregivers in the determination of whether home care is the right option</p> <input type="checkbox"/>	<p>B.1 Use evidence-based guidelines to assess clinical readiness for hospital discharge</p> <input type="checkbox"/>	<p>*C.1 Increase home health agency organizational capacity to screen patients for safe/appropriate admission</p> <input type="checkbox"/>	<p>*D.1 Collaborate with hospitals to establish key criteria for safe, appropriate discharge from the hospital to home care</p> <input type="checkbox"/>	<p>*E.1 Secure commitment of senior leaders to address the issue of reducing hospitalizations</p> <input type="checkbox"/>
STAGE OF CARE — THE FIRST WEEK OF CARE Identify patients that are at risk of hospitalization and put a plan in place from the start for making that less likely				
<p>*A.2 Provide patients and caregivers with information and options to address immediate/urgent care needs</p> <input type="checkbox"/>	<p>*B.2 Use evidence-based risk assessment tools to identify high-risk patients and incorporate risk factors into individualized patient care plans</p> <input type="checkbox"/>	<p>*C.2 Implement systems to identify and track patients at increased risk for hospitalization and related problems</p> <input type="checkbox"/>	<p>*D.2. Establish transition protocol for transfers from hospital or other facilities (e.g., SNF) to homecare</p> <input type="checkbox"/>	<p>*E.2 Work collaboratively with hospitals/HHA quality agenda</p> <input type="checkbox"/>
<p>*A.3 Establish patient and caregiver expectations and assess their capacity to participate in self-management</p> <input type="checkbox"/>			<p>D.3 Organize care teams to promote consistency and continuity</p> <input type="checkbox"/>	<p>*E.3 Establish an organizational quality improvement plan of action and allocate resources to implement and monitor it</p> <input type="checkbox"/>
STAGE OF CARE — THROUGHOUT THE EPISODE OF HOME CARE Ensure that the agency's systems maintain a high level of vigilance for high risk patients				
<p>A.4 Prepare patient and caregiver to participate in self-management and monitoring of conditions</p> <p>e.g.:</p> <ul style="list-style-type: none"> • Heart Failure (HF) • Diabetes • Chronic Lung Disease • Pressure ulcer • Pain management • Fall prevention • Immunizations • Medication adherence <p>A.5 Prepare patient/caregiver to identify and manage problems that may arise after discharge from home care</p> <input type="checkbox"/>	<p>B.3 Use evidence-based condition-specific interventions, e.g.:</p> <ul style="list-style-type: none"> • Heart failure • Diabetes • Chronic Lung Disease • Pressure ulcer • Pain management • Fall prevention <p>B.4 Screen patients for depression and refer for treatment when appropriate</p> <input type="checkbox"/>	<p>*C.3 Use systems to enhance effective internal and external communication and continuity of care</p> <ul style="list-style-type: none"> • Staff communication within and between disciplines (including paraprofessionals), between office-based and frontline staff • Communication with patients/families • Communication with primary care providers and specialists <p>C.4 Use decision support tools that prompt clinicians to implement evidence-based practices</p> <input type="checkbox"/>	<p>*D.4 Match intensity of clinical resources and services to patient risks/conditions/problems as identified by risk assessment</p> <ul style="list-style-type: none"> • At the individual patient level • caseload/population level <p>*D.5 Coordinate with primary care providers and specialists to promote continuity of outpatient/in-home care</p> <input type="checkbox"/>	<p>*E.4 Integrate and sustain organizational changes demonstrated to achieve positive improvement</p> <input type="checkbox"/>
STAGE OF CARE — IF THE PATIENT HAS REACHED THE EMERGENCY DEPARTMENT Prevent hospital admission for patients who can be stabilized and returned home safely				
<p>A.6 Prepare patient/caregiver to maintain and convey key health and treatment information</p> <input type="checkbox"/>	<p>C.6 Implement systems to track patients who go to ED</p> <input type="checkbox"/>	<p>D.7 Coordinate with ED to reroute patients home rather than to hospital inpatient stay</p> <input type="checkbox"/>		

Acute Care Hospitalization Pilot Project Assessment of Area for Improvement Survey

Agency Name: _____ **Date:** _____

For each Area for Improvement from the Change Framework, please circle the number that best represents the level of activity/care that currently exists for your agency. A higher number means that the “areas to consider” are more fully implemented (i.e., a score of 11 on “Promoting Patient Self-Management” indicates that your agency is doing all of the “areas to consider;” a score of 1 indicates that your agency is not doing any of the “areas to consider.”)

Promoting Patient Self-Management

Effective self-management support can help patients and caregivers cope with living with chronic illness and reduce complications and symptoms.

Areas to consider:

- emphasis on the patient’s central role
- giving patients/caregivers information to address immediate/urgent needs
- preparing patients/caregivers to participate in self-management and monitoring of chronic conditions
- assessment and documentation of self-management comprehension and expectations
- effective behavior change interventions
- assurance of care planning and problem solving with patients and caregivers

1 2 3 4 5 6 7 8 9 10 11

Implementing Evidence-Based Practice and Guidelines

Effective disease management assures that providers have access to relevant, up-to-date, evidence-based information.

Areas to consider:

- evidence-based guidelines embedded in the agency processes
- use of evidence-based risk assessment tools to identify high-risk patients
- incorporation of risk factor information into individualized patient care plans
- effective methods of staff education regarding guidelines
- informing patients/caregivers about guidelines

1 2 3 4 5 6 7 8 9 10 11

Using Systems and Technology

Timely, useful information about individual patients and populations with chronic conditions is a critical feature of effective disease management and prevention programs, especially those that employ evidence-based practice.

Areas to consider:

- capacity to screen patients for safe/appropriate admissions
- registry or identification system (list of patients with specific conditions or at increased risk for hospitalization)

- systems to enhance effective internal/external communication/continuity of care
- decision support tools for clinician prompts on evidence-based practices
- systems to track patients going to emergency rooms/hospitals

1 2 3 4 5 6 7 8 9 10 11

Care Delivery Systems/Community Resources

Linkages between the agency and community resources play an important role in the management of chronic illness and appropriate use of services in various care settings.

Areas to consider:

- coordination with hospital discharge planning
- development/usage of transition protocols for transfer to/from home health
- organization of care teams to promote consistency and continuity
- matching intensity of resources/services to patient needs based on risk assessments
- coordination with physicians/specialists across settings
- linking patients to outside resources
- partnerships with community organizations

1 2 3 4 5 6 7 8 9 10 11

Healthcare Organization and Culture of Quality

Coordinated care programs are more effective if the overall system in which care is provided is oriented toward a culture of quality and led in a way that allows for a focus on chronic illness care.

Areas to consider:

- Senior Leaders are actively involved
- agency works collaboratively with referral sources
- organizational goals for culture of quality with resources allocated
- overall organizational leadership in chronic illness care
- benefits and incentives support changes and mechanisms to sustain improvements

1 2 3 4 5 6 7 8 9 10 11

This worksheet was adapted by Qualis Health Washington for the Home Health Pilot Project from materials developed by Improving Chronic Illness Care (ICIC).

Sample Case Mix Analysis

Differences in case mix averages/percentages, hospitalized vs. non-hospitalized patients
ABC Home CareCY2004

Case mix category	Case mix measure	Average/percentage Hospitalized	Not hospitalized	Difference (Hospitalized - Not hospitalized)
Demographics	Age	66.38	66.96	-0.58
	Gender: Female	65.38%	64.78%	0.60%
	Race: Black	40.14%	33.49%	6.64%
	Race: White	5.14%	9.96%	-4.82%
	Race: Other	53.89%	54.44%	-0.55%
Payment Source	Any Medicare	58.28%	62.36%	-4.08%
	Any Medicaid	52.76%	45.45%	7.31%
	Any HMO	5.14%	10.39%	-5.25%
	Medicare HMO	0.83%	1.78%	-0.95%
	Private third party	0.00%	0.00%	0.00%
Residence	Own home	81.56%	79.43%	2.13%
	Family member home	15.27%	16.16%	-0.89%
Current Living Situation	Lives alone	35.60%	33.55%	2.05%
	With other family member	60.09%	60.31%	-0.22%
	With friend	1.81%	3.23%	-1.42%
	With paid help	2.65%	3.23%	-0.59%
Assisting Persons	Person residing in home	51.93%	52.72%	-0.79%
	Relative/friend/neighbor	36.13%	38.88%	-2.75%
	Paid help	12.70%	12.12%	0.58%
Primary Caregiver	Spouse/significant other	14.97%	15.83%	-0.87%
	Daughter/son	28.65%	29.94%	-1.29%
	Other paid help	8.01%	7.05%	0.96%
	No one person	29.25%	27.14%	2.11%
	Freq. of assistance (0-6)	3.31	3.43	-0.12
Inpt DC	From hospital	91.16%	85.84%	5.32%
	From rehab facility	0.38%	1.29%	-0.91%
	From nursing home	0.23%	0.11%	0.12%
Med Reg	Medical regimen change	85.49%	86.05%	-0.57%
Prognoses	Moderate recovery prognosis	80.57%	92.89%	-12.32%
	Good rehab prognosis	67.80%	82.50%	-14.70%
ADL Disabilities at SOC	Grooming (0-3)	1.06	0.75	0.31
	Dress upper body (0-3)	1.17	0.80	0.36
	Dress lower body (0-3)	1.48	1.10	0.38
	Bathing (0-5)	2.29	1.78	0.51
	Toileting (0-4)	0.67	0.43	0.24
	Transferring (0-5)	0.89	0.67	0.22
	Ambulation (0-5)	1.19	0.94	0.26
	Eating (0-5)	0.49	0.34	0.15
ADL Status Prior to SOC	Grooming (0-3)	0.83	0.54	0.29
	Dress upper body (0-3)	0.92	0.59	0.33
	Dress lower body (0-3)	1.15	0.76	0.39
	Bathing (0-5)	1.82	1.27	0.54
	Toileting (0-4)	0.54	0.36	0.18
	Transferring (0-5)	0.72	0.54	0.18

Case mix category	Case mix measure	Average/percentage Hospitalized	Not hospitalized	Difference (Hospitalized - Not hospitalized)
	Ambulation (0-5)	0.99	0.75	0.23
	Eating (0-5)	0.40	0.28	0.12
IADL Disabilities at SOC	Light meal prep (0-2)	1.23	1.02	0.21
	Transportation (0-2)	1.03	0.95	0.08
	Laundry (0-2)	1.78	1.57	0.20
	Housekeeping (0-4)	3.22	2.81	0.41
	Shopping (0-3)	2.22	2.00	0.22
	Phone use (0-5)	0.67	0.46	0.21
	Mgmt. oral meds (0-2)	0.61	0.44	0.16
IADL Status Prior to SOC	Light meal prep (0-2)	0.99	0.78	0.21
	Transportation (0-2)	0.98	0.88	0.10
	Laundry (0-2)	1.51	1.22	0.29
	Housekeeping (0-4)	2.69	2.17	0.52
	Shopping (0-3)	1.85	1.55	0.30
	Phone use (0-5)	0.58	0.43	0.16
	Mgmt. oral meds (0-2)	0.53	0.40	0.13
Resp status	Dyspnea (0-4)	1.06	0.78	0.28
Therapies	IV/infusion therapy	0.83%	1.72%	-0.89%
	Parenteral nutrition	0.08%	0.05%	0.02%
	Enteral nutrition	0.68%	0.48%	0.20%
Sensory Status	Vision impairment (0-2)	0.21	0.16	0.05
	Hearing impair. (0-4)	0.21	0.18	0.02
	Speech/language (0-5)	0.36	0.29	0.08
Pain	Pain interfer. w/activity (0-3)	0.66	0.66	0.00
	Intractable pain	6.05%	5.22%	0.82%
Neuro/Emotional/Behavioral	Moderate cognitive disability	9.15%	7.00%	2.15%
	Severe confusion disability	5.37%	4.36%	1.00%
	Severe anxiety level	13.83%	8.99%	4.84%
	Behav probs > twice a week	2.72%	2.32%	0.41%
Integumentary Status	Presence of wound/lesion	38.70%	41.14%	-2.44%
	Stasis ulcer(s) present	4.23%	1.18%	3.05%
	Surgical wound(s) present	12.40%	17.99%	-5.59%
	Pressure ulcer(s) present	5.59%	2.58%	3.01%
	Stage 2-4 ulcer(s) present	5.22%	2.21%	3.01%
	Stage 3-4 ulcer(s) present	2.95%	0.92%	2.03%
Elimination Status	UTI within past 14 days	4.76%	3.28%	1.48%
	Urinary incont./catheter present	17.46%	12.01%	5.45%
	Incontinent day and night	10.43%	7.54%	2.89%
	Urinary catheter	3.10%	2.42%	0.68%
	Bowel incont. (0-5)	0.29	0.15	0.14
Acute Conditions(QUIGs)	Orthopedic	13.15%	21.32%	-8.17%
	Neurologic	6.05%	9.48%	-3.43%
	Open wounds/lesions	38.93%	41.41%	-2.48%
	Terminal condition	9.83%	4.20%	5.63%
	Cardiac/peripheral vascular	51.25%	51.00%	0.25%
	Pulmonary	21.39%	14.38%	7.01%
	Diabetes mellitus	30.23%	27.46%	2.77%

Case mix category	Case mix measure	Average/percentage Hospitalized	Not hospitalized	Difference (Hospitalized - Not hospitalized)
	Gastrointestinal disorder	9.52%	7.81%	1.72%
	Contagious/communicable	11.11%	3.55%	7.56%
	Urinary incont./catheter	8.16%	5.82%	2.35%
	Mental/emotional	5.29%	4.36%	0.93%
	Oxygen therapy	7.11%	3.45%	3.66%
	IV/infusion therapy	0.83%	1.72%	-0.89%
	Enteral/parenteral nutrition	0.76%	0.54%	0.22%
	Ventilator	0.00%	0.05%	-0.05%
Chronic Conditions (QUIGs)	Dependence in living skills	64.47%	50.67%	13.80%
	Dependence in personal care	37.94%	24.61%	13.33%
	Impaired ambulation/mobility	16.63%	11.04%	5.59%
	Eating disability	4.76%	2.69%	2.07%
	Urinary incontinence/catheter	8.99%	6.14%	2.86%
	Dependence in med. admin.	51.85%	35.92%	15.93%
	Chronic pain	1.97%	1.88%	0.08%
	Cognitive/mental/behavioral	15.34%	11.36%	3.98%
	Chronic pt. with caregiver	42.40%	35.33%	7.08%
Diagnoses For Which Patient is Receiving Home Care	Infections/parasitic diseases	14.59%	5.49%	9.10%
	Neoplasms	14.29%	11.74%	2.55%
	Endocrine/nutrit./metabolic	52.15%	48.25%	3.90%
	Blood diseases	10.36%	6.35%	4.00%
	Mental diseases	14.81%	14.43%	0.38%
	Nervous system diseases	8.62%	10.61%	-1.99%
	Circulatory system diseases	71.88%	70.92%	0.96%
	Respiratory system diseases	24.04%	17.82%	6.21%
	Digestive system diseases	9.52%	7.11%	2.42%
	Genitourinary sys. diseases	12.02%	9.37%	2.65%
	Pregnancy problems	0.00%	0.32%	-0.32%
	Skin/subcutaneous diseases	11.87%	7.92%	3.95%
	Musculoskeletal sys. diseases	11.94%	17.45%	-5.50%
	Congenital anomalies	0.08%	0.11%	-0.03%
	Ill-defined conditions	21.62%	24.99%	-3.37%
	Fractures	1.13%	1.18%	-0.05%
	Intracranial injury	0.08%	0.22%	-0.14%
	Other injury	1.13%	2.26%	-1.13%
	Iatrogenic conditions	2.04%	2.69%	-0.65%
Length of Stay	LOS until discharge (in days)	37.11	45.56	-8.45
	LOS from 1 to 31 days	64.55%	39.20%	25.35%
	LOS from 32 to 62 days	19.12%	46.96%	-27.83%
	LOS from 63 to 124 days	10.28%	9.80%	0.48%
	LOS more than 124 days	6.05%	4.04%	2.01%

Case Mix Analysis Report FAQs

What does the Case Mix Analysis Report show?

This report shows the differences in case mix values between two groups: home health episodes that ended in a hospitalization versus those that did not.

Why do some of the case mix measures have a shaded background?

The case mix measures with the background shading are those that are associated with risk factors for hospitalization that have been reported in the scientific literature. These measures may or may not be risk factors for your particular patient population.

What data period is represented in the Case Mix Analysis Report?

The data period reflected in the report is noted at the top of the report (under the agency name).

Why do some numbers have percent signs and some do not?

Some case mix values are reported as percentages and some are reported as averages. Values measured by presence or absence have a percent sign (e.g., female gender, Medicaid as a payment source, etc.). Values that do not have a percent sign are averages (e.g., age); many are from OASIS items that are measured using a scale (e.g., bathing is measured on a scale from 0 to 5).

What does it mean if the difference is positive?

When the difference is positive (i.e., greater than zero), then the case mix value is higher among hospitalized episodes.

What does it mean if the difference is negative?

When the difference is negative (i.e., less than zero), then the case mix value is higher among the non-hospitalized episodes.

Why don't the percentages add up to 100% (across the rows)?

They are not supposed to. The percentages are calculated from within each group separately (hospitalized vs. not hospitalized).

Why don't the percentages in a given section add up to 100% (in a column)?

Many of the case mix values are based on OASIS items for which multiple responses can be marked (e.g., Assisting persons, based on M0350). The sum for groups of case mix values such as these will likely be greater than 100%.

Furthermore, there are not always case mix values for all the available choices for a particular OASIS item (e.g., Residence, based on M0300). The sum for groups of case mix values such as these will likely be less than 100%.

When should a difference be interpreted as meaningful?

This depends on the magnitude of the difference in relation to the scale of the measure (for example, the scale for percentages is 0 to 100; for bathing, the scale is 0 to 5). The difference should also represent a clinically meaningful difference.

Sample Record Review Form – Stages of Care

As part of your Process of Care Investigation, you may audit charts of hospitalized patients to gain a better understanding of factors that may influence whether your patients are hospitalized or not hospitalized. The focus of your audit should be based on your investigation process such as a case mix analysis, results of organizational assessment using the Improvement matrix Checklist, and your team's "should be done" list of clinical practices.

The following sample audit form was designed to investigate processes associated with the strategies and actions in the Change Framework that are related to various stages of home care. You may modify this form to best meet your needs or select/adapt another chart audit form. Another audit form follows this one and additional audit forms are identified in the change binder under Action E.3.1 and provided in the Toolkit binder.

Two versions are provided one for a single record and one for use with multiple records.

Directions

1. Select patients to review.
 - Using the patient tally report, randomly select up to 30 patient care episodes for review. Some episodes should consist of patients who were hospitalized, and some of those who were not hospitalized.
 - If you have many cases to choose from, you may want to focus on the most recent episodes.
 - If you have a **Case Mix Analysis**, you may wish to select from patients with particular characteristics.
2. Review each record for the answer to the questions on the audit form. Record the response and a brief explanation or description of the circumstances.
3. Review all audit forms and compile results. Review narrative descriptions for patterns or themes that are occurring.

Sample Record Review Form – Stages of Care

Patient Name or Identifier _____
Primary Diagnosis for Home Care _____
Other Diagnoses _____

What was the reason this patient was admitted to the hospital? _____

HH SOC/ROC Date _____ Hospital Transfer Date _____
HH Length of stay (count both the SOC/ROC date and the hospital transfer date) _____

Before the patient was accepted for home health services

Was this patient appropriate for home health care? Y N _____

Was this patient in an inpatient facility? Y N Name _____

Was there an effective discharge plan from the facility? Y N NA _____

The first 24-48 hours the patient was at home

Referral or Inpatient discharge date _____ # days before 1st visit (do not count 1st visit date) _____

Was there evidence of an attempt to assess risk of hospitalization? Y N _____

Was there evidence of an immediate/urgent care plan addressing warning signs and symptoms? Y N _____

Was critical information about the patient condition/needs communicated during the transition? Y N _____

Throughout the episode of care

Was there evidence of an effective patient self-management plan? Y N _____

Was the treatment plan consistent with recommended practice? Y N _____

Were the clinical resources/services of adequate intensity for the patient's condition/risk? Y N _____

Visits: RN _____ Aide _____ PT _____ OT _____ ST _____ SW _____ Total _____

After the patient reached the ED

Should the patient have been discharged home from the ED rather than admitted to the hospital? Y N _____

Was there evidence of some other problem (not identified above) that contributed to the patient's hospitalization? Y N _____

In your professional judgment, how would you classify this hospital admission?

_____ a. Unavoidable (e.g., due to the nature of the illness and limits of medical science)

_____ b. Necessary at the time, but avoidable (e.g., with earlier or different monitoring or treatment plan)

_____ c. Unnecessary (clinically unnecessary, e.g., social or "defensive medicine" admission)

Medical Record Reviewer: _____

Date of Review: _____

Directions: Randomly select patients who have had either a recent emergent care visit and/or a hospitalization after a SOC/ROC to the agency. Fill-in or complete the appropriate responses to the questions for each selected patient.

Patient Audits	#1	#2	#3	#4	#5
Medical Record Number/Identifier					
SOC/ROC Date					
Primary Physician					
Primary Diagnosis for Home Care					
Other Diagnoses					

Patient Audits	#1	#2	#3	#4	#5
Stage of Care: Before the agency accepted the patient for home health services					
Was this patient appropriate for home health care?	Y N	Y N	Y N	Y N	Y N
Was this patient in an inpatient facility?	Y N	Y N	Y N	Y N	Y N
If the patient was referred from an inpatient facility, please provide its' name:					
Stage of Care: The first 24-48 hours the patient was at home					
Referral or Inpatient discharge date					
Was critical information about the patient condition/needs communicated at the time of the referral?	Y N	Y N	Y N	Y N	Y N
# of days between the referral date and the actual date of the 1 st visit (do not count 1 st visit date)					
Was risk assessment for potential re-hospitalization done at the SOC visit?	Y N	Y N	Y N	Y N	Y N
If the patient was assessed to be at risk for hospitalization, was a care plan developed for the patient addressing warning signs and symptoms?	Y N	Y N	Y N	Y N	Y N
Stage of Care: Throughout the episode of care					
Was the treatment plan consistent with recommended practice?	Y N	Y N	Y N	Y N	Y N
Were the clinical resources/services of adequate intensity for the patient's condition/risk?	Y N	Y N	Y N	Y N	Y N
Number of visits prior to patient seeking emergent care or hospitalization:					
SN					
PT					
OT					
ST					
Aide					
MSW					
Total:					

Patient Audits	#1	#2	#3	#4	#5
Stage of Care: After the patient reached the ED or was hospitalized					
Date of ER visit					
Reason for emergent care visit					
Date of transfer to hospital					
Reason for hospitalization					
Was there evidence of some other problem (not identified above) that contributed to the patient's hospitalization?	Y N	Y N	Y N	Y N	Y N
HH length of stay (count the number of days between the SOC/ROC date and the hospital transfer date)					
Should the patient have been discharged home from the ED rather than admitted to the hospital?	Y N	Y N	Y N	Y N	Y N
If the patient were hospitalized, in your professional judgment, how would you classify this hospital admission? (Mark one of the following 3 responses)					
Unavoidable (e.g., due to the nature of the illness and limits of medical science)					
Necessary at the time, but potentially avoidable (e.g., with earlier or different monitoring or treatment plan)					
Unnecessary (clinically unnecessary, e.g. social or "defensive medicine" admission)					

Patient Audits	#1	#2	#3	#4	#5
Additional Comments					

Medical Record Reviewer: **(1)**

Date of Review(s): **(2)**

(3) Patient Audits #1		Instructions:	
Medical Record Number/Identifier	(4)	<p>Purpose: This tool is designed for the auditing of medical records for agency-specific interventions/care processes/ best practices. It is designed for the use of an individual to review as many as 5 records per form. Please feel free to re-design the form to meet your agency's needs.</p> <p>(1) The name of the person doing the medical record review</p> <p>(2) The date(s) the medical record reviews were done.</p> <p>(3) Each numbered column represents the review of a single patient's medical record.</p> <p>(4) Either the patient's medical record number or some other means of identifying the medical record in the event the record needs to be referenced.</p> <p>(5) The patients SOC/ROC date.</p> <p>(6) The patient's primary diagnosis</p> <p>(7) The date(s) of each emergent care visit.</p> <p>(8) Record the reason(s) the patient required emergent care.</p> <p>(9) Record the first date of the patient's first hospital admission</p> <p>(10) Subtract the date of the hospital admission from the original SOC/ROC and record the number of days the patient received agency care prior to hospitalization (useful if agency is tracking the length of stay in the in the agency prior to hospitalization).</p> <p>(11) Record the date that the patient returned to the agency after being discharged from the hospital.</p> <p>(12) If the patient had another hospitalization, record the hospital admission date.</p> <p>(13) Subtract the date of the hospital admission from the ROC resulting from the 1st hospitalization and record the number of days the patient received agency care prior to second hospitalization (useful if agency is tracking the length of stay in the in the agency prior to hospitalization).</p> <p>(14) Record the date that the patient returned to the agency after being discharged from the hospital.</p> <p>(15) Record the reason(s) the patient required hospitalization.</p> <p>(16) Insert the interventions/care processes/ best practices that the agency is implementing to improve their hospitalization and/or emergent care rate.</p> <p>(17) Record findings related to the intervention being audited. Place a "✓" if present in chart, "-" if absent, or "N/A" if none applicable to patient</p>	
SOC/ROC Date	(5)		
Primary Diagnosis	(6)		
Date of Emergent Care visit #1	(7)		
Date of Emergent Care visit #2	(7)		
Date of Emergent Care visit #3	(7)		
Reason for emergent care visit(s)	(8)		
Date of transfer for 1st hospitalization	(9)		
# of days from SOC/ROC to 1 st hospitalization	(10)		
Date of transfer for 2 nd hospitalization	(11)		
# of days from ROC to 2 nd hospitalization	(12)		
Date of ROC	(13)		
Reason for hospitalization(s)	(14)		
Intervention #1: (16)	(15)		
Intervention #2:	(17)		

Medical Record Reviewer: _____

Date of Review(s): _____

Patient Audits	#1	#2	#3	#4	#5
Medical Record Number/Identifier					
SOC/ROC Date					
Primary Diagnosis					
Date of Emergent Care visit #1					
Date of Emergent Care visit #2					
Date of Emergent Care visit #3					
Reason for emergent care visit(s)					
Date of transfer for 1st hospitalization					
# of days from SOC/ROC to 1 st hospitalization					
Date of ROC					
Date of transfer for 2 nd hospitalization					
# of days from ROC to 2 nd hospitalization					
Date of ROC					
Reason for hospitalization(s)					
Intervention #1:					
Intervention #2:					
Intervention #3:					

Patient Audits	#1	#2	#3	#4	#5
Medical Record Number/Identifier					
Intervention #4:					
Intervention #5:					
Intervention #6:					

Sample Plan of Action for Continuous Quality Improvement

QUALITY IMPROVEMENT TEAM MEMBERS

- | | | |
|---|-------------------|-----------------|
| 1. Monica , RN, MS, CPHQ (Co-Facilitator) | 4. Sara , OT | 7. Sandy , SCHN |
| 2. Jennifer , CHN (Co-Facilitator) | 5. Beth Ann , CHN | 8. Jessica , PT |
| 3. Bonnie, RN | 6. Chris, RN | 9. Karen , RN |

Outcome Report Date: April 2004-March2005

Plan of Action Date **July 20, 2005**

- 1. Target Outcome Addressed by Plan of Action:** Acute Care Hospitalization
- 2. Action Plan for (circle one):** Remediation
- 3. Identified Problem or Strength:**
 - ◆ Clinicians are not identifying patients at high risk for hospitalization or emergent care and addressing those risk factors to prevent deterioration in health status requiring hospitalization.
- 4. Care Behaviors or Processes Selected as Best Practices (Prioritized):**
 - a. At SOC/ROC the clinician will educate the patient/caregiver on the emergent care contact plan for each patient. (Strategy A.2, Action A.2.2)
 - b. At SOC/ROC, the nurse will identify patients who are at high risk for hospitalization and/or emergent care utilizing the agency high risk assessment form. (Strategy B.2, Action B.2.1)
 - c. The clinician will notify the case manager of all patients found to have 5 or more risk factors during their risk assessment on the same day as the SOC/ROC and flag the medical record as being “at risk”.(Strategy C.2, Action C.2.1)
 - d. Within 48 hours of admission, for those patients identified “at risk” for hospitalization/emergent care, the case manager and clinicians will implement the agency high risk care plan (including visit frequency recommendations, telephone contact recommendation, acceptable ranges for key health parameters, and actions to take when parameters are outside the acceptable ranges) (Strategy B.2, Action B.2.2)
- 5. Intervention Actions (Prioritized):**

Action	Time Frame		Responsible Person(s)	Monitoring Approaches (and Frequency)
	Start	Finish		
a. Emergent contact plan protocols will be reviewed and updated to include signs and symptoms, actions to take and whom to contact. (Strategy A.2, Action A.2.2)	8/1/05	8/15/05	CQI Team and Clinical Care Coordinator	Protocols will be located in library by Finish Date.
b. Develop assessment tool to identify patients who are at risk of hospitalization and train clinicians to use it. (Strategy B.2, Action B.2.1)	8/15/05	8/29/05	CQI Team and Clinical Care Coordinators	Provide 100% in-service training Include in-service document in clinician orientation package
c. Redesign OASIS SOC/ROC assessment forms to highlight risk items once risk assessment tool finalized. (Strategy C.2, Action C.2.1)	8/15/05	8/29/05	CQI Team Administrative staff	Form change completed All admission packages replaced by completion date

d. Develop, test and Implement high risk record flag system for case managers to track “at risk” patients from admission through discharge at both the individual level and aggregate level (Strategy C.2, Action C.2.2)	8/15/05	9/15/05	Sr. Programmer, CQI Team and Case Management Staff	Provide 100% in-service training Include in-service document in clinician orientation package
e. Identify/develop/implement an evidence-based high risk care plan protocol for those patients who are “at risk” of hospitalization and train clinicians to use it. (Strategy B.2, Action B.2.2)	8/1/05	8/15/05	CQI Team, Clinical Staff and Medical Director	Updated protocols available in library Provide 100% in-service training Include in-service document in clinician orientation package
f. The case manager will track all high risk patients from admission through discharge to ensure the high risk plans are being implemented. (Strategy C.2, Action C.2.2)	9/15/05	ongoing	Case Management staff	Ongoing
g. For those patients who have been identified “at risk”, the case manager will use a caseload management tool to match intensity of clinical resources to patient risks/conditions/and problems. (Strategy D.4, Action D.4.2)	9/15/05	ongoing	Case Management Staff	Review the use of caseload/workload analysis tool monthly to ensure the appropriate allocation of resources

6. Evaluation:

a. **Review of Plan:**

Date: September 2005
Responsible Person(s): Monica
Results:

b. **Next Outcome Report:**

Date: August 2005-July 2006
Result:
Next Step(s):

c. **Monitoring Activities:**

(1) **Activity:** A random sample of 30 charts will be selected monthly to verify the presence of the emergent care contact plan. (Strategy A.2., Action 2.2)

Date Completed:

Finding:

Response:

-
-
-

(2) **Activity:** A random sample of 10 active charts of patients with SOC/ROC the previous week will be audited for the presence of a completed risk assessment form if identified “at risk”

- for notification of a case manager,
- record flag, and
- the implementation of a high risk care plan within 48 hours of admission. (Strategy B.2, C.2, Action B.2.1, B.2.2, C.2.1)

Date Completed:

Finding:

Response:

-
-
-

(3) **Activity:** The charts of all hospitalized patients will be reviewed to identify the reason and what could have been done to avoid the hospitalization ([Strategy E.3.](#), [Action E.3.4](#))

Date Completed:

Finding:

Response:

-
-
-

Sample Data Collection Forms

Instructions for Data Collection Worksheets

These Data Collection Worksheets have been created to aid you in monitoring the implementation and effectiveness of the improvement actions/best practices identified in your POA. Regular monitoring (e.g., monthly, quarterly) that measures your agency's adherence to designated actions/best practices, in conjunction with monitoring of your acute care hospitalization rate, will provide insight on the actual implementation of those best practices and on the effectiveness of these practices in reducing avoidable hospitalizations within your agency.

The first form, "Data Collection Worksheet - Outcome Measures" can be used if you decide to monitor your acute care or emergent care outcome rates for a subset of your agency population or more frequently/for a shorter time period than what is currently possible using your OBCI reports. (Note: Your OBCI report reflects outcome rates for a 12-month period for the entire agency; data reported on your most current report is 2.5 months old.) This form provides space to document the name of your agency, the date of your POA, the date of your audit, the time period covered by your audit, and the name of the reviewer. For each patient's chart that you audit, document the patient ID and/or name, and either the Start of Care or Resumption of Care date for the episode that you are auditing. Indicate whether the patient was transferred to a hospital in the column labeled Acute Care Hospitalization Outcome. Indicate whether the patient had an emergency department visit in the column labeled Any Emergent Care Outcome. (NOTE: You may want to indicate a "yes" response with either a "Y" or a check mark. You may want to indicate a "no" response with an "N". You may want to indicate "non-applicable" with "n/a".)

The second form, "Data Collection Worksheet - Process Measures" provides room to track up to 4 intervention actions/best practices (you will write them in the spaces provided under "Improvement action/best practice 1", etc.). Space is provided on this form for the patient ID, first and last name, and a reference date. (In most cases, the reference date likely will be either the Start of Care date or the Resumption of Care date. However, if you have defined your best practice to occur relative to some other point in time (e.g., date of referral), then you could put that date in this column). For each improvement action/best practice that you track, indicate in the appropriate column whether or not the action was implemented. (NOTE: You may want to indicate a "yes" response with either a "Y" or a check mark. You may want to indicate a "no" response with an "N". You may want to indicate "non-applicable" with "n/a".)

Examples of partially completed forms follow.

Example Data Collection Worksheet – Outcome Measures

Agency Name:	ABC Home Care		POA date:	May 20, 2005	
Date of Audit:	August 4, 2005		Audit period begin date:	July 1, 2005	
Reviewer:	Nancy Nurse		Audit period end date:	July 31, 2005	
Charts to be audited: Charts of patients from identified patient group who were <i>discharged or transferred</i> during previous month					
Patient ID	Last Name	First Name	Start of Care / Resumption of Care Date	Acute Care Hospitalization Outcome	Any Emergent Care Outcome
111-111	Mouse	Mickey	07/12/05	Y	Y
222-222	Ducky	Daffy	06/24/05	N	Y
333-333	Horse	Happy	07/02/05	N	N

Example Data Collection Worksheet – Process Measures

Agency Name:	ABC Home Care		POA date:	May 20, 2005		
Date of Audit:	August 4, 2005		Audit period begin date:	July 1, 2005		
Reviewer:	Nancy Nurse		Audit period end date:	July 31, 2005		
Charts to be audited: Charts of patients from identified patient group with SOC/ROC during previous month						
Target Outcome:						
Acute Care Hospitalization						
Patient ID	Last Name	First Name	Improvement action/ best practice 1	Improvement action/ best practice 2	Improvement action/ best practice 3	Improvement action/ best practice 4
111-111	Mouse	Mickey	A risk assessment for acute care hospitalization and emergent care will be completed for new SOC/ROC patients at SOC/ROC	Home care patients/caregivers will receive and demonstrate understanding of an emergent contact care plan at SOC/ROC	Home care patients/caregivers will receive and demonstrate understanding of key signs and symptoms of a worsening condition within 5 calendar days of SOC/ROC	New SOC/ROC home care patients who are judged to be "at-risk" for hospitalization or emergent care will have an individual care management plan within 5 calendar days of SOC/ROC that addresses their risk factors
222-222	Ducky	Daffy	N	Y	N	n/a
333-333	Horse	Happy	Y	Y	Y	n/a

