# Assessing Quality of VA Out-of-Network Care

## NQF-Convened Workshop

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VHA National Conference Center
Potomac B Conference Room

2011 Crystal Drive
Lobby Level, Suite 150
Crystal City, VA 22202

June 29, 2011
8:00 am – 5:00 pm

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# NATIONAL QUALITY FORUM

## Assessing Quality of VA Out-of-Network Care
## NQF-Convened Workshop

**Wednesday, June 29, 2011**

VHA National Conference Center
Potomac B Conference Room
2011 Crystal Drive
Crystal City, VA 22202

## - - WORKSHOP AGENDA - -

**Objectives:**

- *Develop a conceptual approach and guiding principles for quality measurement of out-of-network care purchased by the VA.*
- *Address related measurement issues, including the type and focus of measures needed, potential data sources, methodology issues, and access issues.*

8:00 am **Breakfast**

8:30 am **Welcome and Introductions**
*Joe Francis, Veterans Health Administration, Co-Chair*
*Laura Miller, National Quality Forum*
*Tom Valuck, National Quality Forum, Co-Chair*

8:45 am **Brief Background and Overview of Desired Outcomes**
*Joe Francis*

- Impetus for Workshop
- Objectives and Desired Outcomes for the Day
- Measurement, Data, and Other Considerations for Discussion

9:00 am **Key Frameworks for Conceptual Approach**
*Tom Valuck*

- HHS National Quality Strategy
- Patient-Focused Episodes of Care

9:30 am **Case Study from the Veterans Administration**
*Patricia Gheen, VA*

- Project HERO

10:45 am Break

11:00 am **Case Studies from the Private Sector**

*Mary Naylor, University of Pennsylvania School of Nursing*
*Tom James, Humana*

- Transitional Care Model
- Health Plan Exemplar

12:15 pm **Working Lunch: Brainstorming Exercise**

Table exercise: Measurement and data considerations and guiding principles for measuring and ensuring high quality out-of-network care.

1:30 pm **Designing a Conceptual Approach: Guiding Principles and Major Components**

Discussion of general design principles and key components of conceptual approach.

2:30 pm **Measurement Considerations**

Discussion of important considerations for assessing quality of out-of-network care, including:
- The type and focus of measures needed (e.g., care coordination)
- Data standards and platforms, potential data sources (e.g., data exchanges)
- Methodology issues (e.g., sample size, missing data)
- Access issues (e.g., rural health care)

3:30 pm Break

3:45 pm **Conceptual Approach and Guiding Principles: Final Discussion**

Finalization of suggested conceptual approach and guiding principles for measurement of out-of-network care.

5:00 pm Adjourn

*Note: Agenda items are subject to change.*

# NATIONAL QUALITY FORUM

## Assessing Quality of VA Out-of-Network Care
## NQF-Convened Workshop

### Background

The Department of Veterans Affairs (VA) invests over $4 billion per year in care provided in the private sector, but has limited capacity to assess the quality of care provided by non-VA providers. To better inform Veterans who are seeking healthcare services and to better manage those services, the VHA has partnered with the National Quality Forum (NQF) to convene a multi-stakeholder group to develop a conceptual approach for assessing the quality of VA out-of-network care. The issue of out-of-network care is not limited to the VHA and is important to a wide range of stakeholders seeking to manage the health and healthcare of a population, including private sector health plans, large health systems, and the Department of Defense. The convening activity will involve 20-30 individuals representing a broad spectrum of interested entities, including federal and nonfederal health providers, payers, health plans, and other entities accountable for the care of a defined population.

### Workshop Charge

The charge of the Assessing Quality of VA Out-of-Network Care Workshop is to develop a conceptual approach and guiding principles to quality measurement for out-of-network care.

The workshop discussion will build on previous work done in this area and will be designed to result in recommendations for the conceptual approach. This conceptual approach will address:

1. Guiding principles for measuring the quality of out-of-network care
2. The type and focus of measures best suited (e.g., care coordination)
3. Potential data sources (e.g., data exchanges)
4. Methodology issues (e.g., sample size)
5. Access issues (e.g., rural health care)

Discussion will cover the current state of monitoring and measuring the quality of out-of-network care and the key considerations for the development of a conceptual approach. The workshop will focus on measures best suited for assessing the quality of out-of-network care, measurement issues such as data sources and small sample size, and understanding trade-offs between access and quality. The Department of Health and Human Services' National Quality Strategy as well as the NQF-endorsed® Patient-Focused Episodes of Care Framework will be used as cross-checks to encourage alignment with broader conceptual approaches and guiding principles.

### Timeframe

Participants will convene for a one-day, hands-on workshop scheduled for June 29, 2011. A workshop summary report detailing the conceptual approach and guiding principles will be produced after the workshop and released in the fall of 2011.

For more information, contact Anisha Dharshi at 202-783-1300 or via email at: adharshi@qualityforum.org.

# NATIONAL QUALITY FORUM

## Assessing VA Out-of-Network Care
## Workshop Attendees

**Joe Francis** (*Co-Chair*)
Department of Veterans Affairs

**Tom Valuck** (*Co-Chair*)
National Quality Forum

**Richard Bankowitz**
Premier, Inc.

**Carol Ann Barnes**
Kaiser Permanente

**Marisue Cody**
Department of Veterans Affairs

**Anisha Dharshi**
National Quality Forum

**Kathleen Dziak**
Department of Veterans Affairs

**Linda Fischetti**
Department of Veterans Affairs

**Patricia Gheen**
Department of Veterans Affairs

**Aparna Higgins**
America's Health Insurance Plans

**Rajiv Jain**
Department of Veterans Affairs

**Tom James**
Humana

**John Kugler**
Department of Defense/TRICARE

**Anita Lord**
Department of Veterans Affairs

**Michelle Lucatorto**
Department of Veterans Affairs

**David Macpherson**
University of Pittsburgh School of Medicine

**Dan Mareck**
Health Resources and Services Administration

**David Meyers**
Agency for Healthcare Research and Quality

**Laura Miller**
National Quality Forum

**William Munier**
Agency for Healthcare Research and Quality

**Mary Naylor**
University of Pennsylvania School of Nursing

**Deborah Ondeck**
Department of Veterans Affairs

**Lindsay Roach**
Department of Veterans Affairs

**Joane Shear**
Department of Veterans Affairs

**Richard Stark**
Department of Veterans Affairs

**Betty Teague**
United Healthcare

**Thomas Tsang**
Office of the National Coordinator for Health Information Technology

**Sheila Warren**
Department of Veterans Affairs

**Mike Weiner**
Indiana University School of Medicine

**Steven Wright**
Department of Veterans Affairs

# Project HERO Fiscal Year 2010

## Annual Report
## Executive Summary

**Department of Veterans Affairs**
**Veterans Health Administration**
**Chief Business Office, Non-VA Purchased Care, Project HERO**
**3773 Cherry Creek North Drive, Suite 495**
**Denver, CO 80209**

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# BACKGROUND

The Department of Veterans Affairs (VA) launched Project HERO (Healthcare Effectiveness through Resource Optimization) in 2006, in response to a Congressional mandate  to test new ways of accessing community-based healthcare. While Veterans can still find and visit non-VA doctors with a Fee care authorization, Project HERO provides Veterans with access to pre-screened networks of medical and dental service providers who meet VA standards for quality care.

The networks are managed through contracts with Humana Veterans Healthcare Services (HVHS) and Delta Dental Federal Government Programs (Delta Dental). These networks began providing service in January 2008 in the following Veterans Integrated Service Networks (VISNs) (Figure 1):

- VISN 8: Sunshine Health Care Network (Puerto Rico and U.S. Virgin Islands excluded)
- VISN 16: South Central VA Health Care Network
- VISN 20: Northwest Network (Alaska excluded)
- VISN 23: VA Midwest Health Care Network

Project HERO is managed by a Program Management Office (PMO) within the Chief Business Office of the Veterans Health Administration (VHA).

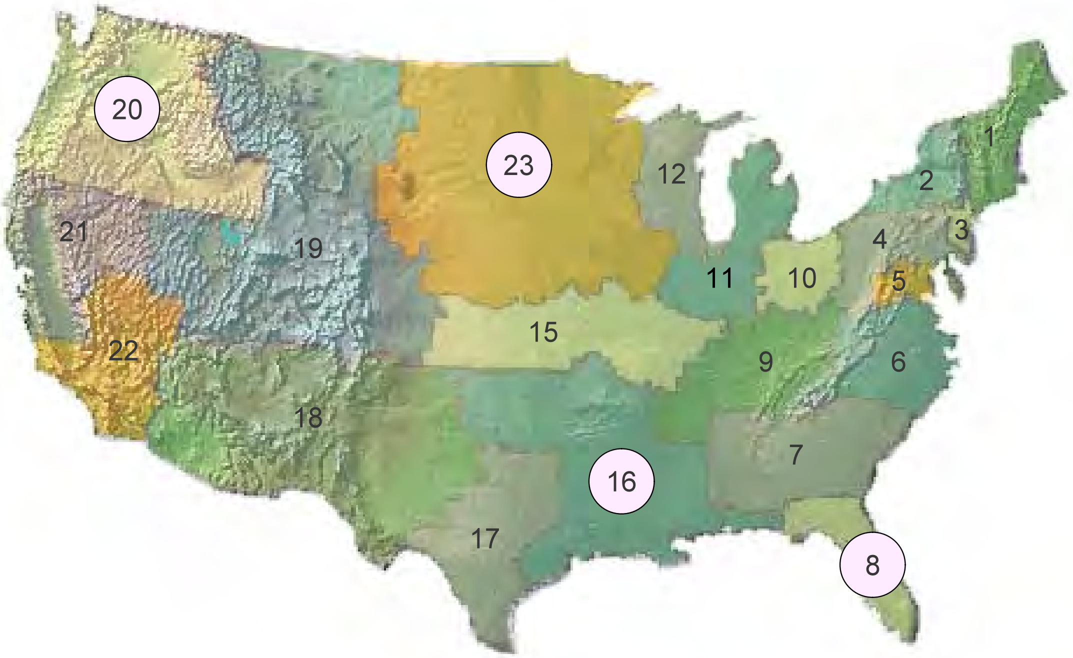

*Figure 1. Project HERO locations*

# PERFORMANCE HIGHLIGHTS

In order to assess Project HERO's performance, the PMO established a set of objectives and associated metrics to ensure quality, control costs and provide data on program operations (Figure 2).

Below are FY10 highlights of key metrics from within each of the major performance areas for VISNs 8, 16, 20 and 23.

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[1] *House of Representatives Committee on Appropriations Conference Report 109-305*

*Figure 2. Project HERO results against objectives*

| Key Metric/Measure | FY10 Result (VISN 8, 16, 20, 23) |
|---|---|
| **OBJECTIVE: Provide as much care for Veterans within the Veterans Health Administration (VHA) as practical. When necessary, efficiently refer Veterans to high-quality community-based care** | |
| Percent of outpatient visits provided through Project HERO, other Fee and VA | Project HERO: 0.8%<br>Other Fee: 6.3%<br>VA: 92.9% |
| Percent of dental visits provided through Project HERO, other Fee and VA | Project HERO: 3.7%<br>Other Fee: 4.4%<br>VA: 91.9% |
| **OBJECTIVE: Improve exchange of medical information between VA and non-VA providers** | |
| Percent of clinical information returned from HVHS providers to VA within 30 days for routine care and diagnostic testing | Result: 90.9%<br>Contract standard: 100% |
| Percent of initial treatment plans returned from to VA within 10 business days (Delta Dental) | Result: 75.0%<br>Contract standard: 95% |
| **OBJECTIVE: Control costs** | |
| Project HERO net savings for outpatient services after accounting for value-added fees<br>**Cost of services is calculated by adding the cost of CPT codes when there is an occurrence in both Project HERO and other Fee and adjusting so the count of other Fee occurrences matches Project HERO.* | Cost of services* – Other Fee: $80,077,462<br>Cost of services* – Project HERO: $57,300,861<br>Project HERO value-added fees: $6,579,562<br>FY10 Net savings: $16,197,039 |
| **OBJECTIVE: Increase Veteran satisfaction** | |
| Percent of Veterans who selected a 9 or 10 when rating satisfaction with overall health care received (scale of 1 to 10) | Project HERO Medical: 71%<br>Project HERO Dental: 78%<br>Survey of Healthcare Experience of Patients (SHEP): 54% |
| **OBJECTIVE: Secure accountable evaluation of pilot (demonstration) results** | |
| Consistent measurement of 21 patient satisfaction measures, four access metrics, nine quality metrics, and seven operational metrics | Monthly and quarterly reports provided consistent tracking and ability to evaluate performance |
| **OBJECTIVE: Sustain partnerships with Academic Affiliates** | |
| Analysis of Project HERO effect on the educational relationships of VA with its Academic Affiliates, and the volume of care purchased from Academic Affiliates | FY07 payments for care to Affiliates in Project HERO VISNs: $166,172,606 of $1,378,087,673 (12.06%)<br>FY10 payments for care to Affiliates in Project HERO VISNs, $266,480,510 of $2,208,843,251 (12.06%) |

# PROGRAM HIGHLIGHTS

## Stakeholder Outreach

Project HERO continued to proactively engage internal and external stakeholders to seek feedback on the pilot. For example, leadership briefed the Veterans Services Organizations on a quarterly basis and VA labor unions as requested, providing updates on performance and soliciting feedback and ideas for improvement of the pilot. In addition, the Project HERO Governing Board met on a bi-monthly basis to receive updates and make programmatic decisions.

To better serve Project HERO stakeholders in FY10 the PMO:

- launched a redesigned public Web site (Figure 3)
- developed a new look and feel for the e-newsletter
- created an extensive Tool Kit detailing all Project HERO processes, and
- provided new features on the intranet site, including a News page and associated Real Simple Syndication (RSS) feed. As a result of the RSS feed, traffic to the intranet site more than doubled in three months

Project HERO is a pilot program that helps Veterans get the care they need when it is not readily available at their local VA Medical Centers

- Available in four regions of the country
- Eligible Veterans continue to see their VA primary care physicians
- Contracted medical and dental providers when the care isn't readily available in VA

The Project HERO pilot is currently in its fourth of five fiscal years of operation. To date, Project HERO has provided VA with a number of lessons learned about using large-scale contracts to purchase care. When the fifth year is complete, Project HERO will end and VA will apply these lessons learned in future efforts for purchasing care.

Have a question? Need help? Contact Project HERO.

VA Home | Privacy Policy | FOIA | Web Policies | No FEAR Act Data | Site Index | USA.gov | White House | National Resource Directory | Inspector General

U.S. Department of Veterans Affairs - 810 Vermont Avenue, NW - Washington, DC 20420

Reviewed/Updated Date: January 20, 2011

*Figure 3. Project HERO redesigned public Web site*

> ***"I think the Non-VA care I received was A+. Thank you."***
>
> *- Response on survey from Veteran who received care through Project HERO*

## Evaluation Enhancements

The PMO continues to enhance the content of the Project HERO survey in order to better understand Veterans' satisfaction with key aspects of each visit. In FY10, the PMO's survey team added eight new questions to the Project HERO survey to measure satisfaction with the comfort and privacy of provider facilities. Not only does this data provide a clearer picture of Veteran satisfaction with the Project HERO experience, it provides comparable data to the Survey of Health Care Experiences of Patients (SHEP), VA's tool to measure Veteran satisfaction with outpatient and inpatient treatment at VA Medical Centers.

## Process Improvements

In an effort to continually refine Project HERO, the PMO conducted an extensive stakeholder analysis and process improvement effort related to dental authorizations. The PMO interviewed 30 VA Dental Chiefs to gather feedback on areas for improvement. Armed with information from the Dental Chiefs, the PMO held a day-long session with representatives from Delta Dental and leaders from VISNs 8, 16, 20 and 23 to brainstorm areas for improvement. This work led to clearer expectations for required clinical information.

## Lessons Learned

As a pilot program, one of the purposes of Project HERO is to understand what has worked well and what has not worked well in contracting for care to inform future contracting efforts. At its beginning, Project HERO faced many obstacles and had challenges to overcome. While some issues continue to be challenges, Project HERO has provided many positive outcomes.

To that end, Project HERO has collected many “lessons learned.” Some key lessons include:

- Establish quality standards – Ensure provider quality by requiring they meet credentialing, licensure and board certification standards
- Ensure access – Include timeliness and access standards to ensure best possible access to care
- Maintain centralized contract support – Contracting Officers and PMO provide structured and consistent vehicle for contract management, reporting, and standardization of processes
- Create flexible, regional contracts – Provide contract models at the regional level, offering more responsive contracts while still leveraging economies of scale to increase purchasing power
- Contract full range of services – Avoid the timely process of adding services to the contract by ensuring the full range of services are included for all contracts up front
- Simplify pricing and fee schedules – Determine a new approach for “value-added fees”
- Use standalone dental contracts – Establish dental contracts that reflect standard dental practices (versus medical)

The Chief Business Office also launched a survey in the four participating Project HERO VISNs to collect additional lessons learned. Many respondents:

- considered most of Project HERO’s contractual requirements either very important or important
- noted the reduced administrative burden and increased availability of providers
- suggested including all services in contracts for medical services, rather than contracting them piecemeal
- indicated that future contracts for Non-VA Purchased Care should be executed at the local level, rather than the national level

This information was collected in a comprehensive database for reference when developing future contracting efforts.

# SUMMARY

In FY10, Project HERO continued to provide improved access to care and demonstrate a commitment to ensuring quality while controlling cost, as summarized below (Figure 4).

*Figure 4. Project HERO impact*

| Accomplishment | Results |
|---|---|
| **Increased access to care** | Worked to ensure Veterans received care promptly (e.g., medical appointments scheduled within 30 days; initial dental exams within 30 days)<br>Provided safety net for VAMCs by augmenting care when they could not readily provide it |
| **Stabilized costs** | Paid for services at negotiated rates: generally less than Medicare rates for medical services and 80% of the National Dental Advisory Service (NDAS) Comprehensive Fee Report for dental services |
| **Veteran satisfaction** | Patient satisfaction survey results consistently showed Veteran satisfaction with Project HERO comparable to SHEP results for participating VISNs<br>Project HERO worked to provide a comparable experience for Veterans, whether they received care in a VAMC or through the contracted networks |
| **Improved care coordination and medical documentation exchange** | HVHS and Delta Dental coordinated care between patients and providers in pre-qualified networks<br>Contract mandated exchange of clinical information to increase visibility to VA of care Veterans received in the community |
| **Established clinical quality requirements** | Ensured providers were credentialed and facilities were accredited per state licensing requirements and standards of The Joint Commission<br>Used health care quality standards from The Joint Commission, Agency for Healthcare Research and Quality, National Committee for Quality Assurance, and others as benchmarks for HVHS and Delta Dental |
| **Standardized processes across the VISNs** | Standardized contract administration, business processes, clinical information sharing and quality oversight across the VISNs |
| **Provided detailed metrics** | Tracked metrics on patient satisfaction, timeliness of access to care, clinical information return, and operations, including contract use rates and cost |
| **Provided lessons learned** | Project HERO PMO gained valuable expertise in managing purchased care contracts |

As the Project HERO pilot enters the fourth of five fiscal years of operation, these results will lay the groundwork for future large-scale contracting efforts to ensure VA has appropriate tools for purchasing health care, when necessary, to meet the needs of America’s Veterans.

# TRANSITIONAL CARE MODEL

# Overview of the Transitional Care Model (TCM)

Given the expected growth of older adults coping with complex chronic conditions, rapidly rising health care costs and a projected shortfall in the Medicare Trust Fund, there is an urgent need to promote older adults' access to high quality, cost-effective and efficient services such as those provided via the TCM.

For the millions of older Americans who suffer from multiple chronic conditions, the TCM emphasizes identification of patients' health goals, coordination and continuity of care throughout acute episodes of illness, development of a rationale, streamlined plan of care to prevent future hospitalizations, and preparation of the patient and family caregivers to implement this care plan—all accomplished with the active engagement of patients and their family caregivers and in collaboration with the patient's physicians and other health team members.

## 10 Essential Elements of TCM

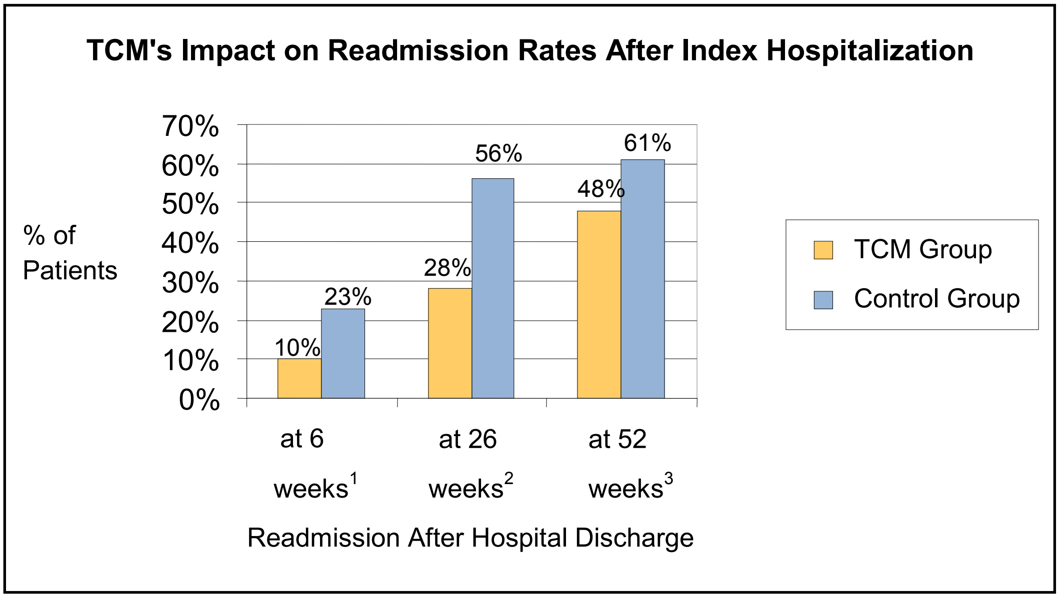
TCM targets older adults with two or more risk factors, including a history of recent hospitalizations, multiple chronic conditions and poor self-health ratings.

1. The transitional care nurse (TCN), a master's prepared nurse with advanced knowledge and skills in the care of this population, as the primary coordinator of care to assure continuity throughout acute episodes of care;
2. In-hospital assessment, collaboration with team members to reduce adverse events and prevent functional decline, and preparation and development of a streamlined, evidenced-based plan of care;
3. Regular home visits by the TCN with available, ongoing telephone support (seven days per week) through an average of two months post-discharge;
4. Continuity of medical care between hospital and primary care providers facilitated by the TCN accompanying patients to first follow-up visit(s);
5. Comprehensive, holistic focus on each patient's goals and needs including the reason for the primary hospitalization as well as other complicating or coexisting health problems and risks;
6. Active engagement of patients and family caregivers with focus on meeting their goals;
7. Emphasis on patients' early identification and response to health care risks and symptoms to achieve *longer term* positive outcomes and avoid adverse and untoward events that lead to readmissions;
8. Multidisciplinary approach that includes the patient, family caregivers and health care providers as members of a team;
9. Physician-nurse collaboration across episodes of acute care; and
10. Communication to, between, and among the patient, family caregivers, and health care providers.

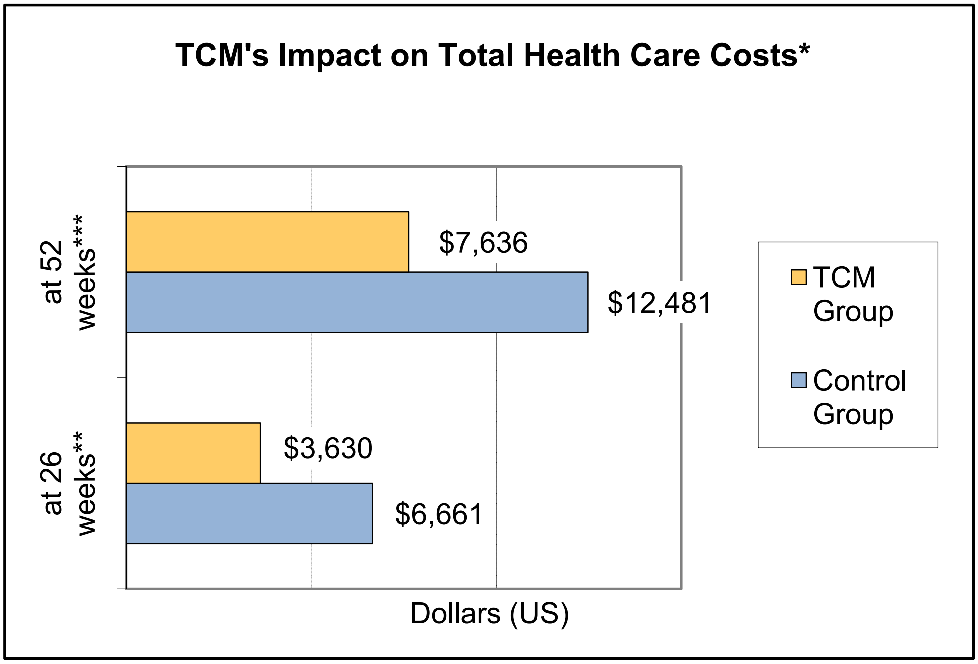
# Effects on Quality, Cost, and Value

The TCM has been tested and refined for more than 20 years by a multidisciplinary team of clinical scholars and health service researchers from the University of Pennsylvania. Across three National Institute of Nursing Research (NINR)-funded RCTs completed to date,[1-3] TCM has demonstrated improved quality and cost outcomes for high risk, cognitively intact older adults when compared to standard care:

- ✓ **Reductions in preventable hospital readmissions for both primary and co-existing health conditions.** Additionally, among those patients who are rehospitalized, the time between their index hospital discharge and readmission was increased and the number of inpatient days decreased.



- ✓ **Improvements in health outcomes.** In the most recently reported RCT,[3] short term improvements in physical health, functional status, and quality of life were reported by patients who received TCM.
- ✓ **Enhancement in patient satisfaction.** Overall patient satisfaction has increased among patients receiving TCM.
- ✓ **Reductions in total health care costs.** Both total and average reimbursements per patient have been reduced in TCM focused RCTs.[2-3]



*Total costs were calculated using average Medicare reimbursements for hospital readmissions, ED visits, physician visits, and care provided by visiting nurses and other healthcare personnel. Costs for TCM care is included in the intervention group total.*
*** Naylor et al., JAMA, 1999;*
**** Naylor et al., JAGS, 2004*

## TRANSLATING RESEARCH INTO PRACTICE

Despite the evidence establishing the linkage between TCM and enhanced value, a number of organizational, regulatory, financial and cultural barriers have prevented the model's adoption.

In response to these challenges and with the support of a number of foundations,[4] the Penn team formed partnerships with leaders of the Aetna Corporation (Aetna) and Kaiser Permanente Health Plan (KP) to translate and integrate the TCM for use in everyday practice and promote widespread adoption of the model by demonstrating its effectiveness among at risk, chronically ill older adults. The findings of this translational research effort have resulted in TCM being identified as a "high value" proposition by Aetna leaders. The project with KP is ongoing. Based on the improvements in health outcomes, member and physician satisfaction and the reductions in rehospitalizations and total health care costs observed in the Aetna project, the University of Pennsylvania Health System (UPHS) has adopted TCM as a service and local insurers are expected to reimburse UPHS for delivery of TCM to their members in 2009.

## CONTINUING TO ADVANCE THE SCIENCE

The Penn team is currently testing the effects of TCM among hospitalized cognitively impaired older adults in the *Enhancing Care Coordination* project.[5] Medicare costs for cognitively impaired patients are three times higher than for other older adults. Another ongoing study, *Health Related Quality of Life (HRQoL): Elders in Long Term Care,*[6] is helping to making the case to expand the application of TCM among elders receiving long-term care. Frail older adults receiving both acute and long-term care services are arguably the most vulnerable of patient groups.

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1. Naylor MD, Brooten D, Jones R, Lavizzo-Mourey R, Mezey M, & Pauly M. Comprehensive discharge planning for the hospitalized elderly. *Ann Intern Med*. 1994;120:999-1006.
2. Naylor MD, Brooten D, Campbell R, Jacobsen BS, Mezey MD, Pauly MV, & Schwartz JS. Comprehensive discharge planning and home follow-up of hospitalized elders: a randomized clinical trial. *JAMA*. 1999;281:613-620.
3. Naylor MD, Brooten DA, Campbell RL, Maislin G, McCauley KM, & Schwartz JS. Transitional care of older adults hospitalized with heart failure: a randomized, controlled trial. *J Am Geriatr Soc*. 2004;52:675-684.
4. The Commonwealth Fund; Jacob & Valeria Langeloth Foundation; The John A. Hartford Foundation, Inc.; Gordon and Betty Moore Foundation; California HealthCare Foundation.
5. PI: Naylor, MD. Hospital to Home: Cognitively Impaired Elders and Their Caregivers. Sponsored by: *National Institute on Aging*, R01-AG023116-04, and the *Marian S. Ware Alzheimer's Program* (2005-1010).
6. PI: Naylor, MD. Health Related Quality of Life: Elders in Long-Term Care. Sponsored by: *National Institute on Aging*, the *National Institute of Nursing Research*, R01-AG025524-03, and the *Marian S. Ware Alzheimer's Program*, 2006-2011.

NQF
NATIONAL QUALITY FORUM

Quality Connections

OCTOBER 2010

# Care Coordination

## EXECUTIVE SUMMARY

Care coordination—a function that helps ensure that the patient's needs and preferences for health services and information sharing across people, functions, and sites are met over time—is foundational to high-quality healthcare. All patients, but especially the growing number of Americans who suffer from multiple chronic conditions, can benefit from care coordination. Care coordination is an information-rich, patient-centric endeavor that seeks to deliver the right care (and *only* the right care) to the right patient at the right time. Unfortunately, the prevailing model of healthcare for most patients is poorly coordinated, to the detriment of the patient. This poses a threat to patients and the healthcare system in the form of heavy disease burden, safety concerns, and financial inefficiency.

Essential elements of care coordination include a written plan of care that anticipates routine needs and actively tracks up-to-date progress toward a patient's goals, and a communications "feedback loop" consisting of open dialogue among members of the care team, the patient, and his or her family. The "healthcare home," similar to but more expansive than the commonly known "medical home," is a promising model that may achieve truly coordinated care on a vast scale. The healthcare home is a single, coordinating source of usual care selected by the patient, such as a large or small medical group, a single practitioner, a community health center, or a hospital outpatient clinic. Several demonstration projects currently are testing the viability of the healthcare home model for many Americans.

The National Quality Forum (NQF) has completed significant work to advance care coordination, including the endorsement of a definition and framework for care coordination; the NQF-convened National Priorities Partnership; the designation of care coordination as one of six "National Priorities" for national action; and the endorsement of preferred practices and performance measures for care coordination. Ultimately, achieving coordinated care will be possible only when healthcare entities collectively agree to place the patient at the center of care.

## Introduction

### *AMERICA'S FRAGMENTED HEALTHCARE SYSTEM*

Scientific and technological progress have transformed healthcare in the United States into a dynamic, advanced enterprise. Today, many Americans enjoy access to sophisticated, highly developed diagnostic tests and interventions delivered in state-of-the-art institutions. These treatments have, without doubt, extended the lives and improved the health of millions of people.

As a result, healthcare in the United States is intricate and highly specialized. Yet while care may be delivered in a technically correct fashion within silos, this intricacy also has led to fragmentation, in which one clinical provider often does not know what another is doing with the same patient. Further, the complexity of care today is such that patients frequently do not understand how to care for themselves after they leave the clinical setting, even following a primary care visit. This situation creates a dangerous, unnecessarily complicated, and bewildering environment for patients—putting at risk of harm the very people the system seeks to serve, with sometimes disastrous consequences.

Today, the average Medicare patient sees two primary care physicians and five specialists a year,[1] and patients with multiple chronic conditions may see up to 16 physicians a year.[2, 3] For one-third of patients, the assigned primary physician changes yearly.[4] In the overwhelming majority of instances, clinicians are unaware of a patient's history. The challenge of coordinating basic information—e.g., test results, allergies, prescription medications, diagnosis—among so many clinical providers is extreme. The resultant lack of communication among providers often means that critically important information is never conveyed, or is lost or ignored, to the patient's detriment.

Even for patients without chronic conditions, the transfer of care responsibility from one clinician to another—the "handoff"—is rife with error.[5] Follow-up care for patients discharged from acute care hospitals or sent home from a practitioner visit after a diagnosis also presents a problem area, when patients are not fully instructed on what they should eat or avoid eating (and when), what medications they should take, or when to return to visit the clinician. For all patients, but especially for patients with chronic healthcare needs, poorly coordinated care often leads to medical errors, higher costs, and unnecessary pain.

*CARE COORDINATION IS A FUNCTION THAT HELPS ENSURE that the patient's needs and preferences for health services and information sharing across people, functions, and sites are met over time. Coordination maximizes the value of services delivered to patients by facilitating beneficial, efficient, safe, and high-quality patient experiences and improved healthcare outcomes.*

### *WHAT IS CARE COORDINATION?*

Care coordination has emerged as a cornerstone of quality healthcare. "Healthcare cannot be of high quality without being delivered in a coordinated, efficient manner," says Janet M. Corrigan, PhD, MBA, president and CEO of the National Quality Forum (NQF). "Any healthcare system that truly places the patient at the center of care must place among its highest priorities the reorganization of its processes and systems so that care is fully coordinated and responsive to patient needs and preferences." Accordingly, the NQF-convened National Priorities Partnership has designated care coordination as one of six "National Priorities" for national action.

Care coordination has been defined as "a function that helps ensure that the patient's needs and preferences for health services and information sharing across people, functions, and sites are met over time."[6] Under this definition, care coordination maximizes the value of services delivered to patients by facilitating beneficial, efficient, safe, and high-quality patient experiences and improved healthcare outcomes.

Care coordination is an information-rich, patient-centric endeavor that seeks to deliver the right care (and *only* the right care) to the right patient at the right time. It helps ensure that patients' needs and preferences for healthcare services are understood and that they are shared as patients move from one healthcare setting to another or to home, as care is transferred from one healthcare organization to another or is shared among a primary care professional and specialists.[7]

"Since care coordination is the foundation of consistent delivery of patient-centered healthcare, we must promote it effectively," says Donald E. Casey, MD, MPH, MBA, vice president, quality; chief medical officer, Atlantic Health System, Morristown, NJ; and co-chair of the Steering Committee for NQF's Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination project.

Essential elements of care coordination include patients' ability to have consistent access to the same healthcare professional over time, formalized plans of care to ensure that all clinicians who care for a patient know the patient's history and desires, and significant, accessible communications mechanisms. Care coordination does involve fundamental changes to the current healthcare delivery and payment systems. However, it is achievable, and projects are currently underway that may demonstrate models for implementing coordinated care across regions and systems.

## CARE COORDINATION:
## The need, the benefit, essential elements

### *WHO NEEDS COORDINATED CARE?*

In 2001, the Institute of Medicine defined quality healthcare as healthcare that is safe, timely, effective, efficient, equitable, and patient centered.[8] Care coordination addresses all of these domains, particularly safety, effectiveness, efficiency, and patient-centeredness, because properly coordinated care can avoid waste; conflicting plans of care; and over-, under-, or misuse of prescribed medications, tests, and therapies.[9] Thus, care coordination would benefit every American patient.

Care coordination is especially important for people with chronic conditions, such as diabetes, because such patients often receive care in multiple settings from numerous providers. In 2000, 125 million people in the United States were living with at least one chronic illness — a number that is expected to grow to 157 million by 2020. The number of patients with multiple chronic conditions is expected to reach 81 million by 2020.[10] As these patients attempt to navigate the complex healthcare system and transition from one care setting to another, they often are unprepared or unable to manage their care. Incomplete or inaccurate transfer of information, poor communication, and a lack of appropriate follow-up care can lead to confusion and poor outcomes, such as medication errors and preventable hospital readmissions and emergency department visits.

"Care coordination would benefit every single patient, but especially vulnerable populations, such as the frail elderly or those with multiple chronic conditions," says Gerri S. Lamb, PhD, RN, associate professor, Arizona State University College of Nursing & Health Innovation; visiting scholar, Emory University Nell Hodgson Woodruff School of Nursing; and co-chair of the Steering Committee for NQF's Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination project. "The dismaying fact is that if there is a potential for people to fall through the cracks of the system, they often will."

The heavy disease burden posed by poorly coordinated care poses a serious threat to patients. Nearly one in five Medicare patients are readmitted to the hospital within 30 days, and three-quarters of those readmissions are potentially preventable.[11] Nearly 20 percent of patients admitted to the hospital with a preventable admission had at least one preventable readmission within six months,[12] and many patients do not receive timely follow-up with their primary source of care after being discharged from the hospital.[13] The United States consistently ranks behind other industrialized countries in the frequency of emergency department use for conditions that could have been treated with appropriate primary care.[14]

Poorly coordinated care also is unsafe, whether the patient suffers from a chronic illness or is being hospitalized for an acute episode, because of the medical and medication errors that can follow. Nearly one in five patients discharged from the hospital to home experience an adverse event within three weeks, and two-thirds of them are due to adverse drug events.[15] Annually, more than 700,000 patients were treated for adverse drug events in U.S. emergency departments in 2004 and 2005, and one of every six required admission, transfer to another facility, or an emergency department observation admission.[16] The safety challenges posed at handoffs—transitions of care in which one clinician or unit assumes responsibility from another for the patient's care—are acute, accounting for an estimated 35 percent of The Joint Commission's sentinel events[17] and leading to The Joint Commission's creation of a National Patient Safety Goal to implement a standardized approach to handoff communications.[18]

Finally, poorly coordinated care is financially inefficient. The cost to Medicare of preventable hospital readmissions that occur within 30 days of discharge is estimated to be more than $15 billion a year.[19] For the aforementioned one-fifth of patients who have another preventable admission within six months, the costs skyrocket to $729 million, or $7,400 per readmission.[20]

### *ESSENTIAL ELEMENT: THE PLAN OF CARE*

A critical construct of coordinated care is the "plan of care"—the written plan that anticipates routine needs and tracks progress toward a patient's goals. A proactive plan of care that emphasizes self-management, goals, and support should serve as a central care coordinating mechanism for all patients, families, and care team members.

Plans of care are important for all patients, but particularly those with chronic diseases, because management of chronic conditions can vary widely over time. Treatments and the care provided may change as the patient's symptoms change.[21] Therefore, the plan of care becomes an important guidepost between clinician-driven care and patient self-management. The plan of care also is vital during handoffs and transitions of care, because it can serve as the main communication document between clinicians and care settings and outline elements such as the medication list, follow-up steps, identification of care problem, and resources for nonclinical care.

### *ESSENTIAL ELEMENT: COMMUNICATION*

Integrated with the plan of care, but distinct from it, is the critical role of the "feedback loop" in coordinated care.

Communication within the construct of care coordination consists of open dialogue among members of the care team, the patient, and his or her family. In a properly coordinated care environment, communication entails the care team, patient, and family agreeing upon and working within the plan of care, readily sharing consultation notes and progress reports, sharing decision making,[22] and maintaining privacy with access to information. Communication strategies should involve health literacy, translators, and expert panels as appropriate and should be culturally competent.[23]

Communication among primary care providers, hospital providers, specialists, and nonclinical resources in the community is critically important for optimal care.[24] Communication has become a vehicle of many hospital programs to improve transitions and reduce medical errors and rehospitalizations. Some hospitals have successfully implemented patient-centered strategies that address gaps in communication by including a family member, a caregiver, or a nurse care coordinator in the care of a patient in the hospital. Improved communication leads to a quicker reconciliation of care issues and a clearer understanding of follow-up protocols, both of which lead to better outcomes for the patient.

## The Healthcare Home: A Potential Solution?

One potential vehicle to enhance care coordination is the healthcare home—a single, coordinating source of usual care selected by the patient, such as a large or small medical group, a single practitioner, a community health center, or a hospital outpatient clinic.[25]

The definition of a healthcare home expands upon the popularly known medical home (sometimes known as the "patient-centered medical home"), which was introduced in 1967[26] and grew in popularity in the first decade of the 21st century. The medical home has evolved to be defined as "a physician practice committed to organizing and coordinating care based on patients' needs and priorities, communicating directly with patients and their families, and integrating care across settings and practitioners."[27] Today, healthcare and industry coalitions such as the Patient-Centered Primary Care Collaborative[28] and the Future of Family Medicine Project[29] are advocating for the model's widespread adoption. The healthcare home definition is broader, such that the entity or endeavor need not be directed by a primary care physician. Nurses, psychiatric clinicians, or other healthcare clinical providers can serve the coordinating function envisioned in the healthcare home. While the term "medical home" remains commonly used, some healthcare organizations have endorsed defining the concept more broadly.[30]

*WHAT IS A HEALTHCARE HOME?*

*A healthcare home is a source of usual care selected by the patient (such as a large or small medical group, a single practitioner, a community health center, or a hospital outpatient clinic). The medical home also should function as the central point for coordinating care around the patient's needs and preferences. The medical home also should coordinate between all of the various team members, which include the patient, family members, other caregivers, primary care providers, specialists, other healthcare services (public and private), and nonclinical services as needed and desired by the patient.*[31]

Fundamental to the concept of a healthcare home is comprehensive, coordinated care. Important characteristics of the healthcare home include an enduring relationship, a single point of access, information about the patient and origins of interpretation of information from many sources, and routine, acute, and chronic care coordination.

Much of the supporting evidence for healthcare homes and their components has emerged from research on physician-led medical homes. Through better coordination of care, the medical home model offers opportunities to improve the quality of care for patients, particularly those with multiple chronic illnesses. Research also has shown that other similar concepts may improve patient care and health outcomes, such as the nurse-managed health centers. In a pilot study of six nurse-managed centers, the focus of services is on the needs of communities; healthcare is offered as well as nontraditional services, such as stress reduction and assistance in addressing adolescent and neighborhood violence and drug addictions.[32]

The healthcare home, appropriately implemented respecting community and patient needs, should serve as the point of access for communication among the patient, family, and care providers—all information about the patient's health status and related activities should be filtered through the healthcare home—and it should promote continuous coordination for all services of care.

### *THE ROLE OF INFORMATION TECHNOLOGY*

One key element of the healthcare home is that health information technology (HIT) must be used to support patient care, performance measurement, patient education, and enhanced communication. HIT can provide a foundation for the healthcare home, such as providing critical patient information to the entire care team across all stages of care; support meaningful clinician-patient communication; enable timely and accurate performance measurement and improvement; and improve accessibility of the practice to the patient.[33]

Given the healthcare industry's rapid adoption of HIT, especially that encouraged by the American Recovery and Reinvestment Act of 2009, it stands to reason that HIT should be prominently featured in the healthcare home. Given the vulnerability of populations that the healthcare home seeks to serve, the Patient-Centered Primary Care Collaborative has proposed a beginning set of guidelines for the use of HIT within healthcare homes:

- Health data and information must be accessible to primary care medical home practices, physicians, and patients;
- Standards, protocols, and rules for health data exchange on the network should be fully open and supportive of data portability and interoperability;
- HIT should support the enhanced practice efficiency and quality of care that is required by the medical home model; and
- Confidentiality of data should be imperative.[34]

## NQF Work on Care Coordination

NQF, a nonprofit organization that aims to improve the quality of healthcare for all Americans, has recognized the essential role that care coordination plays in improving the quality of healthcare and thus has engaged in several projects intended to advance care coordination in the United States.

### *FRAMEWORK AND DEFINITION*

In 2006, NQF endorsed, via its formal consensus development process, a standardized definition and framework for measuring care coordination, with the aim of facilitating urgently needed development of measures for this priority area.

The NQF-endorsed® definition underlies all ongoing NQF work in care coordination, including this issue brief. The framework encompasses five domains, or essential components and subcomponents for which performance measures should be developed if care coordination is to be comprehensively measured and improved.[35]

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### FRAMEWORK FOR MEASURING CARE COORDINATION

**Domains**

1. Healthcare "home"
2. Proactive plan of care and follow-up
3. Communication
4. Information systems
5. Transitions or "hand-offs"

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The framework also includes four principles, addressing overarching considerations in measuring care coordination. They are:

- care coordination is important for everyone;
- some populations (e.g., children with special healthcare needs, the frail elderly) are particularly vulnerable to fragmented, uncoordinated care;
- appropriate accountability for care coordination lies with the physician, the group, and the organization level; and
- surveys of experience of care are essential to measuring care coordination.

### *PREFERRED PRACTICES AND PERFORMANCE MEASURES*

Following its endorsement of a definition and framework, NQF embarked on a full consensus project to endorse a set of preferred practices and performance measures for care coordination that are applicable across all settings of care and identify high-priority research areas to advance the evaluation of care coordination as a quality improvement tool. This project, completed early in 2010, led to the endorsement of a set of 25 preferred practices and 10 performance measures.[36] The preferred practices are suitable for widespread implementations; address the domains of the NQF-endorsed Care Coordination Framework and the NPP goals, and are applicable and generalizable to multiple care settings, diverse patient populations—including parents or guardians when appropriate—and a broad spectrum of providers. (For a list of the NQF-endorsed preferred practices for care coordination, see appendix A.)

### NEWLY NQF-ENDORSED PERFORMANCE MEASURES FOR CARE COORDINATION*

- Cardiac rehabilitation patient referral from an inpatient setting
- Cardiac rehabilitation patient referral from an outpatient setting
- Patients with a transient ischemic event ER visit who had a follow-up office visit
- Biopsy follow-up
- Reconciled medication list received by discharged patients (inpatient discharges to home/self-care or any other site of care)
- Transition record with specified elements received by discharged patients (inpatient discharges to home/self-care or any other site of care)
- Timely transmission of transition record (inpatient discharges to home/self-care or any other site of care)
- Transition record with specified elements received by discharged patients (emergency department discharges to ambulatory care [home/self-care])
- Melanoma continuity of care–recall system
- 3-Item Care Transitions Measure (CTM-3)**

* *This list comprises the measures NQF endorsed or re-endorsed in 2010 in its preferred practices and performance measures project. NQF previously endorsed hospital readmission performance measures that are relevant to care coordination; those measures were not considered for re-endorsement in this project but retain their status as voluntary consensus standards.*

** *NQF initially endorsed the CTM-3 in 2006. It was re-endorsed as part of NQF's broader care coordination project in 2010.*

The 10 performance measures for care coordination expand NQF's portfolio of measures for continuity of care, communication, transitions, information systems, and the healthcare home. The purpose of these consensus standards is to improve the quality of healthcare—via accountability and public reporting—by standardizing the quality measurement for transitions of care, patient engagement and involvement with care plans, information systems, and the role of the setting in which patients receive their usual source of care. The consensus standards are intended for use at various levels of analysis, including individual clinicians, groups, plans, systems, and populations.

### *CTM-3*

Among the performance measures that NQF endorsed in its 2010 report was the 3-Item Care Transitions Measure (CTM-3); this was a re-endorsement of a measure that NQF originally endorsed in 2006.[37] This consensus standard is of special significance as it is a measure of the patient's perception of the quality of care coordination (specific to the hospital setting). This three-question survey is important because care can be provided in a technically coordinated fashion but is only truly coordinated if the patient perceives it as such.

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### 3-ITEM CARE TRANSITIONS MEASURE

1. The hospital staff took my preferences and those of my family or caregiver into account in deciding what my healthcare needs would be when I left the hospital.
2. When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.
3. When I left the hospital, I clearly understood the purpose for taking each of my medications.

*For full specifications of the CTM-3, see NQF's National Voluntary Consensus Standards for Hospital Care: Additional Priority Areas—2005-2006.*

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The CTM-3's specifications are divided into five domains: the survey instrument (see text box), sampling, survey administration, scoring and patient-mix adjustment, and reporting data. When properly employed, use of the CTM-3 survey instrument will provide hospitals a snapshot of their care coordination performance. The CTM-3 was developed from a 15-item survey in order to reduce burden on providers;[38] the longer survey has been widely deployed as a precise measure of the quality of the post-hospital care transition experience from the patient's perspective.[39]

## Prioritizing Care Coordination and Looking Ahead

In 2008, the National Priorities Partnership (NPP)—a diverse group of national organizations representing those who receive, pay for, deliver, and evaluate healthcare—released an action agenda to transform healthcare during a time of severe economic strain by better investing resources to fundamentally improve patient care and outcomes. In 2008, the NQF-convened NPP selected care coordination as one of six "National Priorities" for national action to eliminate waste, harm, and disparities to create and expand world-class, patient-centered, affordable healthcare.[40] As a National Priority, the impact of well-coordinated care will reverberate across the Priorities. Increased communication between patients and providers, stronger record keeping, and more efficient, patient-centered care can reduce harm while making healthcare more reliable and accessible. "The designation of care coordination as a National Priority demonstrates that healthcare stakeholders from across the spectrum are very serious about addressing the myriad of issues associated with patient transitions in care," says Rita Munley Gallagher, PhD, RN, senior policy fellow at the American Nurses Association.

The 32 major national organizations that comprise the NPP have shed their own self-interests not only to agree to a core set of National Priorities and Goals but also to take action to achieve specific, measurable progress. Members of the NPP have agreed to work toward the following goals:

- improve care and achieve quality by facilitating and carefully considering feedback from all patients regarding coordination of their care;
- improve communication around medication information;
- work to reduce 30-day readmission rates; and
- work to reduce preventable emergency department visits by 50 percent.

Accordingly, NPP's Care Coordination Work Group—co-chaired by Gallagher and Nancy Foster, vice president for quality and patient safety policy at the American Hospital Association (representing the Hospital Quality Alliance)—convened a group in 2010 to discuss reducing readmissions. The activity focused on barriers to and drivers of change, important measure gaps, and implications for health information technology. "Care coordination is of critical importance to our members and, more importantly, to the patients we serve," Foster says. "Hospitals are undertaking a variety of initiatives to improve coordination as we transition patients out of the hospital, but we realize that these efforts are just a beginning that will broaden, strengthen, and become much more effective through the efforts of the National Priorities Partnership."

## Projects and Demonstrations

Currently, several pilot and demonstration projects that hold promise for care coordination are underway. Most of these are either just being implemented or are in various stages of completion. Following are three noteworthy initiatives; while not meant to be a complete listing, these case studies are projects worth following.

### *MEDICARE-MEDICAID ADVANCED PRIMARY CARE DEMONSTRATION INITIATIVE*

The Centers for Medicare & Medicaid Services (CMS) is in the process of implementing a demonstration project that will enable Medicare to join Medicaid and private insurers in innovative, state-based "advanced primary care" (i.e., medical home) initiatives. CMS is soliciting applications from states, which are the only entities permitted to apply. States must certify that they:

- have established effective medical home models in all or parts of their states that include their Medicaid program as well as private payers;
- can demonstrate that a majority of the primary care physicians in the demonstration areas would participate;
- have stringent requirements for designating medical home providers, including independent accreditation and requirements for the use of health information technology;
- have integrated public health services to emphasize wellness and prevention; and
- have secured the participation of a sufficient number of private payers.

CMS also is moving forward with a separate Medical Home Demonstration required under the Medicare Improvements for Patients and Providers Act and the Tax Relief & Health Care Act of 2006.[41]

### *MINNESOTA'S VISION: HEALTHCARE HOMES*

In May 2008, Minnesota passed state health reform legislation that includes payment to primary care providers for partnering with patients and families to provide coordination of care.[42] Since then, the state has built the foundation for healthcare homes by conducting a capacity assessment, developing certification standards and a certification process, conducting learning collaboratives, developing outcomes measures, and devising a payment methodology.[43] The state Department of Human Services has proposed paying an average of $31.39 per month to clinicians for a patient receiving healthcare home care.[44] The state will start paying for medical homes in July 2010.

### *CIGNA AND DARTMOUTH-HITCHCOCK PATIENT-CENTERED MEDICAL HOME PILOT PROJECT*

The managed care organization CIGNA and Dartmouth-Hitchcock, the New Hampshire-based integrated care organization, launched a medical home pilot program in 2008 with the goal of improving the quality, affordability, and patient satisfaction with care through collaboration and aligned incentives. The program includes 391 physicians in 5 sites and more than 17,000 covered lives in pediatrics, family practice, and internal medicine. It has three key components: clinical information, clinical collaboration, and a blended payment model. Dartmouth-Hitchcock provides "embedded case management services"—a nurse who helps to coordinate the care of the patient with the goal of improving quality and reducing avoidable emergency department visits and hospitalizations.[45]

### *HOSPITAL 2 HOME*

The Hospital to Home (H2H) initiative, developed by the American College of Cardiology and the Institute for Healthcare Improvement (IHI), is seeking to reduce the 30-day, all-cause hospital readmission rates among patients discharged with heart failure or acute myocardial infarction by 20 percent nationally by December 2012. This "excellence in transitions" project, which is modeled after successful national initiatives by both organizations, is building a community of hospitals, healthcare systems, clinical practices, and collaborators dedicated to reducing preventable hospital readmissions; is providing straightforward, evidence-based recommendations for improving transitions; and will disseminate customizable ideas, tools, and strategies.[46]

### *CARE TRANSITIONS QIOSC*

Fourteen Medicare Quality Improvement Organizations (QIOs) across the nation are working on care transitions with support from the Care Transitions Quality Improvement Organization Support Center (QIOSC). QIOs will promote seamless transitions from the hospital to home, skilled nursing care, or home health care, and will work to reduce unnecessary readmissions to hospitals that may increase risk or harm to patients and cost to Medicare. CMS will look to QIOs to implement projects that effect process improvements to address issues in medication management, post-discharge follow-up, and plans of care for patients who move across healthcare settings.[47] The three-year project runs through July 2011. Projects include:

- educating patients before discharge on their medicine, diagnosis, and the need for follow-up care;
- giving patients pill planners; and
- making follow-up calls to check on heart failure and pneumonia patients.[48]

### *PROJECT BOOST*

Project BOOST (**B**etter **O**utcomes for **O**lder adults through **S**afe **T**ransitions) is an initiative of the Society of Hospital Medicine to improve the care of patients as they transition from the hospital to home. The project aims to reduce 30-day readmission rates for general medicine patients, with particular focus on older adults; improve flow of information between hospital and outpatient physicians; ensure that high-risk patients are identified and specific interventions are offered to mitigate their risk; and improve patient and family education practices to encourage use of the teach-back process. The approach involves creating consensus for best practices, creating resources to implement those practices, and providing technical support. Thirty hospitals across the country are participating in two initial phases.[49]

### *STAAR INITIATIVE*

IHI and The Commonwealth Fund are sponsoring the State Action on Avoidable Rehospitalizations (STAAR) Initiative, a two-year, multistate project to reduce avoidable rehospitalizations. The initiative is composed of a multistate learning community to improve transitions of care and targeted technical assistance to address systemic barriers to reducing avoidable re-hospitalizations. In the first year, the initiative focuses on improving the transition out of the hospital for all patients—starting with a hospital-based team and including representatives from skilled nursing facilities, home health agencies, ambulatory practices, and patients and family caregivers as members of hospital-based "transitions" teams. IHI is supporting the improvement work in hospitals by creating a learning community across the states, hospitals, and teams working on process changes.[50]

## Conclusion

Despite unprecedented scientific achievements, healthcare in the United States often is a confounding and frustrating exercise for patients. The science of healthcare may be highly evolved and developing rapidly, but the American healthcare delivery system has not kept pace in a way that is meaningful to patients. The particularities of our pluralistic system, with its large numbers of small providers, magnify the number of venues patients need to visit. This system is fragmented, overly complex, and filled with barriers to complete care even for those who enjoy full access to care and particularly for those from vulnerable populations or suffering from multiple chronic conditions.

Coordinating care would restructure healthcare to place the patient at the center of care. This is a monumental challenge, involving fundamental changes both to how healthcare is delivered and how it is paid for. Addressing flaws in care coordination presents greater challenges than the quality-improvement work that takes place within a hospital or clinician's office because it requires work to transcend the boundaries of one institution or organization. While healthcare reform can address aspects, no single piece of legislation can truly resolve the transformation issues that care coordination presents.

The size of the challenge must not discourage confronting it. Several proposals address methods of improving care coordination, including electronic referral, hospitalist- or advanced-practice nurse-initiated post-discharge care, and care coordination payment under Medicare. The healthcare home, which envisions a system of first-contact care, continuity of care over time, comprehensiveness, and responsibility to coordinate care throughout the health system, may hold the greatest promise for rapidly achieving care coordination for a large number of Americans, although significant payment and delivery system questions need to be resolved. These proposals, in their totality, may make significant progress toward restructuring the system in order to achieve coordinated care.

Several initiatives and demonstration projects, including but not limited to healthcare home demonstration projects, are underway. Many of these are initially limited in scope but show great promise. Collectively, the evidence they are gathering will point the way toward the formation of a healthcare system that is truly coordinated, to the ultimate benefit of the patient.

As San Francisco physician and care coordination advocate Thomas Bodenheimer, MD, has noted, improvement in care coordination requires that different healthcare entities, sometimes working in competition, perform together.[51] This requires the setting aside of parochial interests and placing the patient at the center of care. Only then can all care be coordinated for every patient every day.

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NQF's mission is to improve the quality of American healthcare by setting national priorities and goals for performance improvement, endorsing national consensus standards for measuring and publicly reporting on performance, and promoting the attainment of national goals through education and outreach programs.

# Appendix A: NQF-endorsed® National Voluntary Consensus Standards for Care Coordination, Preferred Practices

## National Voluntary Consensus Standards for Care Coordination

### Preferred Practices: Healthcare "Home" Domain

**Preferred Practice 1:** The patient shall be provided the opportunity to select the healthcare home that provides the best and most appropriate opportunities to the patient to develop and maintain a relationship with healthcare providers.

**Preferred Practice 2:** Healthcare home or sponsoring organizations shall be the central point for incorporating strategies for continuity of care.

**Preferred Practice 3:** The healthcare home shall develop infrastructure for managing plans of care that incorporate systems for registering, tracking, measuring, reporting, and improving essential coordinated services.

**Preferred Practice 4:** The healthcare home should have policies, procedures, and accountabilities to support effective collaborations between primary care and specialist providers, including evidence-based referrals and consultations that clearly define the roles and responsibilities.

**Preferred Practice 5:** The healthcare home will provide or arrange to provide care coordination services for patients at high risk for adverse health outcomes, high service use, and high costs.

### Preferred Practices: Proactive Plan of Care and Follow-up Domain

**Preferred Practice 6:** Healthcare providers and entities should have structured and effective systems, policies, procedures, and practices to create, document, execute, and update a plan of care with every patient.

**Preferred Practice 7:** A systematic process of follow-up tests, treatments, or services should be established and be informed by the plan of care.

**Preferred Practice 8:** The joint plan of care should be developed and include patient education and support for self-management and resources.

**Preferred Practice 9:** The plan of care should include community and nonclinical services as well as healthcare services that respond to a patient's needs and preferences and contribute to achieving the patient's goals.

**Preferred Practice 10:** Healthcare organizations should utilize cardiac rehabilitation services to assist the healthcare home in coordinating rehabilitation and preventive services for patients with a recent cardiovascular event.

### Preferred Practices: Communication

**Preferred Practice 11:** The patient's plan of care should always be made available to the healthcare home team, the patient, and their designees.

**Preferred Practice 12:** All healthcare home team members, including patients and their designees, should work within the same plan of care and share responsibility for their contributions to the plan of care and achieving the patient's goals.

**Preferred Practice 13:** A program should be used that incorporates a care partner to support family and friends when caring for a hospitalized patient.

**Preferred Practice 14:** Assess and document the provider's perspective of care coordination activities.

### Preferred Practices: Information Systems

**Preferred Practice 15:** Standardized, integrated, interoperable electronic information systems functionalities essential to care coordination, decision support, and quality measurement and practice improvement should be used.

**Preferred Practice 16:** An electronic record system should allow the patient's health information to be accessible to caregivers at all points of care.

**Preferred Practice 17:** Regional health information systems, which may be governed by various partnerships, including public/private and state/local agencies, should enable healthcare home teams to access all patient information.

### Preferred Practices: Transitions

**Preferred Practice 18:** Decisionmaking and planning for transitions of care should involve the patient, and, according to patient preferences, family and caregivers (including the healthcare home team). Appropriate follow-up protocols should be used to ensure timely understanding and endorsement of the plan for patient and their designees.

**Preferred Practice 19:** Patient and their designees should participate directly in determining and preparing for ongoing care during and after transitions.

**Preferred Practice 20:** Systematic care transitions programs that engage patients and families in self-management after being transferred home should be used whenever available.

**Preferred Practice 21:** For high-risk chronically ill older adults, an evidence-based, multidisciplinary, transitional care practice that provides comprehensive in-hospital planning, home-based visits, and telephone follow-up, such as the Transitional Care Model, should be deployed.

**Preferred Practice 22:** Healthcare organizations should develop and implement a standardized communication template for the transitions of care process, including a minimal set of core data elements that are accessible to the patient and their designee during care.

**Preferred Practice 23:** Healthcare providers and healthcare organizations should implement protocols/policies for a standardized approach to all transitions of care. Policies and procedures related to transitions and the critical aspects should be included in the standardized approach.

**Preferred Practice 24**: Healthcare providers and healthcare organizations should have systems in place to clarify, identify, and enhance mutual accountability (complete/confirmed communication loop) of each party involved in a transition of care.

**Preferred Practice 25:** Healthcare organizations should evaluate the effectiveness of transition protocols and policies, as well as evaluate transition outcomes.

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# Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination

## A CONSENSUS REPORT

National Quality Forum

The mission of the National Quality Forum is to improve the quality of American healthcare by setting national priorities and goals for performance improvement, endorsing national consensus standards for measuring and publicly reporting on performance, and promoting the attainment of national goals through education and outreach programs.

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# Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination: A Consensus Report

## Foreword

**CARE COORDINATION IS A VITAL ASPECT** of health and healthcare services. When care is poorly coordinated—with inaccurate transmission of information, inadequate communication, and inappropriate follow-up care—patients who see multiple physicians and care providers can face medication errors, hospital readmissions, and avoidable emergency department visits. The effects of poorly coordinated care are particularly evident for people with chronic conditions such as diabetes and hypertension and those at high risk for multiple illnesses who often are expected to navigate a complex healthcare system. Despite efforts to reduce problems through various initiatives and programs—such as care/case management—healthcare is not currently delivered uniformly in a well-coordinated and efficient manner.

In 2006, the National Quality Forum (NQF), an organization dedicated to improving healthcare quality, endorsed a definition of and framework for care coordination. This framework identified five key domains: Healthcare "Home," Proactive Plan of Care and Follow-up, Communication, Information Systems, and Transitions or Handoffs. In addition to endorsing a definition and framework, NQF, in its role as a convener and partner in the National Priorities Partnership (NPP), has focused on care coordination. Specifically, the Partnership established the following goals:

- Improve care and achieve quality by facilitating and carefully considering feedback from all patients regarding coordination of their care;
- Improve communication around medication information;
- Work to reduce 30-day readmission rates; and
- Work to reduce preventable emergency department (ED) visits by 50 percent.

In this report, *Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination: A Consensus Report,* NQF has endorsed a portfolio of care coordination preferred practices and performance measures. These standards will provide the structure, process, and outcome measures required to assess progress toward the care coordination goals listed above and to evaluate access, continuity, communication, and tracking of patients across providers and settings. Given the high-risk nature of transitions in care, this work will build on ongoing efforts among the medical and surgical specialty societies to establish principles for effective patient handoffs between clinicians and providers. Measurement and improvement efforts will be upgraded over time as interoperable health information technology (HIT) systems evolve.

NQF thanks the Care Coordination Steering Committee and NQF Members for their efforts in helping to improve the care coordination in our healthcare system so that all Americans can be confident they are receiving the best care possible.

Janet M Corrigan

Janet M. Corrigan, PhD, MBA
President and Chief Executive Officer

# Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination: A Consensus Report

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# Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination: A Consensus Report

## Executive Summary

> *We envision a healthcare system that guides patients and families through their healthcare experience, while respecting patient choice, offering physical and psychological supports, and encouraging strong relationships between patient and the healthcare professionals accountable for their care.*
>
> – National Priorities Partnership, 2008

**CARE COORDINATION IS A VITAL** aspect of health and healthcare services. Many patients often see multiple physicians and care providers a year, which can lead to more harm, disease burden, and overuse of services than if care were coordinated. This is particularly evident for people with chronic conditions and those at high risk for comorbidities, who often are expected to navigate a complex healthcare system. Despite efforts to reduce problems through various initiatives and programs—such as care/case management—poor communication, medication errors, and preventable hospital readmissions are still substantial.

Healthcare cannot be of high quality if it is not delivered in a well-coordinated, efficient manner. In 2006, the National Quality Forum (NQF) endorsed a definition of and framework for care coordination. The framework identified five key domains: Healthcare “Home”; Proactive Plan of Care and Follow-up; Communication; Information Systems; and Transitions or Handoffs. In addition to endorsing a definition and framework, NQF, in its role as a convener and partner in the National Priorities Partnership (NPP), has focused on care coordination. Specifically, the Partnership identified the following goals:

- improve care and achieve quality by facilitating and carefully considering feedback from all patients regarding coordination of their care;
- improve communication around medication information;
- work to reduce 30-day readmission rates; and
- work to reduce preventable emergency department (ED) visits by 50 percent.

This NQF report, *Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination: A Consensus Report,* aims to promote care coordination across settings and providers by endorsing a set of preferred practices and performance measures (Table 1). These standards address the domains of the NQF-endorsed Framework for Care Coordination and the goals of the Partnership. Systematic implementation of these practices will improve the coordination of patient care and healthcare quality.

## Table 1: National Voluntary Consensus Standards for Care Coordination

### Preferred Practices: Healthcare "Home" Domain

- **Preferred Practice 1:** The patient shall be provided the opportunity to select the healthcare home that provides the best and most appropriate opportunities to the patient to develop and maintain a relationship with healthcare providers.
- **Preferred Practice 2:** The healthcare home or sponsoring organizations shall be the central point for incorporating strategies for continuity of care.
- **Preferred Practice 3:** The healthcare home shall develop infrastructure for managing plans of care that incorporate systems for registering, tracking, measuring, reporting, and improving essential coordinated services.
- **Preferred Practice 4:** The healthcare home should have policies, procedures, and accountabilities to support effective collaborations between primary care and specialist providers, including evidence-based referrals and consultations that clearly define the roles and responsibilities.
- **Preferred Practices 5:** The healthcare home will provide or arrange to provide care coordination services for patients at high risk for adverse health outcomes, high service use, and high costs.

### Preferred Practices: Proactive Plan of Care and Follow-up Domain

- **Preferred Practice 6:** Healthcare providers and entities should have structured and effective systems, policies, procedures, and practices to create, document, execute, and update a plan of care with every patient.
- **Preferred Practice 7:** A systematic process of follow-up tests, treatments, or services should be established and be informed by the plan of care.
- **Preferred Practice 8:** The joint plan of care should be developed and include patient education and support for self-management and resources.
- **Preferred Practice 9:** The plan of care should include community and nonclinical services as well as healthcare services that respond to a patient's needs and preferences and contributes to achieving the patient's goals.
- **Preferred Practice 10:** Healthcare organizations should utilize cardiac rehabilitation services to assist the healthcare home in coordinating rehabilitation and preventive care for patients with a recent cardiovascular event.

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## Table 1: National Voluntary Consensus Standards for Care Coordination

### Preferred Practices: Communication Domain

- **Preferred Practice 11:** The patient's plan of care should always be made available to the healthcare home team, the patient, and the patient's designees.
- **Preferred Practice 12:** All healthcare home team members, including the patient and his or her designees, should work within the same plan of care and share responsibility for their contributions to the plan of care and for achieving the patient's goals.
- **Preferred Practice 13:** A program should be used that incorporates a care partner to support family and friends when caring for a hospitalized patient.
- **Preferred Practice 14:** The provider's perspective of care coordination activities should be assessed and documented.

### Preferred Practices: Information Systems Domain

- **Preferred Practice 15:** Standardized, integrated, interoperable, electronic, information systems with functionalities that are essential to care coordination, decision support, and quality measurement and practice improvement should be used.
- **Preferred Practice 16:** An electronic record system should allow the patient's health information to be accessible to caregivers at all points of care.
- **Preferred Practice 17:** Regional health information systems, which may be governed by various partnerships, including public/private, state/local agencies, should enable healthcare home teams to access all patient information.

### Preferred Practices: Transitions or Handoffs Domain

- **Preferred Practice 18:** Decisionmaking and planning for transitions of care should involve the patient, and, according to patient preferences, family, and caregivers (including the healthcare home team). Appropriate follow-up protocols should be used to assure timely understanding and endorsement of the plan by the patient and his or her designees.
- **Preferred Practice 19:** Patients and their designees should be engaged to directly participate in determining and preparing for ongoing care during and after transitions.
- **Preferred Practice 20:** Systematic care transitions programs that engage patients and families in self-management after being transferred home should be used whenever available.
- **Preferred Practice 21:** For high-risk chronically ill older adults, an evidence-based multidisciplinary, transitional care practice that provides comprehensive in-hospital planning, home-based visits, and telephone follow-up, such as the Transitional Care Model, should be deployed.
- **Preferred Practice 22:** Healthcare organizations should develop and implement a standardized communication template for the transitions of care process, including a minimal set of core data elements that are accessible to the patient and his or her designees during care.

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## Table 1: National Voluntary Consensus Standards for Care Coordination

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- **Preferred Practice 23:** Healthcare providers and healthcare organizations should implement protocols and policies for a standardized approach to all transitions of care. Policies and procedures related to transitions and the critical aspects should be included in the standardized approach.
- **Preferred Practice 24:** Healthcare providers and healthcare organizations should have systems in place to clarify, identify, and enhance mutual accountability (complete/confirmed communication loop) of each party involved in a transition of care.
- **Preferred Practice 25:** Healthcare organizations should evaluate the effectiveness of transition protocols and policies, as well as evaluate transition outcomes.

### Performance Measures for Care Coordination

- Cardiac rehabilitation patient referral from an inpatient setting
- Cardiac rehabilitation patient referral from an outpatient setting
- Patients with a transient ischemic event ER visit who had a follow-up office visit
- Biopsy follow-up
- Reconciled medication list received by discharged patients (inpatient discharges to home/self care or any other site of care)
- Transition record with specified elements received by discharged patients (inpatient discharges to home/self-care or any other site of care)
- Timely transmission of transition record (inpatient discharges to home/self care or any other site of care)
- Transition record with specified elements received by discharged patients (emergency department discharges to ambulatory care [home/self care])
- Melanoma continuity of care – recall system
- 3-Item Care Transitions Measure (CTM-3)[a]

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[a] This NQF-endorsed measure was reviewed for continued endorsement.

# Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination: A Consensus Report

## Introduction

### Background

**AS THE NUMBER OF HEALTHCARE PROFESSIONALS,** care settings, and treatments involved in a patient's care has increased, the coordination of care has become both more difficult and more vital. Effective care coordination ensures that patient and family needs and preferences for care are understood and that accountable structures and processes are in place for communication and integration of a comprehensive plan of care across providers and settings. Care among many different providers must be well coordinated to avoid waste; over-, under-, or misuse of prescribed medications and treatment regimens; and conflicting plans of care.[1]

Care coordination is especially important for people with chronic conditions, such as diabetes or hypertension, who often receive care in multiple settings from numerous providers. These individuals may see up to 16 physicians a year.[2] In 2000, 125 million people in the United States were living with at least one chronic illness — a number that is expected to grow to 157 million by 2020. The number of individuals with multiple chronic conditions is expected to reach 81 million by 2020.[3] As this ever-growing group attempts to navigate our complex healthcare system and transition from one care setting to another, they often are unprepared or unable to manage their care. Incomplete or inaccurate transfer of information, poor communication, and a lack of appropriate follow-up care can lead to confusion and poor outcomes, including medication errors and often preventable hospital readmissions and ED visits.

In May 2006, the National Quality Forum (NQF) endorsed a definition of and framework for care coordination. NQF defined care coordination as a "function that helps ensure that the patient's needs and preferences for health services and information sharing across people, functions, and sites are met over time." The framework identified five key domains: Healthcare "Home"; Proactive Plan of Care and Follow-up; Communication; Information Systems; and Transitions or Handoffs. In addition to endorsing a definition and framework, NQF, in its role as convener and partner in the National Priorities Partnership

(NPP), a national effort to set national priorities and goals, has focused on care coordination. Specifically, in November 2008, the Partnership deemed "care coordination" as one of six national priorities and agreed to work toward the following goals:

- improve care and achieve quality by facilitating and carefully considering feedback from all patients regarding coordination of their care;
- improve communication around medication information;
- work to reduce 30-day readmission rates; and
- work to reduce preventable ED visits by 50 percent.

A portfolio of care coordination preferred practices and performance measures will provide the structure, process, and outcome measures required to assess progress toward the care coordination goals and to evaluate access, continuity, communication, and tracking of patients across providers and settings. Given the high-risk nature of transitions in care, this work will build on ongoing efforts among the medical and surgical specialty societies to establish principles for effective patient handoffs between clinicians and providers. Additionally, the evolving nature of interoperable health information technology (HIT) systems means that measurement and improvement efforts will progress over time.

## Strategic Directions for NQF

NQF's mission includes three parts: 1) setting national priorities and goals for performance improvement, 2) endorsing national consensus standards for measuring and publicly reporting on performance, and 3) promoting the attainment of national goals through education and outreach programs. As greater numbers of quality measures are developed and brought to NQF for consideration, NQF must assist stakeholders in measuring and reporting "what makes a difference" and addressing what is important to achieve the best outcomes for patients and populations. An updated Measurement Framework, reviewed by NQF Members in December 2007, promotes shared accountability and measurement across episodes of care with a focus on outcomes and patient engagement in decisionmaking coupled with measures of the healthcare process and cost/resource use. For more information, see **www.qualityforum.org**.

Several strategic directions have been identified to guide the consideration of candidate consensus standards:

**DRIVE TOWARD HIGH PERFORMANCE.** Over time, the bar of performance expectations should be raised to encourage the achievement of higher levels of system performance.

**EMPHASIZE COMPOSITES.** Composite measures provide much-needed summary information pertaining to multiple dimensions of performance and are more comprehensible to patients and consumers.

**MOVE TOWARD OUTCOME MEASUREMENT.** Outcome measures provide information of keen interest to consumers and purchasers, and when coupled with healthcare process measures, they provide useful and actionable information to providers. Outcome measures also focus attention on much-needed system-level improvements, because achieving the best patient outcomes often requires carefully designed care processes, teamwork, and coordinated action on the part of many providers.

**FOCUS ON DISPARITIES IN ALL THAT WE DO.** Some of the greatest performance gaps relate to care of minority populations. Particular attention should be focused on the most relevant race/ethnicity/language/socioeconomic strata to identify relevant measures for reporting.

The focus of this project, care coordination, is essential to meeting the challenge of a high-performing healthcare system. Implementation of the practices and measures endorsed in this report can have a significant impact on the quality of care for minority and other populations, given the disproportionate impact of some chronic illnesses, such as diabetes or chronic kidney disease, in these populations. Accordingly, in analyzing adherence to the practices and measures, strong consideration should be given to stratifying the analyses by race and ethnicity, language, payment source, and gender.

## Purpose

The purpose of this project was to

- endorse a set of preferred practices and performance measures for care coordination that are applicable across all settings of care; and
- identify high-priority research areas to advance the evaluation of care coordination as a quality improvement tool.

## Framework

The NQF-endorsed® Framework for Care Coordination served as a road map for the identification of a set of preferred practices and performance measures, as well as for areas requiring additional research or development. The framework established a conceptual model to identify and organize NQF-endorsed preferred practices and performance measures based on a set of interrelated domains that are applicable to multiple settings and providers of care. The framework also served as the basis to assess what is currently available and to identify areas where gaps in practices and measures exist. Guided by the framework and basic constructs of care coordination, a set of preferred practices and performance measures, which are presented in this report, will provide comprehensive evaluation and reporting tools to ensure that care is coordinated across all settings and populations. To review the framework, see **www.qualityforum.org/projects/care_coordination.aspx.**

## NQF's Consensus Development Process

Candidate consensus standards were solicited as part of the NQF Consensus Development Process, which included an open Call for Preferred Practices in December 2008 and an open Call for Measures in April 2009. Candidate consensus standards also were actively sought through literature reviews, suggestions from the Steering Committee, and a search of the National Quality Measures Clearinghouse. In addition, as part of NQF's ongoing measure maintenance process, one measure related to care coordination that was endorsed in 2006 was reconsidered alongside the candidate consensus standards. A 27-person Steering Committee reflecting the diversity of the NQF membership evaluated the candidate measures and practices and made recommendations for possible endorsement to NQF Members.

# Preferred Practices for Measuring and Reporting Care Coordination

Individual initiatives to improve care coordination across settings of care for diverse populations have been ongoing. In contrast to better-studied areas such as care transitions, the systematic study of newer dimensions of the NQF-endorsed Framework for Care Coordination, such as healthcare home or information systems, is relatively recent. Not unexpectedly, relatively few preferred practices were submitted for key areas of the framework. Recognizing the need to establish a meaningful foundation for future development of a set of practices with demonstrated impact on quality outcomes, the Steering Committee highlighted strong bodies of evidence, and it relied on implementation examples, widely accepted experiential data, and expert consensus in reviewing and recommending practices and their specifications.

This report endorses a set of 25 preferred practices (Table 2) that are suitable for widespread implementation and that address the domains of the NQF-endorsed Framework for Care Coordination and the National Priorities Partnership goals. The practices can be applied and generalized across multiple care settings, diverse patient populations, including parents or guardians when appropriate, and a broad spectrum of providers.

The preferred practices, while grounded in today's projects and experiments on care coordination, are intended to accelerate the evolution of preferred practices of care coordination to achieve quality and safety outcomes. In many cases, practice specifications are purposely comprehensive and futuristic or stretch goals. The Steering Committee recognized that for the preferred practices to achieve widespread adoption, current payment models will need to better align to incentivize these types of patient-centered approaches to care. However, payment recommendations or incentives were beyond the scope of this project and therefore were not addressed within the practice specifications. Additionally, other drivers of change, such as public reporting, accreditation/certification, performance measurement, and workforce preparedness will need to be addressed as part of a comprehensive implementation strategy. As part of its work moving forward, the Partnership is identifying high-leverage drivers for each of the six priority areas—including care coordination— and specific action steps for multiple stakeholders to take.

The Steering Committee emphasizes the need for further research to evaluate these practices across providers and settings. Just as NQF's Safe Practices have evolved over time, this set of practices can and should be similarly improved as the evidence base expands. The Committee recommended further scrutiny of the evaluation criteria that are applied to practices in rapidly evolving areas such as care coordination. As noted below, the Committee worked diligently to balance the imperative for scientific rigor with the need to advance preferred practices and measures for care coordination.

## Introduction

### *Evaluating Preferred Practices*

The preferred practices that were submitted and/or developed for this project were evaluated for their adequacy using NQF-endorsed standard evaluation criteria for all practices (Box A):

- *Effectiveness:* clear evidence must be presented that indicates that the practice will be effective in improving outcomes.
- *Generalizability:* the practice should be able to be utilized in multiple care settings and/or for multiple types of patients.
- *Benefit:* it must be clear how the practice will improve or increase the likelihood of improving patient outcomes.
- *Readiness:* the training, technology, and staff required for implementation of the practice are available.

The practices that were evaluated and endorsed presented differentiating levels of supportive evidence; few were rated as strong in each of the evaluation criteria areas. Some practices were presented with strong bodies of research supporting effectiveness, generalizability, benefit, and readiness. Others were judged by the Steering Committee to have strong "face validity," that is, they made sense and appeared to be important to experienced practitioners and researchers who study care coordination. The practices showing face validity typically were multicomponent interventions with little evidence to support the detailed specifications of their practice elements. Common elements were identified across these practices and developed into more generalized practice statements.

## Box A: Criteria for Evaluation of Practices

**Evidence of Effectiveness**
There must be clear evidence that the practice (if appropriately implemented) would be effective in improving outcomes (e.g., reduced substance use). Evidence may take various forms, including:

- research studies (syntheses) showing a direct connection between the practice and improved clinical outcomes;
- experiential data (including broad expert agreement, widespread opinion, or professional consensus) showing the practice is "obviously beneficial" or self-evident (i.e., the practice absolutely forces an improvement to occur) or organization or program data linking the practice to improved outcomes; or
- research findings or experiential data from other healthcare or nonhealthcare settings that should be substantially transferable.

**Generalizability**
The practice must be able to be utilized in multiple applicable clinical care settings (e.g., a variety of inpatient and/or outpatient settings) and/or for multiple types of patients.

**Benefit**
If the practice (determined to be effective) were more widely used, it would improve or increase the likelihood of improving patient outcomes (e.g., improved patient function). If an effective practice already is in near-universal use, its endorsement would lead to little new benefit to patients.

**Readiness**
The necessary technology and appropriately skilled staff must be available to most healthcare organizations. For this project, opportunity for measurement also was a consideration.

## Table 2: Recommended Preferred Practices for National Voluntary Consensus Standards for Care Coordination[a]

| DOMAIN | NUMBER | PRACTICE STATEMENT |
|---|---|---|
| **Healthcare home**[b] | 1 | The patient shall be provided the opportunity to select the healthcare home that provides the best and most appropriate opportunities to the patient to develop and maintain a relationship with healthcare providers. |
| | 2 | The healthcare home or sponsoring organizations shall be the central point for incorporating strategies for continuity of care. |
| | 3 | The healthcare home shall develop infrastructure for managing plans of care that incorporate systems for registering, tracking, measuring, reporting, and improving essential coordinated services. |
| | 4 | The healthcare home should have policies, procedures, and accountabilities to support effective collaborations between primary care and specialist providers, including evidence-based referrals and consultations that clearly define the roles and responsibilities. |
| | 5 | The healthcare home will provide or arrange to provide care coordination services for patients at high risk for adverse health outcomes, high service use, and high costs. |
| **Proactive plan of care and follow-up** | 6 | Healthcare providers and entities should have structured and effective systems, policies, procedures, and practices to create, document, execute, and update a plan of care with every patient. |
| | 7 | A systematic process of follow-up tests, treatments, or services should be established and be informed by the plan of care. |
| | 8 | The joint plan of care should be developed and include patient education and support for self-management and resources. |

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[a] NQF recognizes that some of the practices overlap multiple domains but for organizational purposes has elected to map them as best as possible.

[b] As defined by the NQF-endorsed Framework for Care Coordination, the "healthcare home" is the usual source of care selected by the patient (such as a large or small medical group, single practitioner, a community health center, or a hospital outpatient clinic). The healthcare home should function as the central point for coordinating care around the patient's needs and preferences. In addition, the use of the healthcare home is relevant for all patients across the continuum of care.

## Table 2: Recommended Preferred Practices for National Voluntary Consensus Standards for Care Coordination[a]

| DOMAIN | NUMBER | PRACTICE STATEMENT |
|---|---|---|
| **Proactive plan of care and follow-up** *(continued)* | 9 | The plan of care should include community and nonclinical services as well as healthcare services that respond to a patient's needs and preferences and contributes to achieving the patient's goals. |
| | 10 | Healthcare organizations should utilize cardiac rehabilitation services to assist the healthcare home in coordinating rehabilitation and preventive care for patients with a recent cardiovascular event.[c] |
| **Communication** | 11 | The patient's plan of care should always be made available to the healthcare home team, the patient, and the patient's designees. |
| | 12 | All healthcare home team members, including the patient and his or her designees, should work within the same plan of care and share responsibility for their contributions to the plan of care and for achieving the patient's goals. |
| | 13 | A program should be used that incorporates a care partner to support family and friends when caring for a hospitalized patient. |
| | 14 | The provider's perspective of care coordination activities should be assessed and documented. |
| **Information systems** | 15 | Standardized, integrated, interoperable, electronic information systems with functionalities that are essential to care coordination, decision support, quality measurement, and practice improvement should be used. |
| | 16 | An electronic record system should allow the patient's health information to be accessible to caregivers at all points of care. |
| | 17 | Regional health information systems, which may be governed by various partnerships, including public/private, state/local agencies, should enable healthcare home teams to access all patient information. |

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[c] Practice Source: American Association of Cardiovascular and Pulmonary Rehabilitation, Chicago, IL: AACVPR. Available at **www.aacvpr.org.** Last accessed October 2009.

## Table 2: Recommended Preferred Practices for National Voluntary Consensus Standards for Care Coordination[a]

| DOMAIN | NUMBER | PRACTICE STATEMENT |
|---|---|---|
| **Transitions** | 18 | Decisionmaking and planning for transitions of care should involve the patient, and, according to patient preferences, family, and caregivers (including the healthcare home team). Appropriate follow-up protocols should be used to assure timely understanding and endorsement of the plan for the patient and his or her designees. |
| | 19 | Patients and their designees should be engaged to directly participate in determining and preparing for ongoing care during and after transitions. |
| | 20 | Systematic care transitions programs that engage patients and families in self-management after being transferred home should be used whenever available.[d] |
| | 21 | For high-risk chronically ill older adults, an evidence-based multidisciplinary, transitional care practice that provides comprehensive in-hospital planning, home–based visits, and telephone follow-up, such as the Transitional Care Model, should be deployed.[e] |
| | 22 | Healthcare organizations should develop and implement a standardized communication template for the transitions of care process, including a minimal set of core data elements that are accessible to the patients and their designees during care. |
| | 23 | Healthcare providers and healthcare organizations should implement protocols/policies for a standardized approach to all transitions of care. Policies and procedures related to transitions and the critical aspects should be included in the standardized approach. |
| | 24 | Healthcare providers and healthcare organizations should have systems in place to clarify, identify, and enhance mutual accountability (complete/confirmed communication loop) of each party involved in a transition of care. |
| | 25 | Healthcare organizations should evaluate the effectiveness of transition protocols, policies, and outcomes. |

[d] Practice Source: Derby, CT: Planetree. Available at **www.planetree.org**. Last accessed October 2009.

[e] Practice Source: University of Pennsylvania, School of Nursing, New Courtland Center for Transitions and Health.

# Domain: Healthcare Home

## The Problem

During the past few years, the healthcare system has experienced increasing rates of suboptimal quality of care and rising expenses for all patients, especially for those with comorbidities and chronic illnesses. Studies demonstrate that chronically ill patients who see several physicians are prescribed incompatible or contraindicated treatments and/or are provided with conflicting advice.[4] Rehospitalization rates are also on the rise.[5] A recent study found that 19.6 percent and 34.0 percent[6] of Medicare beneficiaries who had been discharged from a hospital were rehospitalized within 30 days and 90 days, respectively. Another 67.1 percent[7] of patients who had been discharged with medical conditions and 51.5 percent[8] of those who had been discharged after surgical procedures were rehospitalized or died within the first year after discharge. In addition, costs of care are higher among this population.[9] The primary reason for this phenomenon is because care is not properly integrated and coordinated among healthcare practitioners.

Research clearly indicates that, by better coordinating care, the model of the healthcare home offers opportunities to improve the quality of care for all patients, particularly those with comorbidities and chronic illnesses. The healthcare home is one of the five essential domains of the NQF-endorsed Framework for Care Coordination. As defined by NQF, the "healthcare home" is the usual source of care selected by the patient (such as a large or small medical group, single practitioner, a community health center, or a hospital outpatient clinic). The healthcare home should function as the central point for coordinating care around the patient's needs and preferences. The healthcare home also should coordinate among all the various team members, which include the patient, family members, other caregivers, primary care providers, specialists, other healthcare services (public and private), and nonclinical services as needed and desired by the patient.[10] The healthcare home also should incorporate evidence-based strategies for all patient populations to monitor, prevent, and reduce significant risk factors for adverse outcomes in areas such as mental health and family functioning. Quality improvement efforts within the healthcare home are central to reducing rehospitalizations as well as costs.

Currently, a number of terms are encompassed by the concept of healthcare home, including medical home and primary care home. Several models intended to achieve the goals of healthcare homes have been put forward in the medical, nursing, and other professional communities. In this report, the term healthcare home is used as a broad umbrella term, consistent with the NQF-endorsed framework. More specific terms, including medical home or primary care home, are used when they refer to specific evidence related to them.

Much of the supporting evidence for healthcare homes and their components has emerged from research on medical homes, that is, physician-led organizations. Through better coordination of care, research indicates that the medical home model offers opportunities to improve the quality of care for patients, particularly those with comorbidities and chronic illness. Throughout this report, however, NQF focuses the practices on the more comprehensive entity, the healthcare home, relying on the evidence for medical homes as the basis at this time. As implementation and additional research unfold, the practices will be refined as appropriate.

Several physician organizations, the American Academy of Family Physicians (AAFP), the American Academy of Pediatrics (AAP), and the American College of Physicians (ACP), define the medical home concept as the hub for coordinating care and care should be coordinated among members of all teams involved. The Patient-Centered Medical Home (PCMH),[11] endorsed by AAFP, AAP, ACP, and the American Osteopathic Association (AOA), aims to reduce cost and emphasizes the elements of the patient- and family-centered medical home, which are:

- personal physician,
- physician-directed medical practice,
- whole-person orientation,
- coordinated/integrated care,
- quality and safety,
- improved access, and
- payment.

The PCMH emphasizes the central role of primary care by combining comprehensive healthcare delivery and payment reform.[12] By integrating best practices, the PCMH allows for enhanced communication and includes a myriad of innovative practices such as open access scheduling, online appointments, and electronic visits.[13] In June 2006, TransforMED, a subsidiary of AAFP, launched a national demonstration project involving 36 family medicine practices[14] to measure the PCMH model's effect on practice and patient outcomes, with the ultimate goal of improving the quality of patient care.

Research has shown that other concepts similar to the medical home, such as the nurse-managed health center, may improve patient care and health outcomes. A pilot study of six nurse-managed centers revealed that the centers focus on the needs of the communities they serve. They offer healthcare services as well as nontraditional services such as stress reduction, assist for adolescent and neighborhood violence and drug addictions.[15] Using HEDIS measures, a descriptive study of 15 nurse-managed centers in Pennsylvania determined that the nurse-managed centers have higher rates of medication adherence among asthmatics, lower rates of hospitalization, and similar rates of ED usage compared to community health centers.[16] Other concepts similar to the medical home have gained traction through accreditation organizations, Medicaid's managed care program,[17] and The Joint Commission's primary care homes initiative.[18]

As noted earlier, the healthcare home is a central component of the NQF-endorsed Framework for Care Coordination. It should serve as the point of access for communication among the patient, family, and care providers—all information about the patient's health status and related activities should be filtered through the healthcare home—and it should promote continuous coordination for all services of care. Recognizing the importance of the healthcare home to improving care coordination, NQF endorsed five preferred practices related to the healthcare home that will harmonize with and further advance current efforts toward care coordination.

## *Preferred Practices*

NQF endorsed five preferred practices related to optimizing care coordination through a healthcare home. The applicable care settings for these practices include ambulatory care, ED, health plan, home care, home health services/agency, hospice, inpatient service/hospital, outpatient hospital, long-term acute care hospital, skilled nursing facility, and Medicaid and Medicare home- and community-based services.

**Preferred Practice 1:** The patient shall be provided the opportunity to select the healthcare home that provides the best and most appropriate opportunities to the patient to develop and maintain a relationship with healthcare providers.

*Additional Specifications:*

- The healthcare home serves as a continuous point of contact for comprehensive and culturally competent care.
- The patient has the ability to make timely appointments with his or her particular primary care provider.
- The healthcare home shall work toward having in place electronic visits or other forms of communication that allow for information to be accessible and shared in a timely manner with the patient.
- The patient has the ability to participate in the decisionmaking process about his or her plan of care and treatment options.

*Example Implementation Approaches:*

- The AAFP's national demonstration project integrates a set of best practices, which allows for enhanced communication, open access scheduling, online appointments, and electronic visits. This model uses the patient-centered medical home concept.[19]
- The National Nursing Centers Consortium currently represents a national network of 200 nurse-managed health centers, which are currently serving vulnerable populations across the country. These centers provide primary care, health promotion, and disease prevention services for populations in urban and rural communities. Additionally, the centers meet the criteria for safety-net providers as defined by the Institute of Medicine.[20]

*Opportunity for Measurement:*

- Demonstrating the established relationship between the patient and primary care provider can be shown several ways. The most reliable current measure is the Primary Care Assessment Tool, which is a global measure of primary care, and it incorporates questions that can be used to measure continuity.

**Preferred Practice 2:** The healthcare home or sponsoring organizations shall be the central point for incorporating strategies for continuity of care.

*Additional Specifications:*

- The healthcare home shall serve as the usual source of care and the coordinating hub for the patient's medical needs.
  - Services should be coordinated with the healthcare home for visits with multiple caregivers and/or diagnostic tests.
  - The capacity should be maintained to schedule appointments the same day as the patient/family requests and/or depending on the patient's conditions.
- The healthcare home shall have access to all necessary information about the patient, as well as access to the patient during all decisionmaking processes.
- Each patient shall select a primary care provider for ongoing care.

- The patient shall have an opportunity to discuss the role of the healthcare home, identify the team members, and review expectations of the healthcare home.
- The healthcare home shall use clinical information systems to identify and track patients.
    - Accessible, clinically useful information on patients shall be available to enable more comprehensive treatment for the patient.
- The healthcare home shall establish policies that allow a patient access to services and care providers during and after regular business hours.
- The healthcare home shall provide pre-visit planning and after-visit follow-up for patients.

*Example Implementation Approaches:*

- The Oklahoma Health Care Authority has adopted SoonerCare Choice as a primary care case management program. Each SoonerCare member is provided with a primary care physician/case manager who serves as the patient's "medical home" and manages all of the patient's healthcare needs from basic to specialty referrals.[21]
- Healthcare organizations can incorporate after-hours care mechanisms that permit urgent care by healthcare home providers (or at least someone who has access to patient-specific data).
- Minute Clinics, a system of walk-up clinics staffed by family nurse practitioners, provide rapid, efficient, cost-effective treatment at the convenience of the consumer. These clinics are the first and only retail care provider to achieve accreditation from The Joint Commission.[22]

*Opportunity for Measurement:*

- Availability of registries. Measure the frequency of the patient visit based on whether the patient attended the appointment and on patient-generated appointment requests.
- Measure adherence to care plans, with access by the patient, family members, and any authorized providers.
- Assess long-term resource utilization (e.g., inpatient stay, ED utilization) as a function of continuity of care compared to patients at higher risk for needing care coordination services.

**Preferred Practice 3:** The healthcare home shall develop infrastructure for managing plans of care that incorporate systems for registering, tracking, measuring, reporting, and improving essential coordinated services.

*Additional Specifications:*

The plans of care that are established and documented by the healthcare team should encompass the following elements:

- Plans of care should be recorded in a repository that is accessible to care providers, patients, and the patients' designees and should be updated at each encounter.
- Plans of care should be created, made available, and updated electronically using nationally standardized documents that are computable and portable and that enable interoperability.
- Plans of care should address, document, and allow measurement of team communication and appropriate interfaces during care, between visits, over time, and during transitions to other levels or venues of care.
- Plans of care should reflect awareness of the potential resources within the community and should establish, where possible, linkages with community-based centers that can assist with care coordination.

- Plans of care should produce measurements that identify defects that can be addressed by practice improvement initiatives such as access, scheduling, or communication strategies.
- The plan of care document should include essential clinical data documenting the patient's current state, including, but not limited, to problem lists; medication lists; allergies and risk factors; age-appropriate standardized clinical assessments and screening tests; immunization status; growth charts plotting height, weight, and BMI; and structured progress notes.
    - The plan of care should also include information related to functional status, social support, caregiver status, and patient and caregiver priorities for care.
- The plan of care should include a contingency plan for unintended circumstances related to treatment.
- The plan of care document should contain specific actions to be taken and by whom. Actions should be based on, when available, evidence that is referenced in the care plan and linked to specific outcomes also documented in the care plan.
- The plan of care document should align with the specific goals of the healthcare home.

*Example Implementation Approaches:*

- A database of clinical and nonclinical care providers is established and populated with specific information such as services offered, cost, and availability. Any pertinent licensure requirements must be provided to the healthcare home and noted in the database.
- Take Control of Your Health, created by the New Jersey Department of Health and Senior Services, encourages a positive approach to self-management. The program consists of a six-week course that is designed to give people with chronic conditions (such as arthritis, heart disease, diabetes, emphysema, asthma, bronchitis, and osteoporosis) and/or their caregivers the knowledge, skills, and confidence they need to take a more active role in their healthcare.[23]

*Opportunity for Measurement:*

- The number of provider-specific referrals and outcomes of care as well as the patient/family satisfaction with care.

**Preferred Practice 4:** The healthcare home should have policies, procedures, and accountabilities to support effective collaborations among primary care and specialist providers, including evidence-based referrals and consultations that clearly define roles and responsibilities.

*Additional Specifications:*

- The healthcare home and collaborating specialty practices should have policies, procedures, and tools for developing and implementing service agreements between providers to define roles and responsibilities for each party and across care settings.
- Formal specialty referral arrangements and practice service agreements should include clear guidelines regarding the appropriateness of referrals and the prioritization of patients to primary care, using evidence-based guidelines when they exist.
- The healthcare home should have access to transparent information about the patient population served and the patient's medical complexity, and the type, outcomes, and costs of services rendered by specialists.

    - Implementing this practice will require collaboration among the healthcare home, specialists, and payers to create greater transparency that could be limited in scope to address the healthcare home planning. Transparency agreements allow for entities to define the data and terms for sharing and exposing the data and information.
- Referral communications should be structured to include evidence-based diagnosis and treatment guidelines when identifying the patient's clinical condition.
- Referral communications should be timely, explicitly delineate the roles and responsibilities for follow-up with the healthcare home and with the specialist, and be transmitted in the format of an actionable care plan. The care plan and its delineated accountabilities shall be made available in real time to the patient and caregiver who will be participants in its creation.
- The healthcare home should have tools to track referrals.
- The healthcare home should have a mechanism to assure seamless access for a patient who is redirected from a specialty setting.
- Payers should develop incentives to encourage the creation of care plans and service agreements and the use of evidence-based referral processes that result in improved outcomes.
- Patient and provider education on the availability and appropriateness of various types of referrals should be part of the healthcare home orientation and should include at a minimum:
    - transparency and awareness of the policies and procedures regarding access to and expectations for specialty services;
    - lists of specialty providers with formal practice agreements;
    - policies and procedures for evaluating activities prescribed by the care plan that are not working; and
    - policies and procedures for 24-hour contact information.

*Example Implementation Approaches:*

- The Alameda County (California) Medical Home Project has partnered with a regional center to design a standardized referral cover sheet for providers. This cover sheet clarifies the referral process and provides pediatricians with the information they need for a successful referral.[24]

*Opportunity for Measurement:*

- Assess the appropriateness of referrals: primary versus specialty care.
- Measure the redirection of patients.
- Measure whether primary and specialty care clinicians have a written co-management agreement that explicitly outlines roles and responsibilities.
- Measure outcomes.
- Assess the cost of unnecessary care and testing generated by a referral, including adverse events (e.g., the "cascade effect").

**Preferred Practice 5:** The healthcare home shall provide or arrange to provide care-coordination services for patients at high risk for adverse health outcomes, high service use, and high costs.

*Additional Specifications:*

- Targeted assessment of the patient's functional, cognitive, behavioral, social, preventive health, and medical care needs, including relevant risk factors for adverse outcomes and high costs, should be performed.

- An electronic summary of the patient plan of care and risk factors should be produced and shared with the patient, caregivers, and care team within system capabilities.
- Evidence-based guidelines should be used to provide the patient and caregivers with options for managing the care and services, reducing risk factors, and achieving individual goals.
- The plan of care for high-risk/high-cost patients should
  - be individualized and incorporate patient and caregiver preferences and goals, including culturally appropriate preferences and goals;
  - incorporate findings from the targeted assessment, including relevant risk factors;
  - identify individual health goals that the patient would like to achieve for self-management;
  - include evidence-based strategies to monitor, prevent, and reduce significant risk factors for adverse outcomes and avoidable use of high-cost services (e.g., intensive care, hospital admission, and readmission);
  - incorporate steps to coordinate transitions for patients between sites and providers of care and;
  - recommend community resources needed to meet patient and caregiver needs and goals, including plans for activating and monitoring the use of resources toward achieving patient and caregiver preferences and goals.
- Healthcare professionals responsible for providing care-coordination services to patients at high risk for adverse outcomes, high service use, and high costs will possess and demonstrate the knowledge, skills, and attitudes/competencies required to carry out these services including, but not limited to:
  - assess patient functional, cognitive, behavioral, social, and medical care needs, including risk factors for adverse outcomes and high-cost care;
  - develop an individualized plan of care that incorporates patient and caregiver preferences, including those that are culturally appropriate, as well as evidence-based treatments and interventions for acute/chronic health problems and functional/social goals;
  - implement evidence-based interventions that promote self-management;
  - implement evidence-based interventions that prevent, manage, and reduce the risks for adverse outcomes, high service use, and high costs;
  - coordinate communication among providers across settings;
  - access, initiate, and evaluate the use of community resources to achieve patient and caregiver preferences and goals; and
  - evaluate the achievement of goals within the plan of care and adapt the plan of care as needed to improve goal attainment.
- A licensed healthcare professional must oversee the coordination of transitions for patients between sites and providers of care.
- The healthcare home should coordinate communication about the patient's goals and care plan among the patient, caregivers, and healthcare professionals.

*Example Implementation Approaches:*

- Johns Hopkins Bloomberg School of Public Health has implemented Guided Care, a patient-centered medical home for older adults with complex health needs that has been shown to improve the quality of care and reduced overall costs.[25]

- The National Heart Failure Training (N-HeFT) program describes itself as "a network whose mission is to create a mutually supportive environment for its members that promotes evidence-based best practices for heart failure by providing didactic sessions and preceptorships through its network of heart failure centers across the country."[26] Implemented in 33 sites across the country, the program seeks to improve the quality of care of its patients, specifically in the areas of mortality and hospital readmissions.
- The Washington State Department of Social & Health Services, Aging and Disability Services Administration has implemented the Chronic Care Management project, with the goal of coordinating care, establishing medical homes, integrating acute and long-term healthcare, and developing client self-management skills while reducing avoidable medical expenses for high-risk/high-cost disabled adults.[27]

*Opportunity for Measurement:*

- NQF-endorsed performance measures related to chronic heart failure care, including 30-day all-cause readmissions and mortality:
  - 0229 Heart failure 30-day mortality
  - 0330 30-day all-cause risk standardized readmission rate following heart failure hospitalization
  - 0505 30-day all-cause risk-standardized readmission rate following acute myocardial infarction (AMI) hospitalization
  - 0521 Heart failure symptoms addressed
  - 0535 30-day all-cause risk standardized mortality rate following percutaneous coronary intervention
  - 0551 Ace inhibitor/angiotensin receptor blocker use
- Hospital Care Quality Information from the Consumer Perspective (HCAHPS), and Ambulatory Consumer Assessment of Health Plans (ACAHPS)
- Heart failure performance measures
- Minnesota Living with Heart Failure questionnaire
- Kansas City Cardiomyopathy questionnaire
- NQF-endorsed CMS-OASIS measures for home care.

## Domain: Proactive Plan of Care and Follow-up

### *The Problem*

One of the critical constructs for effective and efficient care coordination is the plan of care, with emphasis on self-management, goals, and support. This concept is highlighted within the NQF-endorsed Framework for Care Coordination as the Proactive Plan of Care and Follow-up domain, which is defined as an established and current plan of care that anticipates routine needs and actively tracks up-to-date progress on the patient's and family's long- and short-term goals.[28] A proactive plan of care is a central care-coordinating mechanism for all patients, families, and team members.

Care that is not properly coordinated through a defined plan of care can result in especially devastating outcomes for patients with chronic disease. For example, lack of proper coordination hinders patients with cardiovascular disease (CVD) from receiving appropriate lifestyle and medication therapies (self-management), as well as increases risks for cardiovascular disease events. According to a study conducted by the American Heart Association,[29] out of the 80 million American adults with one or more types of CVD, almost 20 percent have coronary heart disease (CHD). In 2009, the number of cases was estimated at 16.8 million,[30] and the estimated direct and indirect cost of CHD was $165.4 billion.[31]

The management of a chronic disease often varies over time; the treatments and care provided may change as the patient's symptoms change.[32] The plan of care is vital during transitions of care, and it becomes an increasingly important guidepost for the patient who is moving toward self-management. It serves as the main communication document between care settings, and it outlines elements such as the medication list, follow-up steps, identification of care problems, and resources for nonclinical care. According to the NQF-endorsed Framework for Care Coordination, the plan of care and self-management tools should encompass certain processes that contribute to successful implementation. These processes include utilizing an organizational system or policy to refine the plan of care for each patient; jointly setting goals and managing the plan of care with the patient and family; assessing progress toward goals; utilizing a system to track follow-up tests, referrals, treatments, or services; and offering additional support through community and nonclinical services. Improving care for patients and empowering them to take control of their conditions begins with developing a clear plan of care.

## Preferred Practices

Five practices focus on improving care coordination through proactive development of a plan of care and follow-up. All practices are applicable in all healthcare settings, including ambulatory care, behavioral healthcare, community healthcare, health plan, home health, hospital, long-term acute care hospital, skilled nursing facility, and rehabilitation facility.

**Preferred Practice 6:** Healthcare providers and entities should have structured and effective systems, policies, procedures, and practices to create, document, execute, and update a plan of care with every patient.

*Additional Specifications:*

- The plan of care should be jointly created and managed by the patient, caregiver, and care provider according to their preferences and the accountable provider. Elements of the plan of care should include, but not be limited to:
  - patient's diagnosis or problem;
  - environmental or social factors that may contribute to the problem;
  - other known factors that may contribute to the problem, including assets and strengths;
  - plan of care to address the diagnosis or problem, including preventive care;
  - documentation of the surrogate decision-maker for patient care;
  - appointments for follow-up care;
  - self-management training and/or skills identified by the patient;
  - evaluation of participation and level of engagement in activities of daily living;
  - existence of advance directives; and
  - updated list of medications.

- The healthcare home, which includes the patient and caregivers, shall assess progress toward goals and refine the plan of care as needed to accommodate new information or circumstances.
- The plan of care shall remain an integral component of all patient encounters.
- The plan of care shall be assessed and updated as necessary at every patient encounter.
- The plan of care shall address how the patient is functioning in his/her environment and include assessments of medication tolerability, effectiveness, and adherence.
    - The plan of care shall also place emphasis on improving outcomes and on evidence-based interventions.
- The patient shall be provided appropriate education and information regarding follow-up care. The healthcare home shall assess barriers to adherence with the care plan and endeavor to address these barriers.
- The patient's competency regarding self-management practices and skills should be assessed and considered when developing and revising the plan of care.
- The patient's health literacy, cultural beliefs, and ability/readiness to learn should be routinely assessed.

*Example Implementation Approaches:*

- The State of New Jersey Department of Health and Senior Services has developed templates for universal child health records and care plans for children with special healthcare needs.[33]
- The National Center for Medical Home Implementation, a program of the American Academy of Pediatrics, has developed a toolkit for the development and improvement of a pediatric medical home. The toolkit includes checklists to assess how well a practice addresses care within each of the six medical home "building blocks": care partnership support, clinical care information, care delivery management, resources and linkages, practice performance measurement, and payment and finance.[34]

*Opportunity for Measurement:*

- NQF-endorsed plan of care measures:
    - 0021 Therapeutic monitoring: annual monitoring for patients on persistent medications
    - 0251 Vascular access – physician
    - 0262 Vascular access – physician (b)
    - 0321 Peritoneal dialysis adequacy/plan of care
    - 0323 Hemodialysis adequacy/plan of care
    - 0383 Oncology: plan of care for pain
    - 0384 Oncology: pain intensity quantified
    - 0385 Oncology: chemotherapy for stage IIIA through IIIC colon cancer patients
    - 0386 Oncology: cancer stage documented
    - 0387 Oncology: hormonal therapy for stage IC through IIIC, ER/PR positive breast cancer

**Preferred Practice 7:** A systematic process of follow-up tests, treatments, or services should be established and should be informed by the plan of care.

*Additional Specifications:*

- Systems shall be in place to track results against patient goals.
- Tests, treatments, and services shall be coordinated for patients who receive care across providers and locations.

  - Interpretation of results should be appropriate and occur in a timely fashion across all venues of care. The venues should report the results and patient interventions to the healthcare home.
- Each follow-up process and/or reminder should be sent from the accountable provider in the system and should have a locus of accountability. Unless the patient requests otherwise, the healthcare home must be apprised of any follow-up requested for a patient.
- Reminders should be sent to patients or their designees for preventive measures, acute illness, and chronic disease management.
  - Reminders should be guideline based and include notifications for age-appropriate screening tests, immunizations, risk assessments, behavioral health assessments, and counseling.
  - Systems should be in place to proactively remind the patient and clinician of services needed. Examples include:
    - patient needs pre-visit planning;
    - patient needs clinician review or action;
    - patient is on a particular medication;
    - patient needs preventive care;
    - patient needs specific tests; and
    - patient might benefit from care management services.
- Tests and other results shall be available to the patient or his or her designee, according to the patient's preferences and to the accountable healthcare home provider. The patient or his or her designee and healthcare home provider shall be aware of the tests, self-management data, and services specified in the plan of care. The results of tests and other data shall be readily available to appropriate team members to avoid unnecessary duplication of services.
  - Protocols and policies should be in place to ensure that appropriate and timely communication of tests and services is provided to the patient or his or her designee.
  - A process should be established for appropriate communication of test results.
    - Diagnostic test results should be clearly interpreted and explained to the patient in an understandable manner, and next steps/follow-up procedures should be reviewed.
  - Patient information, such as current medications, consultation reports, progress notes, transitions of care reports, and test results, shall be communicated to all healthcare home team members to reduce the chance of error.
  - At a minimum, patients should be able to explain, in their own words, the diagnosis/health problem for which they need care and the instructions for prevention and/or treatment of the problem.

*Example Implementation Approaches:*

- None identified

*Opportunity for Measurement:*

- Measure hospital readmission rates
- Measure preventive screening and immunization rates for target populations
- Measure patient satisfaction with care

**Preferred Practice 8:** The joint plan of care should be developed and should include patient education and support for self-management and resources.

*Additional Specifications:*

- The joint plan of care should be developed with the patient, his or her designee, and the care provider.

  - Inquiry should be made at each medical visit to assess the patient's knowledge of the condition being treated along with his or her understanding of and agreement with the planned treatment. The agreed upon and written plan of care should be provided to the patient or his or her designee according to the patient's preferences.
  - Guardians should be educated if the patient is a minor or incompetent.
- The patient's readiness to change and self-management abilities should be assessed and documented in accordance with patient preferences, and where appropriate, for patients with limited competency.
- The patient's knowledge about conditions, treatments, and medications should be included in the joint plan of care. Where indicated, for full informed adherence and consent to the plan of care, the patient and his or her designee should be provided all relevant information to make informed decisions related to that plan.
- The patient and his or her designee (according to patient preference or competency status) should be connected with self-management support programs that align with and support the treatment plan.
- To ensure informed participation in care, the patient and his or her designee should be connected as necessary with classes that are taught by qualified instructors.
- If requested by the patient or his or her designee, any resources deemed necessary for informed participation should be provided in the language that is best understood by the patient or his or her designee.
- Self-monitoring tools that allow the patient to record results at home should be considered.
- The plan of care should account for financial expenses that the patient may incur and should consider ways to reduce costs to the patient while maximizing patient benefit and desired outcomes.

*Example Implementation Approaches:*

- The Center for Connected Health offers the Connected Cardiac Care program,[35] which aims to reduce the rehospitalization rates of patients with heart failure by educating patients about their conditions and by providing self-management tools and ongoing support.
- Health Dialog has developed consumer materials to assist with informed decision-making, which include evidence-based information about treatment options, coaching from a neutral health professional, and information on engaging in an informed discussion with the treating physician.[36]

*Opportunity for Measurement:*

- Process measures focused on the following elements:
  - patient or his or her designee received written plan of care;
  - patient received education about treatment and/or condition (in appropriate language and educational level);
  - patient received education about self-management support programs;
  - patient's or his or her designee's preferences, readiness to change, and self-management abilities assessed; and
  - patient connected to classes taught by qualified instructors.

**Preferred Practice 9:** The plan of care should include community and nonclinical services as well as healthcare services that respond to a patient's needs and preferences and contributes to achieving the patient's goals.

*Additional Specifications:*

- Healthcare providers should form partnerships with community organizations and should support the development of interventions to fill the gaps of needed services, both clinical and nonclinical.
- The plan of care should recognize and incorporate local, state, regional, and national resources.
- The plan of care should recognize and incorporate public health resources.
    - The plan of care should demonstrate active awareness of and encourage patients and their families to participate in clinical and nonclinical community programs.
- The plan of care should include other nonmedical resources that may impact the patient's medical condition.
    - A needs assessment for the patient should be employed to determine the social and environmental factors that may influence care, such as housing, transportation, and activities of daily living.
    - Community resources (e.g., social services, community advocates, transportation services, etc.) should be used to meet the needs of the patient.
    - The healthcare home team should be aware of environmental/home, lifestyle, participation, and other community factors and incorporate them into the plan of care.

*Example Implementation Approaches:*

- The MeritCare Coordinated Treatment Center in Fargo, North Dakota, works as a team with patients and their families to set goals that meet everyone's needs.[37] As a team, the medical professionals, patient's and patient designees find ways to maximize the patient's strength and achieve the goals.
- Community Care of North Carolina is an innovative effort that is organized and operated by practicing community physicians.[38] In partnership with hospitals, health departments, and departments of social services, these community networks have improved quality and reduced costs since their inception a decade ago. The program now saves the state of North Carolina at least $160 million annually.

*Opportunity for Measurement:*

- Measures of adherence to medication and other treatment plans

**Preferred Practice 10:** Healthcare organizations should utilize cardiac rehabilitation services to assist the healthcare home in coordinating rehabilitation and preventive care for patients with a recent cardiovascular event.[39]

*Additional Specifications:*

- Cardiac rehabilitation services should begin at the hospital where patients have been identified as having experienced a cardiovascular event, including myocardial infarction (MI), percutaneous coronary intervention (PCI), coronary artery bypass graft (CABG) surgery, stable angina, heart valve surgery, and heart transplantation.
- Eligible patients should be referred by the inpatient care team to an outpatient cardiac rehabilitation program and should begin receiving those services approximately 1 to 2 weeks after hospital discharge.[40]

- At program entry, patients undergo an initial evaluation to identify cardiovascular and related comorbid conditions. An individualized treatment plan is then designed and implemented that includes a comprehensive program of lifestyle therapy, education, counseling, and medical treatments, all of which are done in coordination with the patient's primary medical care provider.
- Patients participate in 60-minute rehabilitation sessions 3 days a week for up to 12 weeks. During that time, program staff monitors patients' clinical status and adherence to preventive therapies, and identify any concurrent symptoms or other concerns that may impact the patients' cardiovascular recovery and health.
- Programs should operate in a hospital or clinic setting, where patients report for their rehabilitation sessions. Programs may also include home-based or other alternative approaches to service delivery, particularly for patients who live far from the cardiac rehabilitation centers.

*Example Implementation Approaches:*

- Kaiser Permanente of Colorado[41] (KPCO) has implemented the Collaborative Cardiac Care Service (CCCS) with the goal of improving the health of patients with coronary artery disease (CAD). The service is provided by a nursing team (Kaiser Permanente Cardiac Rehabilitation program; KPCR) and a pharmacy team (Clinical Pharmacy Cardiac Risk Service; CPCRS) that work with patients, primary care physicians, cardiologists, and other healthcare professionals to coordinate proven cardiac risk reduction strategies for patients with CAD.

*Opportunity for Measurement:*

- Assess cardiac rehabilitation patient referral from an inpatient setting (including among endorsed measures in this report)
- Assess cardiac rehabilitation patient referral from an outpatient setting (including among endorsed measures in this report)

## Domain: Communication

### *The Problem*

Communication has consistently been recognized as vital to care coordination. Despite this recognition, gaps in communication between the patient and provider are still very common. Some view effective communication as time-consuming[42] and costly. Several other barriers to effective communication have been cited and include delays in dictation and receipt of mailed letters, difficulties in telephone contact, and incomplete communication when multiple specialists are involved.[43] In the case of hospital discharge summaries, which are physician-dictated or transcribed reports, research shows that only 25 percent of summaries reach the patient's primary care physician.[44] Poor communication is linked to a decrease in continuity of care, an increase in hospital readmission[45] rates and adverse events, a decline in patient safety,[46] and an increase in poor outcomes.

Communication within the construct of care coordination consists of open dialogue among the care team members, which include the patient and family members. The NQF-endorsed *Framework for Care Coordination* describes communication as involving all healthcare home team members working within the same shared plan of care, ready availability of consultation notes and progress reports, shared decisionmaking with the patient and family, use of various communication methodologies, and maintenance of privacy with access to information. In addition, communication strategies involve health literacy, translators, expert panels, and direct input from the patient and family members.

Communication among primary care providers, hospital providers, specialists, and community resources is key for optimal care of patients.[47] Communication has become the forefront of many hospital programs as a vehicle to improve transitions and reduce medical errors and rehospitalizations. Several hospitals have successfully implemented patient-centered strategies that address gaps in communications by involving a family member, caregiver, or nurse care coordinator in the care of a patient in the hospital. Such programs, similar to the Care Partner program developed by Planetree, invite the caregiver/family member to participate in care activities (ranging from monitoring care and treatments to aiding with personal activities) and to address issues that may arise (e.g., unexpected treatments and procedures, unexplained medications, adverse reactions). The benefits arising from enhanced communication between the care providers and the patient are evident. Improved communication leads to a quicker reconciliation of care issues, a clearer understanding of follow-up protocols, and ultimately better outcomes for the patient.

Clear communication between the patient and the provider is essential for effective coordination of care and is a direct reflection of the quality of care that is provided. In addition to "traditional" face-to-face communication methods, alternate communication modalities are increasingly being utilized. For example, the Department of Veterans Affairs, Office of Care Coordination Services has established a telehealth program, which delivers health-related services and information via telecommunications technologies.[48] The NQF set of preferred practices for communication focuses on open relationships among the provider, the patient, and the care team that shares responsibility for the plan of care. These four practices include utilizing a care partner to help support the patient during hospitalizations.

## *Preferred Practices*

Four practices focusing on communication as a means to enhance care coordination have been endorsed. All practices apply to all settings of care, including ambulatory care, behavioral healthcare, community healthcare, health plan, home health, hospital, long-term acute care hospital, skilled nursing facility, and rehabilitation facility.

**Preferred Practice 11:** The patient's plan of care should always be made available to the healthcare home team, the patient, and the patient's designees.

*Additional Specifications:*

- The patient's health information is available to all healthcare home team members and is open to the patient and his or her designees.
- The healthcare home team ensures that other healthcare entities or professionals have timely access to the plan of care, as appropriate.

- Mechanisms should be in place to ensure compliance with federal personal privacy laws while enabling secure access to necessary information by healthcare team members such as the patient, family members, caregivers, primary care provider, and specialists.
- A defined process and timeframe to access the plan of care should be used.
- Processes should be in place to facilitate access to the plan of care at the time of request.
- Processes should be in place to identify and address obstacles encountered when accessing the plan of care.

*Example Implementation Approaches:*

- Project ACT (advancing caregiver techniques), a study conducted by the Thomas Jefferson University, Center for Applied Research on Aging and Health, is designed to help caregivers learn new ways to manage challenging behaviors common in persons with Alzheimer's disease. Project participants receive training in several areas, including caregiver and memory loss, ways to manage dementia-related behavior problems, and coping strategies and ways to handle stress.[49]

*Opportunity for Measurement:*

- Monitor healthcare team members' and the patient's access to the plan of care during clinical encounters.
- Assess the portability of the electronic health record in different healthcare settings.

**Preferred Practice 12:** All healthcare home team members, who include the patient and his or her designees, should work within the same plan of care and share responsibility for their contributions to the plan of care and for achieving the patient's goals.

*Additional Specifications:*

- All practice settings have mechanisms to develop and share the plan of care that include consideration of the patient's preferences and goals.
- Protocols and/or steps are in place to ensure that the patient and his or her designees contribute to the development of the plan of care.
  - Communication between the patient and the care team is consistently maintained by designating a specific time period to discuss questions and concerns.
  - The patient is actively solicited to provide input on the progress of his or her care.
  - The patient's input is actively sought when any change in the plan of care is necessary.
- Patients and their designees are informed and have opportunities to ask questions about all relevant care options, associated risks, and benefits, and this information should be included in the plan of care.
  - Patients are encouraged and supported in a nonjudgmental manner to share information about their own self-management practices, including information about their medications, with their caregivers, and this information is discussed and incorporated in the care plan.

*Example Implementation Approaches:*

- None identified

*Opportunity for Measurement:*

- Assess patient and caregiver awareness of mechanisms to review and discuss the plan of care, as well as documentation of the discussions in the plan of care.

**Preferred Practice 13:** A program should be used that incorporates a care partner to support family and friends when caring for a hospitalized patient.

*Additional Specifications:*

- A care partner program should be developed and implemented by the accountable healthcare organization, which is also responsible for the care of the hospitalized patient.
- The care partner should be a family member, friend, or volunteer who is selected by the patient to participate at various times in educational, physical, psychological, and spiritual support of the patient.
- The care partner should be encouraged to be an active participant in the care process and should be advised to ask questions, especially if something does not seem right, such as unexpected tests or procedures, unexplained medications, or adverse reactions.
- Shortly after admission and with approval from the patient, the primary nurse should discuss the routine care activities that are required and should establish the caregiver's interest.
    - The nurse is typically responsible for providing the necessary education about the care and monitors the caregiver's progress and comfort level with any new skills. It is important to state that care partnering is not to be considered a replacement for nursing care, but rather as an adjunct or enhancement to care.
- Routine care activities provided by a care partner can include, but are not limited to:
    - personal care—bathing, backrubs, hair care;
    - meal assistance—feeding, menu selection, encouraging, recording;
    - ambulation assistance—wheelchair use, encouraging, monitoring;
    - monitoring fluids and medications;
    - diversional activities—reading, writing, companionship;
    - treatments—mouth care, dressings, exercises;
    - managing the patient's comfort;
    - assisting with review of health information and treatment/care plans relevant to decisionmaking, as appropriate;
    - catheter and drain care;
    - safety measures; and
    - suctioning.

*Example Implementation Approaches:*

- Planetree, a nonprofit organization, has implemented a program designed to include loved ones in the healing process. The care partner acts as the family spokesperson/ advocate and learns the skills needed to provide home care.[50]

*Opportunity for Measurement:*

- Measure patient satisfaction and/or experience with care measures.

**Preferred Practice 14:** The provider's perspective of care coordination activities should be assessed and documented.

*Additional Specifications:*

- A healthcare organization or accountable entity should assess provider interactions vis à vis care coordination as they relates to patient clinical information, frequency of information communication, mode of information delivery, and external care partner roles.

- An assessment process should demonstrate the usefulness and convenience of reports about patent's by reviewing and evaluating the following:
    - reminders that the patient needs to schedule or receive treatment, preventive care, follow-up services;
    - notices that the patient received a service;
    - aggregate feedback;
    - report timing;
    - number and frequency of reports received; and
    - mode of delivery.
- An assessment process should evaluate providers'satisfaction with care coordination by reviewing:
    - how providers are informed,
    - the accuracy of information about patients,
    - the ability of care coordination staff to assist providers, and
    - the overall program.
- An assessment process also should evaluate the impact of the care coordination program on its ability to care for patients, as well as the effects on satisfaction of current requests of:
    - having to pull patient charts,
    - filling out forms on patients,
    - reimbursing for activities related to care management,
    - reimbursing for selected services provided, and
    - providing one-on-one consultation.
- An assessment process should evaluate how care coordination affects the patient-provider relationship and the provider's ability to care for his or her patients.
- An assessment process should demonstrate the program's impact on the patient's health information by rating the effect of care coordination on the use of services, the patient's health status, and the patient's health behaviors.
- The provider's assessment of care coordination activities also should account for the views of patients and families, as gathered through standardized instruments (e.g., CTM-3).

*Example Implementation Approaches:*

- DMAA: The Care Continuum Alliance has developed a Provider Satisfaction survey, an instrument used to assess the provider's perspective of care coordination components, including interactions with external disease management/health management programs. Questions within the survey include the provider's perspective of patient reports received from external programs, interactions with disease management programs, and how these programs affect the patient's health and the provider's ability to manage the patient's health.[51]

*Opportunity for Measurement:*

- The Care Continuum Alliance survey can also serve as a measure for assessing the provider's perspective.

## Domain: Information Systems

### The Problem

Comprehensive, integrated, interoperable information systems have increasingly been the focus of efforts to improve healthcare quality. The use of such information systems, including electronic health records (EHRs), is gaining momentum and transforming how patient records are shared and filed. Healthcare information technology (HIT) complements the patient-provider paradigm by providing ongoing, real-time information that can facilitate collaboration, coordination, and quality measurement.

Information systems are defined within the NQF-endorsed *Framework for Care Coordination* as the use of standardized, integrated electronic information systems with functionalities essential to care coordination and available to all providers and patients. Additional characteristics of an appropriate healthcare information system include seamless interoperability, efficient and effective integration of patient information, decision-support tools, and provider and patient reminders. The system must encompass consumer-accessible applications such as the web and mobile platforms. Last, it must support quality improvement and safety.

Research demonstrates that HIT has the potential to improve healthcare providers' efficiency and effectiveness,[52] and EHRs in particular are supported throughout the country, especially by U.S. policymakers. Other positive impacts associated with using EHRs are improvements in coordination of care through accurate and current patient data, and timely access to medical history (medications, treatments, and conditions). Currently, a minimal number of healthcare providers are using some type of EHR: Only 17 percent of U.S. physicians[53] and 1.5 percent of U.S. hospitals have information systems[54] with basic or comprehensive capabilities. In addition, the insufficient or poor quality of patient data that results from misuse and nonuse of EHRs has been linked to an increase in costs, poor health outcomes, and poor patient safety.[55] A standardized approach to HIT and the associated, essential data elements is important for efficient and effective use.

Successful deployment of healthcare information systems provides the critical link to improving care coordination. It provides the opportunity for various systems and care settings to interact and share vital information about the patient, which greatly contributes to timeliness and accuracy of care. The benefits of HIT and EHRs are fully evident, but for various reasons barriers still exist to their widespread implementation. NQF has underway a broad spectrum of quality improvement efforts within HIT. This set of three preferred practices is only one aspect and is intended to serve as a starting point for the use of information systems to improve care coordination.

## *Preferred Practices*

Wider deployment of health information technology is important to improved care coordination. The following three practices have been endorsed and apply to all care settings, including ambulatory care, behavioral healthcare, community healthcare, health plan, home health, hospital, long-term acute care hospital, skilled nursing facility, and rehabilitation facility.

**Preferred Practice 15:** Standardized, integrated, interoperable electronic information systems with functionalities that are essential to care coordination, decision support, quality measurement, and practice improvement should be used.

*Additional Specifications:*

- Electronic information systems should be structured so that patients have secured access to the best and most appropriate information to guide care.

  - Structured asynchronous communications should be used for care coordination functions in methods that are appropriate for the recipient.
  - Information systems should comply with all HIPAA (Health Insurance Portability and Accountability Act) privacy and security rules and state laws related to privacy of health information.
  - The content contained within information systems should be clearly explained and user friendly for the patient and include web-based and mobile platform access.
  - The information systems should assist patients and families in making decisions regarding services and care.
- Core data elements for electronic information systems should include, but not be limited to, laboratory, imaging, referrals, medications, physical findings, plan of care, social and community services, and self-management support.
- Information systems should have the capabilities necessary to track transitions of care and referrals.
- Information systems should have the capabilities necessary to easily retrieve data for evaluation of performance measures, transparency, information sharing (e.g., registries, population-based data), quality improvement, cost of care, accountability, and policymaking for care coordination.
  - Information systems should use the industry-standard terminologies and messaging platforms that are necessary for sharing information between and across care delivery settings.

*Example Implementation Approaches:*

- Connecticut Community Care Inc. uses a community and institutional EHR for chronically ill, high-risk elderly in the community.[56]
- Maintain separate portals—one for the patient and one for the provider.
- Use electronic communication tools, such as e-mail or web-messaging and self-monitoring devices, as well as traditional tools.
  - Use electronic surveys or questionnaires to identify services that are available within an area.

*Opportunity for Measurement:*

- None identified

**Preferred Practice 16:** An electronic record system should allow the patient's health information to be accessible to caregivers at all points of care.

*Additional Specifications:*

- Health information for the individual patient should be available at the point and time of care in an interoperable, computable document, while still providing privacy for sensitive information.
- Document structures should conform to national standards so that information can be automatically acquired and processed from multiple sources into a consolidated document and/or integrated into the EHR at the point of care.
- Structured plans of care, when available, should be updated after encounters to provide a single reference source that enables and documents coordination of care.
- Record systems should transmit computable information, such as caregiver information, problem list, allergies, medications, prior test results, advance directives, plans of care including goals, and insurance.
- Standards for structured clinical documents should have the flexibility to support simple or complex structures and semantics in order to support a spectrum of electronic health records.

- Electronic health records should be certified as to conformance with national standards.
- Information systems should comply with all HIPAA privacy and security rules and state laws related to privacy of health information.

*Example Implementation Approaches:*
- Not identified

*Opportunity for Measurement:*
- None identified

**Preferred Practice 17:** Regional health information systems, which may be governed by various partnerships, including public/private, state/local agencies, should enable healthcare home teams to access all patient information.

*Additional Specifications:*
- Access to patient information should occur through a data exchange that ensures privacy of sensitive information.
    - Health information systems should enable the exchange and use of health information across communities, in a private and secure manner, for the purpose of promoting the improvement of health quality, safety, and efficiency.
    - Information should be delivered to patients and/or providers when and where they need it so the information can be used to make informed decisions, while supporting privacy and patient preferences.
- Regional health information systems should have clear policies about the involvement of the board of directors, healthcare providers, consumer representatives, and community stakeholders to ensure that care coordination is a top priority.
- Information systems should comply with all HIPAA privacy and security rules, and state laws related to privacy of health information.

*Example Implementation Approaches:*
- The Massachusetts eHealth Collaborative is developing a 24- to 36-month pilot study to demonstrate the effectiveness and practicality of implementing electronic health records in three communities in Massachusetts.[57]

*Opportunity for Measurement:*
- None identified

## Domain: Transitions or Handoffs

### *The Problem*

Transitions of care within the current system have proven to be one of the most important factors in patient care. Every patient who is admitted to the hospital will experience a transition to another setting (home, rehabilitation facility, skilled nursing facility, outpatient facility, etc.). It is evident that poor transitions lead in many cases to underuse, overuse, or misuse of care.[58] An episode of care for a chronic condition or serious illness may involve numerous settings of care, often with little communication among the various providers and components of these settings.

NQF defines transitional care as a "hand-off" or transition between settings of care. Transitional care should be based on a comprehensive plan of care and should consist of a set of actions that are designed to ensure the coordination and continuity of healthcare. In particular, the availability of healthcare professionals who are accountable for transitions, who are well trained in chronic and acute care, and have current information about the patient's goals, preferences, and clinical status is key to successful transitions.[59]

Although the implications of poor transitions of care are evident, physicians and other healthcare practitioners often work in silos without accurate knowledge of prior care received, medications prescribed, or specific problems addressed.[60] Studies demonstrate that one in five patients discharged from the hospital to home experience an adverse event, and more than one-half of those adverse events are drug-related and could have been avoided or prevented.[61] A lack of appropriate communication also contributes to transitional care problems; one study found that only 3 to 20 percent of physicians communicate key patient information between the hospital and primary care physician.[62] Discharge summaries often lack key information, such as test results, medication lists, patient or family counseling, and follow-up steps.[63] The emergency department, often the point of re-entry for patients with adverse events, is a vital transitional care setting; communication is particularly important during this critical point in the care process. Furthermore, the pivotal role that the family and caregivers play during transitions is often overlooked. Family members have expressed a sense of anxiety during transitions due to a lack of preparation and of input in the care plan, conflicting advice, and confusion with different practitioners.[64]

A policy statement by the American College of Physicians, Society of Hospital Medicine, Society of General Internal Medicine, American Geriatric Society, American College of Emergency Physicians, and the Society for Academic Emergency Medicine identifies several principles to address the quality gaps in transitions between inpatient and outpatient settings and notes components for implementation of those principles.[65] The principles include accountability, timely interchange of information, involvement of the patient and family member, and standardized metrics to lead to quality improvement and accountability. In particular, the key components for implementation are a transition record, standard communication formats, and communication infrastructure. The National Transitions of Care Coalition (NTOCC) also identifies several steps for improving transitions of care; many echo those mentioned in the joint statement, but NTOCC also notes the importance of implementing an electronic health record, increasing the use of case management, expanding the role of the pharmacist, and implementing payment incentives.[66]

Within the NQF-endorsed *Framework for Care Coordination,* certain care processes during transitions deserve particular attention: medication reconciliation, changes in the plan of care, involvement of the team during hospitalization, timeliness, and communication between settings. The eight NQF preferred practices that are related to transitions emphasize these components. A standardized approach to transitional care will greatly address the problem of fragmented care within our health system, which will improve patient safety and quality of care.

## Preferred Practices

Transitions are key leverage points for care coordination. Eight preferred practices in this domain have been endorsed and are applicable to all healthcare settings, including ambulatory care, behavioral healthcare, community healthcare, health plan, home health, hospital, long-term acute care hospital, skilled nursing facility, and rehabilitation facility.

**Preferred Practice 18:** Decisionmaking and planning for transitions of care should involve the patient, and, according to patient preferences, family and caregivers (including the healthcare home team). Appropriate follow-up protocols should be used to assure timely understanding and endorsement of the plan by patient and his or her designees.

*Additional Specifications:*

- The healthcare home team should have current information and resources to assist the patient and his or her designees in making the best decisions about transitions, especially to post-acute or long-term care.
  - The following information should be provided to the patient and his or her designees: available services, eligibility, costs, and comparative data for those services.
- The patient, family, and caregivers should be actively involved in decisionmaking about transitions of care.
- The healthcare home team, patient, and their designees should collaboratively develop a plan for transitions of care.
- Appropriate follow-up protocols for transitions of care should be used by the healthcare home team.
- All resources provided to the patient should be offered in the patient's primary written and spoken language, including Braille and American Sign Language, as appropriate.

*Example Implementation Approaches:*

- The California Healthcare Foundation's program, Better Chronic Disease Care, focuses on improving the quality of life for patients with chronic disease by expanding the number the providers who effectively care for patients with chronic conditions, increasing participation of patients and families, and promoting appropriate care toward the end of life.[67]

*Opportunity for Measurement:*

- Assess the patient's, family's, and caregivers' involvement in decisionmaking about transitions of care.

**Preferred Practice 19:** Patients and their designees should be engaged to directly participate in determining and preparing for ongoing care during and after transitions.

*Additional Specifications:*

- Appropriate patient education should be used during transitions of care.
- Programs to engage patients and families in self-management practices during transitions of care should be used.
- The patient and all parties accountable for the patient's care should be provided with appropriate information during transitions of care.
- Preparations for transitions of care and ongoing care should include aspects of care at home, when appropriate.
- Patients should be fully informed of clinical options and should be engaged in decision-making.
- Patients should share self-management practices with family members and the home healthcare team.
- Medication lists and patient education of medication use should be evaluated appropriately before transitioning to another care setting.

*Example Implementation Approaches:*

- Not identified

*Opportunity for Measurement:*

- Assess the quality of the patient education materials, the skills of the self-management coach, and whether or not the patient was able to absorb and retain the information received.

- Assess patient preparation and engagement for ongoing care.
- NQF-endorsed readmission measures:
    - 0329 All-cause readmission index
    - 0330 30-day all-cause risk standardized readmission rate following heart failure hospitalization
    - 0335 PICU unplanned readmission rate
    - 0337 Review of unplanned PICU readmissions
    - 0505 30-day all-cause risk standardized readmission rate following acute myocardial infarction (AMI) hospitalization
    - 0506 30-day all-cause risk standardization readmission rate following pneumonia hospitalization
    - 0549 Pharmacotherapy management of COPD exacerbation (PCE)

**Preferred Practice 20:** Systematic care transitions programs that engage patients and families in self-management after being transferred home should be used whenever available.[68,69]

*Additional Specifications:*

- The care transitions program should be low cost and low intensity and should focus on four areas: 1) how to self-manage medication, 2) how to use a dynamic patient-centered record, 3) how to ensure timely primary care/specialty care follow-up and what to do when access is a problem, and 4) how to identify and respond to red flags that indicate a worsening of the condition.
- The care transitions program should have a duration of at least four weeks and should incorporate skill-building exercises and resource tools.
- Key self-management skills should be identified, including the skills needed to be more assertive about the patient's care.
- A care transitions coach[70] should be introduced to provide additional support to the patient, family, and caregivers, particularly for patients who are at high risk for adverse outcomes and/or readmissions.
    - The transition coach should assist in learning and developing care transition self-management skills.
    - The transition coach and patient should simulate next steps care, including role play for upcoming encounters with other caregivers.

*Example Implementation Approaches:*

- The University of Colorado, Denver currently utilizes the Transitional Care Program to support patient and their families while providing effective care during transitions.[71]

*Opportunity for Measurement:*

- NQF-endorsed readmission measures
- NQF-endorsed 3-Item Care Transitions Measure (recommended for continued endorsement as a component of this project)

**Preferred Practice 21:** For high-risk, chronically ill older adults, an evidence-based, multidisciplinary, transitional care practice that provides comprehensive in-hospital planning, home–based visits, and telephone follow-up, such as the Transitional Care Model, should be deployed.

*Additional Specifications:*

The Transitional Care Model[72,73] is an evidence-based model that targets older adults at high risk for poor outcomes, provides the evidence for this preferred practice, and includes the following elements:

- A specially trained nurse, known as the Transitional Care Nurse (TCN),[74] serves as the primary coordinator of care to assure continuity of care across the entire episode, from hospital admission through an average of two months after discharge or until the patient is no longer at risk for hospitalization.
- An individualized, evidence-based plan of care for every patient enrolled in a Transitional Care Model should be based on the following elements:
  - In-hospital planning and visits with patient by the TCN;
    - First in-hospital visit by the TCN within 24 hours of enrollment to conduct comprehensive assessment (e.g., physical, functional, cognitive, emotional health status) and identify patient's and family caregiver's health goals, needs and preferences;
    - Collaboration with the physicians and other healthcare team members to design a streamlined plan of care and coordinate follow-up care services based on the comprehensive assessment and goals identified by the patient; and
    - Daily hospital visits to implement the care plan, prevent adverse events and monitor progress.
  - Ongoing, home-based care by the TCN that is reflective of the individualized plan of care, follow up and based on an established visit and telephone contact protocol.
    - In-home visit within 24 hours of discharge from the hospital;
    - At least weekly home visits during the first month;
    - At least semi-monthly home visits through the duration of the intervention;
    - Telephone outreach with the patient, as needed, and in each week an in-person visit is not scheduled; and
    - Telephone availability for patients and their family caregivers from 8 am to 8 pm Monday through Friday and 8 am to noon on weekends;
  - A written, personalized plan for care for emergencies and those hours when the TCN is unavailable.
- Continuity of medical care between the hospital and primary care and/or referring physicians facilitated by the specially trained nurse accompanying the patient, at least, to the first visit with the physician after hospital discharge and assisting the patient and family caregivers in understanding the primary care physician's instructions;
- Comprehensive, holistic focus on each patient's needs, including the reason for the hospitalization as well as other complicating or coexisting events;
- Active engagement of patients and family caregivers, including education and support;
- Emphasis on early identification and response to healthcare risks and symptoms to achieve longer-term positive outcomes and avoid adverse and untoward events that lead to hospital readmissions;
- Multidisciplinary approach that includes the patient, family caregivers, healthcare providers and community workers as part of a team;
- Physician-nurse collaboration;
- Communication to, between, and among the patient, family caregivers, and healthcare providers;
- Continuity of care and ongoing commitment to the patient's health goals through an explicit transition plan from a transitional

care practice (e.g., Transitional Care Model) based on a specified protocol that includes:

  - Communication by the TCN with the primary care provider who will continue to monitor the patient; and
  - A written transition summary prepared by the TCN and provided to patients, family caregivers, and primary care providers, which include the patients' goals, progress in meeting these goals, and ongoing or unresolved issues with the plan of care.

*Example Implementation Approaches:*

The Transitional Care Model is currently implemented within the University of Pennsylvania Health System and other leading health systems.[75] The Transitional Care Model substitutes for traditional visiting nurse services, except when patients require specialized services such as wound care or intravenous therapy.

*Opportunity for Measurement:*

- Transitional care model assessment measures coupled with readmission measures;
- NQF-endorsed 30-day readmission rate measures for heart failure, myocardial infarction and pneumonia;
- NQF-endorsed 3-item Care Transitions Tool (CTM-3);
- Six-month and 12-month readmission rates; and
- Time to first hospital readmission.

**Preferred Practice 22:** Healthcare organizations should develop and implement a standardized communication template for the transitions of care process, including a minimal set of core data elements that are accessible to the patient during care.

*Additional Specifications:*

- Organizations should specifically identify the appropriate steps and elements of communication to ensure accuracy during transitions. These should include, but not be limited to:
  - patient identifiers such as patient name, medical record number, and date of birth;
  - names of physicians, other providers, and key contacts;
  - important medical history, such as diagnosis, current condition, treatments, time-sensitive issues; and
  - clear opportunities to ask and respond to questions.
- Core data elements should accompany the patient during all transitions of care and should be appropriate to the type of transition and accessible throughout the transition. These core data elements should include, but not be limited to:
  - clinical status,
  - medication lists,
  - functional status,
  - communication skills,
  - medical diagnosis and significant health problems,
  - patient and caregiver priorities for care,
  - preferences relevant to the transition,
  - treatments/procedures completed within the setting,
  - all treatments (durable medical equipment [DME], medications, therapies) including post-transitions treatments,
  - relevant past medical history, and
  - advance directive status.
- Follow-up information such as appointments and changes in medication should be included during transitions.

- An electronic summary care record for every transition in care should be produced and shared with the patient and care team within system capabilities.[76]
- The plan of care should be visibly accessible and appropriately communicated during transitions.
- Clinical information should be provided, documented, and reviewed with the next provider/contact person of care for the patient.
- All parties caring for the patient should be aware of important clinical information that may impact care.

*Example Implementation Approaches:*

- The National Transition of Care Coalition has developed several tools to assist consumers during transitions of care.[77]
    - Taking Care of My Health Care guides patients and their caregivers in preparing for physicians visits by suggesting what kinds of information should be received and what kinds of questions should be asked.
    - A transitions of care checklist provides a detailed description of an effective patient transfer between practice settings

*Opportunity for Measurement:*

- Process measures: data template completed, transferred in targeted timeframe, reviewed with receiving provider in targeted timeframe, reviewed with patient at transition
- Outcomes: medication errors, hospital admission, readmission

**Preferred Practice 23:** Healthcare providers and healthcare organizations should implement protocols/policies for a standardized approach to all transitions of care. Policies and procedures related to transitions and the critical aspects should be included in the standardized approach.

*Additional Specifications:*

- During all transitions, standardized information should include elements such as information transfer, follow-up, and communications.
    - Standardized information should be utilized for transitions and for chronically ill high-risk patients.
- Standardized approaches should encompass internal and external transfers.
- Healthcare organizations should use specific elements of discharge:
    - Comprehensive assessments with specific language (current state of patient during transition). Discharge summaries should be communicated with the patient in a clear and understandable format.
- A clear plan should be developed and implemented for managing clinical symptoms and for establishing a contact for emergencies.
- Decisions regarding post-acute referrals should include the healthcare team, patient, family and/or caregivers.
- Goal setting with the patient, family, and caregivers should be initiated and reviewed during all transitions of care.
- At a minimum, patients should be able to explain, in their everyday words, the diagnosis/health problem for which they need care and the instructions for prevention and/or treatment of conditions.
- “Teach back” should begin early in the process to ensure that patients have time to understand and think about their care options and transitions.

*Example Implementation Approaches:*

- Structured, computable documents are now being developed to address transitions of care. Their use, when available, will facilitate automation, result in administrative simplification, and enhance the effectiveness and measurability of protocols.

*Opportunity for Measurement:*

- Assess and monitor the care plan and implementation of the plan.
- Assess condition status, level of control, and functional status compared to previous periods

**Preferred Practice 24:** Healthcare providers and healthcare organizations should have systems in place to clarify, identify, and enhance mutual accountability (complete/confirmed communication loop) of each party involved in a transition of care.

*Additional Specifications:*

- Healthcare organizations should establish defined roles and responsibilities for the sender and receiver during transitions/handoffs.
- A documented receipt of information should be provided during transitions.
- Healthcare organizations should have policies and procedures in place to identify the care provider for the patient during transitions of care.
- Healthcare organizations should routinely assess the transitions/handoff process and should evaluate the patient's satisfaction with transitions of care.

*Example Implementation Approaches:*

- Improve communication between specialist and primary care clinicians to reduce unnecessary duplicate testing, improve medication safety, etc. Readmission and medication errors are major issues.

*Opportunity for Measurement:*

- CTM-3 (NQF-endorsed) and CTM-15 are applicable.
- The National Committee for Quality Assurance's provider practice connections systems tool contains questions about communication loops and measures the capacity for "closing the communication loop."

**Preferred Practice 25:** Healthcare organizations should evaluate the effectiveness of transition protocols and policies, as well as evaluate transition outcomes.

*Additional Specifications:*

- Adherence to transition policies and protocols should be evaluated.
- Evaluations of transitions of care should include the following:
  - rates of adverse events defined and determined by local risk assessments;
  - rates of avoidable readmissions; and
  - patient's satisfaction and experience with transitions of care. (Healthcare organizations should routinely assess the transitions/handoff process and should evaluate the patient's satisfaction with transitions of care.)

*Example Implementation Approaches:*

- None identified

*Opportunity for Measurement:*

- Assess patient satisfaction/experience with care during transitions (i.e., HCAHPS family of surveys)
- Measure rates of adverse events related to poor transitions of care
- Measure readmission rates

## Relationships to Other NQF-Endorsed Preferred Practices

This report does not represent the entire scope of NQF work relevant to the quality of care coordination. Through other projects, NQF has endorsed several preferred practices that address the domains of the NQF-endorsed *Framework for Care Coordination* and the National Priorities Partnership goals for care coordination.

### *NQF-Endorsed Safe Practices Related to Care Coordination*[78]

**Safe Practice 12: Patient Care Information**
Ensure that care information is transmitted and appropriately documented in a timely manner and in a clearly understandable form to patients and appropriate family and caregivers and to all of the patient's healthcare providers/professionals, within and between care settings, who need that information to provide continued care.

**Safe Practice 15: Discharge Systems**
A "discharge plan" must be prepared for each patient at the time of hospital discharge, and a concise discharge summary must be prepared for and relayed to the clinical caregiver accepting responsibility for postdischarge care in a timely manner. Organizations must ensure that there is confirmation of receipt of the discharge information by the independent licensed practitioner who will assume the responsibility for care after discharge.

**Safe Practice 17: Medication Reconciliation**
The healthcare organization must develop, reconcile, and communicate an accurate patient medication list throughout the continuum of care.

**Safe Practice 18: Pharmacist Leadership Structures and Systems**
Pharmacy leaders should have an active role on the administrative leadership team that reflects their authority and accountability for medication management systems performance across the organization.

### *NQF-Endorsed Cultural Competency Practices Related to Care Coordination*[79]

**Cultural Competency Preferred Practice 14**
Maintain sufficient resources for communicating with patients in their primary written and spoken languages through qualified and competent interpreter resources, such as competent bilingual or multilingual staff, staff interpreters, contracted interpreters from outside agencies, remote interpreting services, credentialed volunteers, and others, to ensure timely and high-quality communication.

**Cultural Competency Preferred Practice 23**
Develop and implement a comprehensive care plan that addresses cultural concerns.

**Cultural Competency Preferred Practice 26**
Use culturally appropriate care coordination services that take into consideration the cultural diversity of the populations seeking healthcare.

**Cultural Competency Preferred Practice 43**
Assess and improve patient- and family-centered communication on an ongoing basis.

## Areas Recommended for Further Research

There is significant need for research on each of the core domains of care coordination and their relationships to quality and safety outcomes. As noted earlier in this report, the quality of evidence supporting the recommended practices varied greatly. Although a few of the practices have undergone extensive testing and have strong support in each of the areas for evaluation, the majority of practices were recommended primarily on their face validity and were purposely included to establish a foundation and direction for future research.

### *Practices recommended for further research*

- Patient and family support, empowerment, and active engagement in care coordination
- Operationalization and measurement of core elements of the healthcare home and their relationship to quality and safety outcomes
- Strategies for enhancing coordination between the healthcare home and community resources and services
- Identification of elements of a plan of care that are essential for care coordination and associated outcomes
- Alternative practices for transitional care involving different combinations of health team members and preparation
- Cost-effective strategies for using and linking data repositories to support care coordination

# Performance Measures for Measuring and Reporting Care Coordination Quality

## Introduction

This report presents 10 performance measures for care coordination, including 1 measure recommended for continued endorsement (Table 3), to expand NQF's portfolio of measures for continuity of care, communication, transitions, information systems, and the healthcare home. The purpose of these consensus standards is to improve the quality of healthcare—through accountability and public reporting—by standardizing the measurement of quality of transitions of care, patient engagement and involvement with care plans, information systems, and the role of the setting in which the patient receives his or her usual source of care. As noted for each measure in Table 3, the consensus standards are intended for use at various levels of analysis, including individual clinicians, groups, plans, systems, and populations.

### *Evaluating Care Coordination Performance Measures*

A Call for Measures solicited "performance measures that address the aspects of care coordination that ensure the patient's needs and preferences for health services and information-sharing across people, functions, and care sites are met over time." In addition, measures were solicited to address the

National Priority Partnership's goals for care coordination, the key domains of the NQF-endorsed *Framework for Care Coordination,* and targeted areas, such as effectiveness of transitions, patient's participation in and understanding of the plan of care, and care coordination for patients with multiple comorbidities. Seven measure developers submitted 77 individual candidate standards for consideration in a variety of topic areas. Many of the candidate standards that were submitted for this project focused on office visits, specific conditions, referrals, and care management. The Care Coordination Steering Committee carefully considered these constructs when evaluating them as valid measures for care coordination. The definition and general premises used by the Steering Committee to guide its evaluation of measures are summarized below.

The Steering Committee used the definition of care coordination in the NQF-endorsed Framework of Care Coordination as the foundation for its discussions and decisionmaking about submitted measures.

> Care coordination is a function that helps ensure that the patient's needs and preferences for health services and information sharing across people, functions, and sites are met over time to achieve improved outcomes.[80]

The Steering Committee applied the following general premises in its review of submitted measures:

- Care coordination is relevant for all patients—that is, all patients need some aspects of care coordination.
- Care coordination exists on a continuum according to patient and family need and risk. Higher risk patients and families often require more intense, more rapid, more comprehensive—more coordinated—care than lower risk patients and families.
- Patient and/or family surveys of their experience with the processes and outcomes of care coordination efforts are essential to measure the safety, effectiveness, efficiency, and timeliness of care coordination in an equitable fashion. Patient and/or family surveys should be administered within close proximity to the healthcare event.
- As the point of intersection of the general universe of care processes and outcomes, care coordination theoretically might be linked to most other care processes and outcomes. For the purposes of this project the Steering Committee focused its attention on aspects of the practices and measures that were consistent with the NQF framework and the Partnership goals for care coordination and for which there is stronger evidence linking care coordination to processes and outcomes.

Finally, the Steering Committee identified several "gray" areas in which the relevance of submitted measures to the definition and framework was unclear. These areas included disease specific measures, office visits, referral and consultation measures, and care management measures. The Steering Committee developed and consistently applied the following set of guidelines to these areas to ensure consistency and focus:

- To be relevant to care coordination, measures that address specific diseases (e.g., asthma, diabetes) should address aspects of care for these populations that cross providers and settings. For this initial work on care coordination measures, measures that address specific diseases were not recommended for endorsement if they focused solely on treatment guidelines for these conditions.

- To be relevant to care coordination, measures that address frequency or timing of office visits should address care coordination activities within the visit, for example, developing a plan of care to be used across settings, reconciling medication, establishing structures for sharing the plan of care across settings. For this initial work on care coordination measures, measures that address office visits were not recommended for endorsement if they focused solely on making or keeping appointments.
- To be relevant to care coordination, measures that address consultations and referrals between providers and settings should address care coordination activities across these providers and settings (e.g., communication between referring and receiving provider, closing feedback gaps between providers and settings). For this initial work on care coordination measures, measures that address consultation and referrals were not recommended for endorsement if they focused solely on making or keeping consultation appointments.
- To be relevant to care coordination, measures that address case management for at-risk or high-risk populations should address the care coordination needs of patients at risk for adverse clinical and cost outcomes. For this initial work on care coordination measures, measures that address case management were evaluated as a part of—and not distinct from or separately labeled from—care coordination measures and were not recommended for endorsement if they were limited to one setting or one payment model.

In addition, several candidate standards focused on evidence-based referrals. The Steering Committee considered these measures as out of scope for care coordination and recommended reviewing the evidence required to evaluate evidence-based referral measures. This set of measures will be reviewed and evaluated in a subsequent project.

## *Measure Evaluation*

The Steering Committee evaluated the candidate standards against NQF's evaluation criteria for performance measures (revised August 2008): importance to measure and report, which is a threshold criterion; scientific acceptability of the measure properties; usability; and feasibility.

The Steering Committee also was asked to consider NQF's four strategic directions during its deliberations: drive toward high performance, emphasize composites, move toward outcomes measurement, and focus on disparities.

## Table 3: Recommended Measures for National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE ID NUMBER[a] | MEASURE DESCRIPTION AND REVIEW NUMBER[b] | LEVEL OF ANALYSIS | MEASURE STEWARDS[c] |
|---|---|---|---|---|
| **Cardiac rehabilitation patient referral from an inpatient setting** | 0642 | Percentage of patients admitted to a hospital with a primary diagnosis of an acute myocardial infarction or chronic stable angina or who during hospitalization have undergone coronary artery bypass (CABG) surgery, a percutaneous coronary intervention (PCI), cardiac valve surgery (CVS), or cardiac transplantation who are referred to an early outpatient cardiac rehabilitation/secondary prevention program (CC-019-09) | Individual Clinician, Health Plan, Group of Clinicians, Facility, Integrated Delivery Systems | ACC/AHA Task Force |
| **Cardiac rehabilitation patient referral from an outpatient setting** | 0643 | Percentage of patients evaluated in an outpatient setting who in the previous 12 months have experienced an acute myocardial infarction or chronic stable angina or who have undergone | Individual Clinician, Health Plan, Group of Clinicians, Facility, Integrated Delivery Systems | ACC/AHA Task Force |

*more*

[a] Upon NQF endorsement, each measure receives a unique NQF measure ID number.

[b] Review number.

[c] Measure Steward(s). For the most current specifications and supporting information, please refer to the Measure Steward:
AAD - American Academy of Dermatology (**www.aad.org**)
ACC (American College of Cardiology)/AHA (American Heart Association) Task Force (**www.americanheart.org**)
AMA PCPI - American Medical Association (AMA)-convened Physician Consortium for Performance Improvement (**www.ama-assn.org**)
Ingenix (**www.ingenix.com**)
NCQA - National Committee for Quality Assurance (**www.ncqa.org**)
Care Transitions Program of Colorado—(**http://www.caretransitions.org/**)

[d] NQF-endorsed measure, reviewed for continued endorsement.

## Table 3: Recommended Measures for National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE ID NUMBER[a] | MEASURE DESCRIPTION AND REVIEW NUMBER[b] | LEVEL OF ANALYSIS | MEASURE STEWARDS[c] |
|---|---|---|---|---|
| **Cardiac rehabilitation patient referral from an outpatient setting** *(continued)* | | coronary artery bypass (CABG) surgery, a percutaneous coronary intervention (PCI), cardiac valve surgery (CVS), or cardiac transplantation, who have not already participated in an early outpatient cardiac rehabilitation/secondary prevention program for the qualifying event, and who are referred to an outpatient cardiac rehabilitation/secondary prevention program (CC-020-09) | | |
| **Patients with a transient ischemic event ER visit who had a follow-up office visit** | 0644 | Patient(s) with a recent emergency room encounter for a transient cerebral ischemic event who had any physician visit within 14 days of the acute event (CC-050-09) | All levels | Ingenix |
| **Biopsy follow-up** | 0645 | Biopsy performed, entered into tracking log, reviewed, and communicated to patient or patient's guardian/caregiver and to patient's primary care physician and/or other physician/professional responsible for follow-up care (CC-071-09) | All levels | AAD |

*more*

## Table 3: Recommended Measures for National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE ID NUMBER[a] | MEASURE DESCRIPTION AND REVIEW NUMBER[b] | LEVEL OF ANALYSIS | MEASURE STEWARDS[c] |
|---|---|---|---|---|
| **Reconciled medication list received by discharged patients** (inpatient discharges to home/self care or any other site of care) | 0646 | Percentage of patients, regardless of age, discharged from an inpatient facility to home or any other site of care, or their caregiver(s), who received a reconciled medication list at the time of discharge including, at a minimum, medications in the specified categories (CC-073-09) | Facility, Integrated Delivery Systems | AMA PCPI |
| **Transition record with specified elements received by discharged patients** (inpatient discharges to home/self care or any other site of care) | 0647 | Percentage of patients, regardless of age, discharged from an inpatient facility to home or any other site of care, or their caregiver(s), who received a transition record (and with whom a review of all included information was documented) at the time of discharge including, at a minimum, all of the specified elements (CC-074-09) | Facility, Integrated Delivery systems | AMA PCPI |
| **Timely transmission of transition record** (inpatient discharges to home/self care or any other site of care) | 0648 | Percentage of patients, regardless of age, discharged from an inpatient facility to home or any other site of care for whom a transition record was transmitted to the facility or primary physician or other healthcare professional designated for follow-up care within 24 hours of discharge (CC-075-09) | Facility, Integrated Delivery systems | AMA PCPI |

*more*

## Table 3: Recommended Measures for National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE ID NUMBER[a] | MEASURE DESCRIPTION AND REVIEW NUMBER[b] | LEVEL OF ANALYSIS | MEASURE STEWARDS[c] |
|---|---|---|---|---|
| **Transition record with specified elements received by discharged patients** (emergency department discharges to ambulatory care [home/self care]) | 0649 | Percentage of patients, regardless of age, discharged from an emergency department (ED) to ambulatory care or home healthcare, or their caregiver(s), who received a transition record at the time of ED discharge including, at a minimum, all of the specified elements (CC-076-09) | Facility, Integrated Delivery systems | AMA PCPI |
| **Melanoma continuity of care—recall system** | 0650 | Percentage of patients with a current diagnosis of melanoma or a history of melanoma who were entered into a recall system with the date for the next complete physical skin exam specified, at least once within the 12-month reporting period (CC-078-09) | Individual Clinician, Group of Clinicians | AMA PCPI/ AAD/NCQA |
| **3-Item Care Transitions Measure (CTM-3)[d]** | 0228 | Uni-dimensional self-reported survey that measures the quality of preparation for care transitions | Facility | Care Transitions Program of Colorado |

## Recommended Measures

Although NQF sought measures across all domains of the NQF-endorsed framework, ultimately only measures in two of the six domains—proactive plan of care and follow-up and transitions—were recommended for endorsement.

### *Framework Domain: Proactive Plan of Care and Follow-up*

The Care Coordination Steering Committee recommended five measures under this framework domain.

### 0642 **Cardiac rehabilitation patient referral from an inpatient setting**

(ACC/AHA Task Force) *CC-019-09*[81]

This performance measure is designed to be used for referral of inpatients to an outpatient cardiac rehabilitation program. Consensus standard CC-020-09, Cardiac rehabilitation patient referral from an outpatient setting, is a related measure that is designed for referral of outpatients to an outpatient cardiac rehabilitation program. This measure examines the percentage of patients admitted to a hospital with a primary diagnosis of an acute myocardial infarction or chronic stable angina or who during hospitalization have undergone coronary artery bypass (CABG) surgery, a percutaneous coronary intervention (PCI), cardiac valve surgery (CVS), or cardiac transplantation who are referred to an early outpatient cardiac rehabilitation/secondary prevention program. The specifications are well detailed and capture the right steps of care coordination for cardiac rehabilitation. The field of cardiology is currently involved in many registries and studies for improving outcomes; the Action Registry mentioned in the specifications is a database developed in collaboration with the American Heart Association (AHA) and the American College of Cardiology (ACC). This registry captures many data elements, including information on the cardiac rehabilitation centers available for each patient. ACC, AHA, and the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) have collaborated to include this performance measure in their registries and are working to provide tools to hospitals to help them with the collection, assessment, and reporting of this measure.

In its review, the Committee did raise concerns about the denominator and the exclusions, which excluded patients who refuse rehabilitation care and those who do not have insurance. In addition, the Committee discussed the feasibility of the "Action Registry" database used for collecting the specifications of the measure. The Committee also questioned whether hospitals that do not participate in the registry and that may not be equipped with an EHR will be able to implement this measure. At the request of the Committee, the measure developer clarified that the patient population and exclusions list were modified to include patient referrals to outpatient cardiac rehabilitation from an inpatient rehabilitation facility.

The data elements for this measure will be made publicly available by all hospitals as a core measure, and any hospital will have the capabilities to collect data on this standard, analyze the data, and make them available for public reporting.

### 0643 **Cardiac rehabilitation patient referral from an outpatient setting**

**(ACC/AHA Task Force)** *CC-020-09*

This process measure reports the percentage of patients evaluated in an outpatient setting who in the previous 12 months have experienced an acute myocardial infarction or chronic stable angina or who have undergone coronary artery bypass (CABG) surgery, a percutaneous coronary intervention (PCI), cardiac valve surgery (CVS), or cardiac transplantation, who have not already participated in an early outpatient cardiac rehabilitation/secondary prevention program for the qualifying event, and who are referred to an outpatient cardiac rehabilitation/secondary prevention program. The focus of this measure captures a population that is particularly vulnerable—those patients who do not go to an early outpatient cardiac rehabilitation program. The specifications of this measure are well detailed and address important steps of care coordination. This measure also contributes to the appropriateness of guidelines for cardiac rehabilitation.

The Steering Committee expressed concerns about the definition of the outpatient setting and variability of the access to data, which may depend on the setting. Additionally, the exclusions of the measure included patients who are not participating in the cardiac rehabilitation programs; the underlying cause for this is important to understand in order to change outcomes. Finally, the Committee felt that the care coordination loop among the outpatient setting, the primary care physician, and the patient's successful enrollment and completion of the program should be addressed.

At the request of the Committee, the measure developer clarified the denominator and exclusion criteria. In addition, the numerator details were specified to show communication between the healthcare provider and the patient to recommend and carry out a referral order to an early outpatient cardiac rehabilitation program. The measure developer noted that the measure demands clear referral and coordination of care from an outpatient to inpatient setting.

### 0644 **Patients with a transient ischemic event ER visit who had a follow-up office visit**

**(Ingenix)** *CC-050-09*

This measure examines the number of patient(s) with a recent emergency room encounter for a transient cerebral ischemic event and who had any physician visit within 14 days of the acute event. It provides a reasonable indication that care coordination has occurred, and it has a timeliness component. The Steering Committee considered this measure to be an important component to addressing the continuity of care to ensure that a patient is actually seen by a care provider not just that an appointment was made. The measure provides continuity with other NQF-endorsed measures that focus on emergency room visits. This measure also has the potential to address the first incidence with a transient ischemic attack, which could capture a significant population. Lastly, the timeframe component is intended to minimize the potential for a full stroke.

The Committee requested clarification on the specifications of this measure, specifically on the activities that take place during the emergency room visit and the follow-up office visit; measuring the activities of these processes is truly what demonstrates care coordination. The Committee noted that the specifications designated diagnosis codes that the follow-up office visit is related to an ischemic event and that the proposed timeframe should meet guidelines for appropriate care. At the request of the Committee, the measure developer provided further testing data for the reliability and validity of the measure and confirmed diagnosis codes for the office visit. The timeframe for the measure was changed from a 30-day period to a 14-day period.

### 0645 **Biopsy follow-up**

**(AAD)** *CC-071-09*

This process measure focuses on the percentage of patients who undergo a biopsy and whose biopsy results have been reviewed by the biopsying physician and have been communicated to the primary care provider and the patient. This measure incorporates the critical feedback loops integral to care coordination, that is, the measure extends beyond the act of reviewing the biopsy to communicating the results to the primary care provider and patient.

This measure addresses a critical patient-safety issue: Coordination between the specialist and the primary care provider is very important. Poor follow-up after a laboratory test is one of the main causes of medical errors in care. This measure specifies the important communication loop between the specialist, the primary care physician, and the patient, and it appropriately addresses patient safety and continuity of care.

In its initial review, the Steering Committee noted that this measure focused more on biopsy review, rather than on the communication of results, which is central to care coordination. The Steering Committee believed that the specifications lacked components that address follow-up with the patient or primary care provider. The Committee noted the importance of addressing the problem that often tests are ordered and not performed and/or results from tests are not provided to the providers. The communication loop between the biopsy physician, the primary care provider, and the patient is critical and should be addressed.

At the request of the Committee, the measure developer provided data related to the reliability and validity testing and revised the description and numerator of the measure to include more specificity for communication between all care providers and the patient.

### 0650 **Melanoma continuity of care—recall system**

**(AMA PCPI/AAD/NCQA)** *CC-078-09*

This structure measure considers the percentage of patients with a current diagnosis of melanoma or a history of melanoma who were entered into a recall system with the date for the next complete physical skin exam specified, at least once within the 12-month reporting period. The Steering Committee acknowledged the importance and face validity of the recall system but stated that they were not sufficient to measure care coordination. The Committee noted that this measure demonstrated good follow-up procedures, rather than care coordination. It also believed that the specifications should address the important subset of patients who do not return for follow-up skin examinations. At the request of the Committee, the measure developer provided clarification to the specifications of the measure to include reminder systems for patients who missed an appointment.

## *Framework Domain: Transitions*

The Care Coordination Steering Committee recommended five measures under this framework domain:

**Measures** *CC-073-09, CC-074-09, and CC-075-09* were recommended as a bundled set to be implemented together to achieve better outcomes. These three measures address three essential and interrelated components of the discharge transition for all patients: (1) provision of a reconciled medication list to patients and/or caregivers at hospital discharge, (2) provision of the transition plan of care to the patient and/or caregivers at hospital discharge, and (3) provision of the transition plan of care to the receiving provider(s) at hospital discharge. Overall the Committee concluded that the three measures in combination encompass core aspects of care coordination and are well specified.

### 0646 **Reconciled medication list received by discharged patients (inpatient discharges to home/self care or any other site of care)**

(AMA PCPI) *CC-073-09*

This process measure is the first measure in the bundle and examines the percentage of patients, regardless of age, discharged from an inpatient facility to home or any other site of care, or their caregiver(s), who received a reconciled medication list at the time of discharge including, at a minimum, medications in the specified categories. The Steering Committee considered patient education on medication reconciliation processes to be important, and it suggested that the medication list be sequenced over a period of time.

The bundled set of measures are closely related but also have interdependent aspects of the transition in care for patients discharged from an inpatient facility and are recommended as a bundled set of measures, which will achieve better outcomes when implemented together. The importance of patient education on medication reconciliation processes was viewed as important by the Committee, which also suggested having a medication list sequenced over a period of time rather than having a simple list of medications. Overall the Committee concluded that the three measures combined encompass core aspects of care coordination, are well specified. This measure, in and of itself, harmonizes with the Joint Commission's National Patient Safety Goals for medication reconciliation.

### 0647 **Transition record with specified elements received by discharged patients (inpatient discharges to home/self care or any other site of care)**

(AMA PCPI) *CC-074-09*

The second measure in the bundle, also a process measure, focuses on the percentage of patients, regardless of age, discharged from an inpatient facility to home or any other site of care, or their caregiver(s), who received a transition record (and with whom a review of all included information was documented) at the time of discharge including, at a minimum, all of the specified elements. Although the Steering Committee recognized that this measure is integral to care coordination, it had some concerns about appointing someone to complete the transition record.

### 0648 **Timely transmission of transition record** (inpatient discharges to home/self care or any other site of care)

(AMA PCPI) *CC-075-09*

The third measure in this bundle focuses on the percentage of patients, regardless of age, discharged from an inpatient facility to home or any other site of care for whom a transition record was transmitted to the facility or primary physician or other healthcare professional designated for follow-up care within 24 hours of discharge. The Steering Committee discussed the evidence to support the timeframe of 24 hours, along with the suggestion that documentation be provided at both the discharge and receiving facilities.

### 0649 **Transition record with specified elements received by discharged patients** (emergency department discharges to ambulatory care [home/self care])

(AMA PCPI) *CC-076-09*

This process measure focuses on the percentage of patients, regardless of age, discharged from an emergency department (ED) to ambulatory care or home healthcare, or their caregiver(s), who received a transition record at the time of ED discharge including, at a minimum, all of the specified elements. The Steering Committee believed that the measure is integral to care coordination and is well specified. Furthermore, the measure aligns well with the goals of care coordination presented in the NQF-endorsed Framework for Care Coordination.

## Measures Recommended for Continued Endorsement

### 0228 **3-Item Care Transition Measure (CTM-3)**

(University of Colorado Health Sciences Center)

This survey instrument measures the quality of preparation for care transitions. The Steering Committee was well aware that the measure has been utilized in a variety of settings and populations and that it has undergone extensive testing with most sample sizes more than 200. Overall the Committee believe that this measure is well specified and should continue to remain within the NQF portfolio.

## Measures Not Recommended

The Steering Committee did not recommend measures for endorsement for a variety of reasons. The most common reasons for not recommending a measure were as follows:

- The measure did not pass the “importance to measure and report” criteria as it relates to care coordination.
- The measure focused more on the standard of care/treatment guidelines rather than on care coordination.

- The measure was missing the integral component of closing the communication loop between providers.
- The measure lacks sufficient evidence to support its reliability and validity.

The measures that the Steering Committee did not recommend and its reasons for not doing so as they relate to the NQF evaluation criteria and/or comparisons to similar measures are provided in Table 4.

## TABLE 4: MEASURES NOT RECOMMENDED

| MEASURE REVIEW NUMBER[a], TITLE, AND MEASURE STEWARDS[b] | REASON FOR NOT RECOMMENDING |
|---|---|
| **CC-001-09 Average caseload for members with diabetes in case management in managed care (New York State Department of Health)** | Importance: Measure will not have a significant impact on measuring and reporting care coordination. Measure presents operational difficulties, specifically regarding the appropriate caseload per case manager. Because measure does not specify the appropriate caseload the outcome could be severe if the caseload is too high. |
| **CC-002-09 Diabetic care-BP outcome measure for members in managed care (New York State Department of Health)** | Importance: Measure does not fit within the scope of care coordination for this project and will not have a significant impact on measuring and reporting care coordination. Specifications do not focus on how this measure would coordinate with other parts of the patient's medical or healthcare home process, and they narrowly focus on blood pressure. |
| **CC-003-09 Diabetes care-service measures for members in managed care (New York State Department of Health)** | Importance: Measure is more of a standard of care within case management, rather than a measure of care coordination. It focuses on the quality of case management services and on following clinical guidelines, which do not give an indication of whether a patient receives coordination of care. |

*more*

[a] Review number.

[b] Intellectual property owner(s). For the most current specifications and supporting information, please refer to the IP owner:
AAD - American Academy of Dermatology (**www.aad.org**)
ACC (American College of Cardiology)/AHA (American Heart Association) Task Force (**www.americanheart.org**)
Ingenix (**www.ingenix.com**)
New York State Department of Health (**http://www.health.state.ny.us/**)
NYU - New York University (**http://www.med.nyu.edu/**)

## TABLE 4: MEASURES NOT RECOMMENDED

| MEASURE REVIEW NUMBER[a], TITLE, AND MEASURE STEWARDS[b] | REASON FOR NOT RECOMMENDING |
|---|---|
| **CC-004-09 Timely case management assessment rate for members with diabetes in managed care (New York State Department of Health)** | Importance: The concept of timeliness is important but, in the case of this measure, there is no evidence to support its importance to care coordination. |
| **CC-005-09 Case management enrollment rate for members with diabetes in managed care (New York State Department of Health)** | Importance: There is no evidence to support the importance of this measure to care coordination. |
| **CC-006-09 Medication adherence for members with diabetes in managed care (New York State Department of Health)** | Scientific Acceptability: Reliability and validity testing was not provided, and the extent of care coordination was not specified. Denominator focuses only on people who have completed both the pre- and postassessments, which can contribute to selection bias. Measure focuses more on the functionality of case management, which is not the same as care coordination, and it does not display links to real outcomes or to the provider. |
| **CC-007-09 Emergency room visits for members with diabetes in managed care (New York State Department of Health)** | Scientific Acceptability and Feasibility: Measure uses self-report data instead of claims data. Flexibility is given to health plans for identifying triggers and how the data are reported. Interoperability is a concern; without clear specifications of the criteria for case management, it would be difficult to interpret the data if each measure user applies its own criteria and risk-adjustment. |
| **CC-008-09 Graduation rates for members with diabetes in case management in managed care (New York State Department of Health)** | Importance: Measure does not fit within the scope of care coordination and would not have a significant impact as an outcome measure in the context of the framework or as a measure for measuring and reporting care coordination. |
| **CC-009-09 Hospital admission rates for members with diabetes in managed care (New York State Department of Health)** | Scientific Acceptability and Feasibility: Measure uses self-report data instead of claims data. The focus is on a single population within managed care. Interoperability is a concern; without clear specifications of the criteria for case management, it would be difficult to interpret the data if each measure user applies its own criteria and risk-adjustment. |

*more*

## TABLE 4: MEASURES NOT RECOMMENDED

| MEASURE REVIEW NUMBER[a], TITLE, AND MEASURE STEWARDS[b] | REASON FOR NOT RECOMMENDING |
|---|---|
| **CC-010-09 Trigger rates for members with diabetes in managed care (New York State Department of Health)** | Scientific Acceptability: Measure does not provide sufficient specifications of care coordination activities, such as creating a plan of care with patient/designee, self-management skills, communication between case management and primary care provider. Measure focuses on triggering managed care for patients with diabetes as part of the process in managed care that leads to assessment and further care. Measure requires more conceptual work (e.g., identify trigger factors). |
| **CC-011-09 Average length of stay in an intensive care unit for infants of women in case management in managed care (New York State Department of Health)** | Importance: Measure does not fit within the scope of care coordination; evidence provided is not sufficient to show that this is an indicator of quality. Measure is an indicator of case management quality but is dependent on comorbidities. |
| **CC-012-09 Case management enrollment rate for pregnant women at high risk in managed care (New York State Department of Health)** | Scientific Acceptability and Feasibility: Measure does not specify who qualifies as a high-risk patient, and standardization should be included for comparative services. Measure specifies triggering patients for enrollment in case management, but triggering alone does not provide insight into the process of care coordination. |
| **CC-013-09 Crude low birth weight rate for members in high risk case management in managed care (New York State Department of Health)** | Scientific Acceptability, Usability, and Feasibility: Denominator excludes individuals who remove themselves from case management; this exclusion is important. Measure is unique to the managed care population, which makes it less useful. Measure permits the use of self-reported data and hospital records but does not address whether the results are compatible. |
| **CC-014-09 Intensive care unit admission rate for infants of women in case management in managed care (New York State Department of Health)** | Scientific Acceptability and Feasibility: Measure does not specify communication between obstetrician and the primary care physician, which is a strong indicator of proper care coordination and improved outcomes. Care management is not the appropriate entity to bring prepartum obstetrics management decisionmaking and postpartum pediatric decisionmaking together. |

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## TABLE 4: MEASURES NOT RECOMMENDED

| MEASURE REVIEW NUMBER[a], TITLE, AND MEASURE STEWARDS[b] | REASON FOR NOT RECOMMENDING |
|---|---|
| **CC-015-09 Average caseload with members in high risk OB case management in managed care (New York State Department of Health)** | Importance: Measure will not add value to the purpose of measuring and reporting care coordination; most women go for a postpartum visit. |
| **CC-016-09 Trigger rates of members with high risk OB in managed care (New York State Department of Health)** | Scientific Acceptability: Measure is more appropriate as a referral measure rather than as a care coordination measure. Focus is only on the managed care population and has limited utility. Measure developer should consider studying how triggers might lead to future interventions or care coordination activities. |
| **CC-017-09 Postpartum care visits rate for pregnant women in case management in managed care (New York State Department of Health)** | Importance: Measure does not fit within the scope of care coordination; focuses on the standard of care, not coordinating care. Measure is an outcome of coordinated case management. |
| **CC-018-09 Timely case management assessment rates for pregnant women at high risk in managed care (New York State Department of Health)** | Scientific Acceptability: Specifications are not clear on which aspects of care coordination occurred during the initial assessment. The process of how women will be triggered for case management is not provided. Additional evidence to support the specific 15-day timeframe as important to improved outcomes was not provided. |
| **CC-021-09 Cardiac rehabilitation/ secondary prevention (CR) program structure-based measurement set to set safety standards for CR programming (ACC/AHA Task Force)** | Importance: Measure does not fit within the scope of care coordination; focuses on the standard of care/ guideline, rather than on coordinating care. Measure may serve as a source for effective care. |
| **CC-022-09 Cardiac rehabilitation/ secondary prevention (CR) program measurement set to assess risk for adverse cardiovascular events (ACC/AHA Task Force)** | Importance: Measure is a component of a certification process that the AACVPR uses for cardiac rehabilitation programs and is not a measure of care coordination. Risk assessment is not part of care coordination, but a part of healthcare home or the initial provider's responsibility, and therefore antecedent to it. Lack of evidence that this particular set of criteria translates into a better outcome or better experiences for the patient. |

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## TABLE 4: MEASURES NOT RECOMMENDED

| MEASURE REVIEW NUMBER[a], TITLE, AND MEASURE STEWARDS[b] | REASON FOR NOT RECOMMENDING |
|---|---|
| **CC-023-09 Cardiac rehabilitation/ secondary prevention (CR) measurement set to assure individualized assessment and evaluation of modifiable cardiovascular risk factors, development of individualized interventions, and communication with other healthcare providers (ACC/AHA Task Force)** | Importance: Measure is a component of a certification process that the AACVPR uses for cardiac rehabilitation programs and is not a measure of care coordination. Risk assessment is not part of care coordination, but a part of healthcare home or the initial provider's responsibility, and therefore antecedent to it. Lack of evidence that this particular set of criteria translates into a better outcome or better experiences for the patient. |
| **CC-024-09 Cardiac rehabilitation/ secondary prevention (CR) program measurement set related to monitoring response to therapy and documenting program effectiveness (ACC/AHA Task Force)** | Importance: Measure was not shown to be important to measuring and reporting for care coordination. Effectiveness of the measure depends on the number of patients admitted to the program, as opposed to those in need of such a program. |
| **CC-025-09 Patient(s) 65 years of age and older that received a high-risk medication (Ingenix)** | Usability: Measure presents harmonization issues with existing HEDIS measures. |
| **CC-028-09 Patient(s) with diabetes who had an office visit in past 6 reported months (Ingenix)** | Scientific Acceptability: Specifications only examine the occurrence of an office visit, which is not an accurate measure for care coordination. Measure should provide more specificity on the care coordination activities that take place during the office visit and should demonstrate how care was coordinated, such as creating the plan of care for use across settings or transferring information to another setting. |
| **CC-029-09 Patient(s) with asthma who had an office visit in past 6 reported months (Ingenix)** | Scientific Acceptability: Measure does not fit within the scope of care coordination. Measure addresses office visits and should provide more specificity on the care coordination activities that take place during the office visit and demonstrate how care was coordinated, such as creating the plan of care for use across settings or transferring information to another setting. |

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## TABLE 4: MEASURES NOT RECOMMENDED

| MEASURE REVIEW NUMBER[a], TITLE, AND MEASURE STEWARDS[b] | REASON FOR NOT RECOMMENDING |
|---|---|
| **CC-030-09Asthma office visit for patients with poorly controlled disease (Ingenix)** | Scientific Acceptability: Specifications do not show care coordination components, which could consist of transfer of information and development of a care plan. Measure does not define "poorly controlled," particularly within an asthma population; definition would help differentiate between well-controlled and poorly controlled patients. |
| **CC-032-09 Patient(s) with hypertension who had an annual physician visit (Ingenix)** | Scientific Acceptability: Measure constitutes an annual visit, but there was no specification requiring documentation of coordinated care (e.g., that a care plan was developed and implemented to show that care coordination actually took place). |
| **CC-035-09 Migraine office visit for patients with poorly controlled disease (Ingenix)** | Scientific Acceptability: Measure only tracks office visits and does not specify whether this measure tracks people in the emergency department with frequent migraines who had an office visit or have not had an office visit in the past 6 months. Measure should specify the care coordination activities that took place during the office visit. |
| **CC-037-09 Annual serum creatinine for patients with chronic kidney failure (Ingenix)** | Importance: Measure addresses guidelines/standards of care (lab tests on a schedule), not coordination of care. Focus of measure should be on linking the patient with activities that produce better outcomes. |
| **CC-038-09 Annual hemoglobin/ hematocrit for patients with moderate chronic kidney disease (CKD), severe CKD, or kidney failure (Ingenix)** | Importance: Measure does not fit within scope of care coordination. Measure addresses guidelines/standards of care (lab tests on a schedule), not coordination of care. Focus of measure should be on linking the patient with activities that produce better outcomes. |
| **CC-039-09 Annual serum calcium for patients with moderate CKD, severe CKD, or kidney failure. (Ingenix)** | Importance: Measure does not fit within scope of care coordination. Measure addresses guidelines/standards of care (lab tests on a schedule), not coordination of care. Focus of measure should be on linking the patient with activities that produce better outcomes. |
| **CC-040-09 Annual serum phosphorus for patients with moderate CKD, severe CKD, or kidney failure (Ingenix)** | Importance: Measure does not fit within scope of care coordination. Measure addresses guidelines/standards of care (lab tests on a schedule), not coordination of care. Focus of measure should be on linking the patient with activities that produce better outcomes. |

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## TABLE 4: MEASURES NOT RECOMMENDED

| MEASURE REVIEW NUMBER[a], TITLE, AND MEASURE STEWARDS[b] | REASON FOR NOT RECOMMENDING |
|---|---|
| **CC-042-09 Annual serum PTH for patients with severe kidney disease or kidney failure (Ingenix)** | Importance: Measure does not fit within scope of care coordination. Measure addresses guidelines/standards of care (lab tests on a schedule), not coordination of care. Focus of measure should be on linking the patient with activities that produce better outcomes. |
| **CC-043-09 Annual LDL cholesterol for patients with chronic kidney disease (Ingenix)** | Importance: Measure does not fit within scope of care coordination. Measure addresses guidelines/standards of care (lab tests on a schedule), not coordination of care. Focus of measure should be on linking the patient with activities that produce better outcomes. |
| **CC-044-09 Annual HDL cholesterol for patients with chronic kidney disease (Ingenix)** | Importance: Measure does not fit within scope of care coordination. Measure addresses guidelines/standards of care (lab tests on a schedule), not coordination of care. Focus of measure should be on linking the patient with activities that produce better outcomes. |
| **CC-045-09 Annual triglyceride for patients with chronic kidney disease (Ingenix)** | Importance: Measure demonstrates a standard of care, not care coordination. |
| **CC-047-09 Annual urine protein/ microalbumin for selected patients with chronic kidney failure. (Ingenix)** | Importance: Measure does not fit within scope of care coordination. Measure addresses guidelines/standards of care (lab tests on a schedule), not coordination of care. Focus of measure should be on linking the patient with activities that produce better outcomes. |
| **CC-049-09 Patients with bariatric surgery who had complications (Ingenix)** | Importance: Measure is an outcome measure of bariatric surgery and does not fit within the scope of care coordination for this project. This measure will be reviewed with the NQF project focused on patient outcomes. |
| **CC-056-09 Patient(s) with a CABG procedure who received a beta-blocker (Ingenix)** | Importance: Measure does not fit within the scope of care coordination; it focuses on a standard of care, rather than on care coordination. Specifications do not document whether the medication was filled and continued after discharge. |

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## TABLE 4: MEASURES NOT RECOMMENDED

| MEASURE REVIEW NUMBER[a], TITLE, AND MEASURE STEWARDS[b] | REASON FOR NOT RECOMMENDING |
|---|---|
| **CC-057-09 Patient(s) with a CABG procedure who received a lipid-lowering agent (Ingenix)** | Importance: Measure does not fit within the scope of care coordination; it focuses on a standard of care, rather than on care coordination. Measure specifications do not document whether the medication was filled and continued after discharge. |
| **CC-058-09 Patient(s) with a CABG procedure who had a postoperative stroke (Ingenix)** | Importance: Measure does not fit within the scope of care coordination for this project; it measures a complication of surgery. This measure will be reviewed with the NQF project focused on patient outcomes. |
| **CC-072-09 High-risk medication monitoring (American Academy of Dermatology)** | Scientific Acceptability and Feasibility: Measure does not demonstrate the importance of using a recall system in managing/monitoring patients on high-risk medications. Measure does not specify who is responsible for the monitoring—whether it is the primary care physician or the pharmacist. Additionally, the feasibility of all primary care providers prescribing the high-risk drugs is problematic and burdensome. |
| **CC-077-09 NYU ED algorithm (NYU)** | Feasibility: Insufficient information about the methodology was provided, and the measure does not demonstrate use in a variety of settings. Measure was viewed as more of a health services/research care delivery/health policy measure and not a provider-level measure of the quality of care coordination. |

## Measured Deferred

The Steering Committee spent a significant amount of time discussing the candidate standards that focused on evidence-based referrals. The Committee decided to defer decisionmaking on those candidate standards until they can be reviewed in more applicable contexts. Specifically, NQF will re-evaluate the level of evidence that is required to endorse evidence-based referral measures as a class, and it will evaluate those candidate standards in a subsequent project.

**The candidate standards below focus on evidence-based referrals:**

- **CC-026-09 CHF cardiology consultation (Ingenix)**
  Patient(s) with heart failure and 2 or more recent heart failure ER encounters or hospitalizations that had cardiology consultation in last 24 reported months.
- **CC-027-09 Atrial fibrillation cardiology consultation (Ingenix)**
  Patient(s) with atrial fibrillation and evidence of problematic atrial fibrillation control that had cardiology consultation in last 12 reported months.
- **CC-031-09 Asthmatics with problematic asthma control who had specialty consultation (Ingenix)**
  Patient(s) exhibiting problematic asthma control who had pulmonary or allergy consultation in last 12 reported months.
- **CC-033-09 Patient with problematic COPD control who had pulmonary consultation (Ingenix)**
  Patient(s) exhibiting problematic COPD control who had pulmonary consultation in last 12 reported months.
- **CC-034-09 Psychiatry consultation for patients with severe depression (Ingenix)**
  Patient(s) with evidence of severe depression that had psychiatric consultation in last 3 reported months.
- **CC-036-09 Patients with poor migraine control who had specialty consultation (Ingenix)**
  Patient(s) with one or more hospitalizations for migraines that had neurology or anesthesiology consultation in last 6 reported months.
- **CC-041-09 CKD nephrology consultation for patients with severe kidney disease or kidney failure (Ingenix)**
  Patient(s) with severe chronic kidney disease or kidney failure that had nephrology consultation in last 12 reported months.
- **CC-046-09 Nephrology consultation for patients with CKD and other specific diagnosis (Ingenix)**
  Patient(s) with chronic kidney disease and specific indications that had nephrology consultation in last 12 reported months.
- **CC-048-09 Patient with poor epilepsy control who had a neurology consultation (Ingenix)**
  Patient(s) with one or more hospitalizations or two or more emergency room encounters for epilepsy that had neurology consultation in last 3 reported months.
- **CC-051-09 Patients hospitalized with an acute cerebral ischemic event that had a specialty consultation (Ingenix)**
  Patient(s) with a recent hospitalization for an acute cerebral ischemic event that had neurology, neurosurgery, vascular surgery or thoracic surgery consultation during the hospitalization or within 30 days of discharge.

- **CC-052-09 Gastroenterology consultation for patients on simple chronic medication regimens for inflammatory bowel disease (Ingenix)**

  Patient(s) taking certain medications for inflammatory bowel disease treatment that had gastroenterology consultation in last 12 reported months.

- **CC-053-09 Gastroenterology consultation for patients on complex treatment regimens or chronic corticosteroid therapy for inflammatory bowel disease (Ingenix)**

  Patient(s) with complex inflammatory bowel disease treatment regimens or chronic corticosteroid therapy that had gastroenterology consultation in last 6 reported months.

- **CC-054-09 Gastroenterology consultation for patients hospitalized or received ER care for inflammatory bowel disease (Ingenix)**

  Patient(s) with inflammatory bowel disease complications that had gastroenterology consultation in last 3 reported months.

- **CC-055-09 Patient(s) with newly diagnosed with breast cancer who received prompt specialty care (Ingenix)**

  Patient(s) newly diagnosed with breast cancer that received radiation or chemotherapy treatment, or had medical oncology or radiation oncology consultation within 90 days of the diagnostic procedure.

- **CC-059-09 Baseline audiologic assessment for ototoxicity (Audiology Quality Consortium)**

  Percentage of patients age 1 month and older referred for a baseline comprehensive audiologic assessment prior to the administration of a prescribed ototoxic medication(s) or therapeutic agent(s).

- **CC-060-09 Audiologic monitoring for ototoxicity (Audiology Quality Consortium)**

  Percentage of patients age 1 month and older referred for an audiologic monitoring protocol subsequent to the administration of a prescribed ototoxic medication(s) or therapeutic agent(s).

- **CC-061-09 Baseline vestibular assessment for vestibulotoxicity (Audiology Quality Consortium)**

  Percentage of patients age 3 years and older referred for a baseline comprehensive vestibular assessment prior to the administration of a prescribed vestibulotoxic medication(s) or therapeutic agent(s).

- **CC-062-09 Vestibular monitoring for vestibulotoxicity (Audiology Quality Consortium)**

  Percentage of patients age 3 years and older referred for a vestibular monitoring protocol subsequent to the administration of a prescribed vestibulotoxic medication(s) or therapeutic agent(s).

- **CC-063-09 Referral for otologic evaluation for patients with visible congenital or traumatic deformity of the ear (Audiology Quality Consortium)**

  Percentage of patients age birth and older referred to a physician (preferably a physician specially trained in disorders of the ear) for an otologic evaluation subsequent to an audiologic evaluation after presenting with a visible congenital or traumatic deformity of the ear.

- **CC-064-09 Referral for otologic evaluation for patients with a history of active drainage from the ear within the previous 90 days (Audiology Quality Consortium)**

  Percentage of patients referred to a physician (preferably a physician specially trained in disorders of the ear) for an otologic evaluation subsequent to an audiologic evaluation after presenting with a history of active drainage from the ear within the previous 90 days.

- **CC-065-09 Referral for otologic evaluation for patients with a history of sudden or rapidly progressive hearing loss (Audiology Quality Consortium)**

  Percentage of patients age birth and older referred to a physician (preferably a physician specially trained in disorders of the ear) for an otologic evaluation immediately following an audiologic evaluation after presenting with a history of sudden or rapidly progressive hearing loss.

- **CC-066-09 Referral for otologic evaluation for patients with acute or chronic dizziness (Audiology Quality Consortium)**

  Percentage of patients referred to a physician (preferably a physician specially trained in disorders of the ear) for an otologic evaluation subsequent to an audiologic evaluation after presenting with acute or chronic dizziness.

- **CC-067-09 Referral for otologic evaluation for patients with a unilateral hearing loss (Audiology Quality Consortium)**

  Percentage of patients referred to a physician (preferably a physician specially trained in disorders of the ear) for an otologic evaluation subsequent to an audiologic evaluation after presenting with a unilateral hearing loss.

- **CC-068-09 Referral for otologic evaluation for patients who present with a conductive hearing loss or air-bone gap (Audiology Quality Consortium)**

  Percentage of patients age birth and older referred to a physician (preferably a physician specially trained in disorders of the ear) for an otologic evaluation subsequent to an audiologic evaluation after presenting with a conductive hearing loss or air-bone gap.

- **CC-069-09 Referral for otologic evaluation for patients with evidence of impacted cerumen accumulation or a foreign body in the ear canal (Audiology Quality Consortium)**

  Percentage of patients age birth and older referred to a physician (preferably a physician specially trained in disorders of the ear) for an otologic evaluation subsequent or prior to an audiologic evaluation after presenting with an accumulation of cerumen or a foreign body that causes symptoms, prevents a needed assessment of the ear canal/tympanic membrane or audio vestibular system, or both.

- **CC-070-09 Referral for otologic evaluation for patients with pain or discomfort in the ear (Audiology Quality Consortium)**

  Percentage of patients referred to a physician (preferably a physician specially trained in disorders of the ear) for an otologic evaluation subsequent to an audiologic evaluation after presenting with pain or discomfort in the ear.

## Relationship to Other NQF-Endorsed Consensus Standards

This report does not represent the entire scope of NQF work relevant to the quality of care for care coordination. NQF has endorsed the following measures that address the domains of the NQF-endorsed Framework for Care Coordination and the National Priorities Partnership (NPP) goals for care coordination.

**NQF-endorsed measures related to care coordination and the healthcare home:**

- 0494 Medical home system survey (NCQA)

**NQF-endorsed measures related to care coordination and proactive plan of care:**

- 0021 Therapeutic monitoring: Annual monitoring for patients on persistent medications National Committee for Quality Assurance
- 0251 Vascular access—physician (KCQA)
- 0262 Vascular access—physician (b) (KCQA)
- 0321 Peritoneal dialysis adequacy/plan of care (AMA PCPI)
- 0323 Hemodialysis adequcy/plan of care (AMA PCPI)
- 0383 Oncology: plan of care for pain—medical oncology and radiation oncology (paired with 0384) (AMA PCPI)
- 0384 Oncology: pain intensity quantified—medical oncology and radiation oncology (paired with 0383) (AMA PCPI)
- 0385 Oncology: chemotherapy for stage IIIA through IIIC colon cancer patients (AMA PCPI)
- 0386 Oncology: cancer stage documented (AMA PCPI)
- 0387 Oncology: hormonal therapy for stage IC through IIIC, ER/PR positive breast cancer (AMA PCPI)
- 0441 Assessed for rehabilitation (The Joint Commission)

**NQF-endorsed measures related to care coordination and communication:**

- 0005 CAHPS Clinician/group surveys—(adult primary care, pediatric care, and specialist care surveys) (AHRQ)
- 0006 CAHPS Health Plan Survey v 4.0—Adult questionnaire (AHRQ)
- 0007 NCQA supplemental items for CAHPS 4.0 Adult Questionnaire (CAHPS 4.0H) (NCQA)
- 0009 CAHPS Health Plan Survey v 3.0 children with chronic conditions supplement (AHRQ)
- 0166 HCAHPS (AHRQ)
- 0291 Administrative communication (University of Minnesota Rural Health Research Center [UMRHC])
- 0292 Vital signs (UMRHC)
- 0293 Medication information (UMRHC)
- 0294 Patient information (UMRHC)
- 0295 Physician information (UMRHC)
- 0296 Nursing information (UMRHC)
- 0297 Procedures and tests (UMRHC)
- 0381 Oncology: treatment summary documented and communicated—radiation oncology (AMA PCPI)

**NQF-endorsed measures related to care coordination and information systems:**

- 0488 Adoption of health information technology (CMS)
- 0490 The ability to use health information technology to perform care management at the point of care (CMS)
- 0491 Tracking of clinical results between visits (CMS)

**NQF-endorsed measures related to care coordination and transitions:**

- 0097 Medication reconciliation (NCQA, AGS, AMA)
- 0526 Timely initiation of care (CMS)

**NQF-endorsed measures addressing the Partnership goal for care coordination, reducing 30-day readmission rates/hospitalizations:**

- 0329 All-cause readmission index (risk adjusted) (United Health Group)
- 0330 30-day all-cause risk standardized readmission rate following heart failure hospitalization (risk adjusted) (CMS)
- 0335 PICU unplanned readmission rate (National Association of Children's Hospitals and Related Institutions)
- 0336 Review of unplanned PICU readmissions (National Association of Children's Hospitals and Related Institutions)
- 0505 30-day all-cause risk standardized readmission rate following acute myocardial infarction (AMI) hospitalization (CMS)
- 0506 30-day all-cause risk standardized readmission rate following pneumonia hospitalization (CMS)

## Recommendations to Accompany the Measures

The Steering Committee offered several recommendations to accompany the set of measures:

- **Care coordination encompasses several steps over an episode of care.** A standard should measure more than one step of that care. Coordination consists of more than movement from point A to point B; it should be more systematic and patient centered. The communication loop involving the specialist, primary care provider, and patient should clearly document that follow-up has occurred.
- **Structured framework for office visits as they relate to care coordination.** An office visit and referral are among the many steps of care coordination. A structured framework should be developed with the components/activities needed during an office visit to ensure care coordination.
- **Patient experience and involvement with care.** The patient should be involved in every step of care, and measurement should include demonstration of the use of care plans, patient education about treatment and/or conditions, and self-management support programs.
- **Pairing future transition measures with the NQF-endorsed CTM-3 measure.**
- **Long-term resource utilization (e.g., inpatient stay, ED utilization) as a function of continuity of care compared to low-continuity populations.**

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# Appendix A

# Specifications of the National Voluntary Consensus Standards for Care Coordination

**THE FOLLOWING TABLE PRESENTS** the detailed specifications for the National Quality Forum (NQF)-endorsed® *National Voluntary Consensus Standards for Care Coordination.* All information presented has been derived directly from measure sources/developers without modification or alteration (except when the measure developer agreed to such modification during the NQF Consensus Development Process) and is current as of December 2009. All NQF-endorsed voluntary consensus standards are open source, meaning they are fully accessible and disclosed.

# Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Cardiac rehabilitation patient referral from an inpatient setting** | Measure ID #: 0642<br>Review #: CC-019-09 | ACCF/AHA Task Force | **Numerator Statement**<br>Number of eligible patients with a qualifying event/diagnosis who have been referred to an outpatient cardiac rehabilitation program prior to hospital discharge, or who have a documented medical or patient-oriented reason why such a referral was not made.<br>*(Note: the program may include a traditional program based on face-to-face interactions or training sessions or may include other options such as home-based approaches. If alternative methods are used, they should be designed to meet appropriate safety standards.)*<br>**Numerator Details**<br>A referral is defined as an official communication between the healthcare provider and the patient to recommend and carry out a referral order to an early outpatient cardiac rehabilitation program. This includes the provision of all necessary information to the patient that will allow the patient to enroll in | **Denominator Statement**<br>All hospitalized patients in the reporting period hospitalized with a qualifying cardiovascular disease event who do not meet any of the exclusion criteria.<br>**Denominator Details**<br>Qualifying cardiovascular disease events including the following: (1) Acute myocardial infarction (defined by standardized criteria on the basis of cardiac pain, electrocardiographic data, and biomarker levels, (2) Coronary artery bypass graft (CABG) surgery, (3) Chronic stable angina (characterized as a deep, poorly localized chest or arm discomfort that is reproducibly associated with physical exertion or emotional stress and is relieved promptly (i.e., less than 5 minutes) with rest and/or the use of sublingual nitroglycerin (NTG)) , (4) Cardiac valve surgery (surgical repair or replacement of the aortic, mitral, pulmonic or tricuspid valves), and (5) Cardiac transplantation. | **Denominator Exclusions**<br>Exclusion criteria include documentation of one of more of the following barriers to cardiac rehabilitation participation: (1) Patient factors (patient to be discharged to a nursing care facility for long-term care, for example), (2) Medical factors (patient deemed by provider to have a medically unstable, life-threatening condition, for example), (3) Healthcare system factors (no cardiac rehabilitation program available within 60 minutes of travel time from the patient's home, for example). | • Electronic Health/Medical Record<br>• Electronic Clinical Registry - National Cardiovascular Data Registry (NCDR), ACTION-Get With the Guidelines Inpatient Registry<br>• Electronic Claims<br>• Paper Medical Record |

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[a] Measure Steward(s). For the most current specifications and supporting information, please refer to the Measure Steward:

AAD - American Academy of Dermatology (**www.aad.org**)
ACCF (American College of Cardiology Foundation)/AHA (American Heart Association) Task Force (**www.americanheart.org**)
AMA PCPI - American Medical Association (AMA)-convened Physician Consortium for Performance Improvement (**www.ama-assn.org**)
Ingenix (**www.ingenix.com**)
NCQANational Committee for Quality Assurance (**www.ncqa.org**)

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| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Cardiac rehabilitation patient referral from an inpatient setting**<br>*(continued)* | | | an early outpatient cardiac rehabilitation program. This also includes written or electronic communication between the healthcare provider or healthcare system and the cardiac rehabilitation program that includes the patient's enrollment information for the program. A hospital discharge summary or office note may be potentially formatted to include the necessary patient information to communicate to the cardiac rehabilitation program [the patient's cardiovascular history, testing, and treatments, for instance]. All communications must maintain appropriate confidentiality as outlined by the 1996 Health Insurance Portability and Accountability Act (HIPAA).<br>*Detailed specifications and coding are available at www.qualityforum.org/projects/care_coordination.aspx.* | Patients with a qualifying event who are to be discharged for a short-term stay in an inpatient medical rehabilitation facility are still expected to be referred to an outpatient cardiac rehabilitation program by the in-patient team during the index hospitalization. This referral should be reinforced by the care team at the medical rehabilitation facility.<br>*Detailed specifications and coding are available at www.qualityforum.org/projects/care_coordination.aspx.* | | |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Cardiac rehabilitation patient referral from an outpatient setting** | Measure ID #: 0643<br>Review #: CC-020-09 | ACCF/AHA Task Force | **Numerator Statement**<br>Number of patients in an outpatient practice who have had a qualifying event/diagnosis in the previous 12 months who have been referred to an outpatient cardiac rehabilitation/secondary prevention program.<br>(*Note: the program may include a traditional program based on face-to-face interactions or training sessions or may include other options such as home-based approaches. If alternative methods are used, they should be designed to meet appropriate safety standards.)*<br>**Numerator Details**<br>A referral is defined as an official communication between the healthcare provider and the patient to recommend and carry out a referral order to an early outpatient cardiac rehabilitation program. This includes the provision of all necessary information to the patient that will allow the patient to enroll in an early outpatient cardiac rehabilitation program. This also includes written or electronic communication between the healthcare provider or healthcare system and the cardiac | **Denominator Statement**<br>Number of patients in an outpatient clinical practice who have had a qualifying cardiovascular event in the previous 12 months, who do not meet any of the exclusion criteria, and who have not participated in an outpatient cardiac rehabilitation program since the cardiovascular event.<br>**Denominator Details**<br>Qualifying cardiovascular disease events including the following: (1) Acute myocardial infarction (defined by standardized criteria on the basis of cardiac pain, electrocardiographic data, and biomarker levels), (2) Coronary artery bypass graft (CABG) surgery, (3) chronic stable angina (characterized as a deep, poorly localized chest or arm discomfort that is reproducibly associated with physical exertion or emotional stress and is relieved promptly (i.e., less than 5 minutes) with rest and/or the use of sublingual nitroglycerin (NTG)) , (4) Cardiac valve surgery (surgical repair or replacement of the aortic, mitral, pulmonic or tricuspid valves), and (5) cardiac transplantation.<br>*Detailed specifications and coding are available at www.qualityforum.org/projects/care_coordination.aspx.* | **Denominator Exclusions**<br>Exclusion criteria include documentation of one of more of the following barriers to cardiac rehabilitation participation: (1) Patient factors (patient resides in a long-term nursing care facility, for example), (2) Medical factors (patient deemed by provider to have a medically unstable, life-threatening condition), (3) Healthcare system factors (no cardiac rehabilitation program available within 60 minutes of travel time from the patient's home, for example).<br>The outpatient setting where this measure would apply includes the outpatient practice setting of the clinician who provides the primary cardiovascular-related care for the patient.<br>In general, this would be the patient's cardiologist, but in some cases it might be a family physician, internist, nurse practitioner, or other healthcare provider. | • Electronic Health/Medical Record<br>• Electronic Clinical Registry - National Cardiovascular Data Registry (NCDR), ACTION-Get With the Guidelines Inpatient Registry<br>• Electronic Claims<br>• Paper Medical Record |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Cardiac rehabilitation patient referral from an outpatient setting** *(continued)* | | | rehabilitation program that includes the patient's enrollment information for the program. A hospital discharge summary or office note may be potentially formatted to include the necessary patient information to communicate to the cardiac rehabilitation program [the patient's cardiovascular history, testing, and treatments, for instance.] According to standards of practice for cardiac rehabilitation programs, care coordination communications are sent to the referring provider, including any issues regarding treatment changes, adverse treatment responses, or new non-emergency condition (new symptoms, patient care questions, etc.) that need attention by the referring provider. These communications also include a progress report once the patient has completed the program. All communications must maintain appropriate confidentiality as outlined by the 1996 Health Insurance Portability and Accountability Act (HIPAA).<br>*Detailed specifications and coding are available at www.qualityforum.org/projects/care_coordination.aspx.* | | | |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Patients with a transient ischemic event ER visit that had a follow-up office visit** | Measure ID #: 0644<br>Review #: CC-050-09 | Ingenix | **Numerator Statement**<br>Create a POST period from the day after the initiating Facility Event (i.e., the ER encounter for the transient cerebral ischemic event) through 14 days after the initiating Facility Event<br>AND<br>During the POST period, did the patient have any professional encounter (code set PR0107, RV0107) with any diagnosis.<br>*Note: Will allow non-physician encounters (e.g., nurse practitioner and physician assistance encounters) to count toward numerator compliance as long as the provider(s) has submitted one of the face-to-face encounter codes (e.g., 99213) listed in our code set.*<br>**Numerator Details**<br>*See www.qualityforum.org/projects/care_coordination.aspx.* | **Denominator Statement**<br>For condition confirmation, patients must meet the following criteria:<br>1. All males or females that are 18 years or older at the end of the report period<br>2. Patient must have been continuously enrolled:<br>Medical benefits throughout the 12 months prior to the end of the report period<br>AND<br>Pharmacy benefit plan for 6 months prior to the end of the report period<br>*Note: The standard enrollment break logic allows unlimited breaks of no more than 45 days and no breaks greater than 45 days.*<br>3. Either one of the following (A or B):<br>A. The patient is listed on the Disease Registry Input File for this condition, if a Disease Registry Input File is available. *Note: Disease Registry is NOT a required input file.*<br>B. During the 24 months prior to the end of the report period, patient has 2 or more that are at least 14 days apart of the following services, where the diagnosis is Occlusive Vascular Disease OR Stroke, non-hemorrhagic OR Transient cerebral | **Denominator Exclusions**<br>None | • Electronic Claims |

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| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Patients with a transient ischemic event ER visit that had a follow-up office visit**<br>*(continued)* | | | | ischemia (code set DX0110, DX0146, DX0149):<br>• Professional Encounter (code set PR0107, RV0107)<br>• Professional Supervision (code set PR0108)<br>• Facility Event – Confinement/Admission<br>• Facility Event – Emergency Room<br>• Facility Event – Outpatient Surgery<br>In addition, for this measure, the patient must meet the following criteria:<br>Create multiple temporary events for transient cerebral ischemic event.<br>Set Episode Start Date to the date of service of any claim (i.e., initiating event) for the service and diagnosis stated below during the following window of time: 365 days prior to the end of the report period through 30 days prior to the end of the report period<br>Facility Event – Emergency Room AND<br>The primary diagnosis on the claim was: Transient cerebral ischemia (code set DX0149).<br>**Denominator Details**<br>*See www.qualityforum.org/projects/care_coordination.aspx.* | | |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Biopsy follow-up** | Measure ID #: 0645<br>Review #: CC-071-09 | AAD | **Numerator Statement**<br>Patients who are undergoing a biopsy whose biopsy results have been reviewed by the biopsying physician and communicated to the primary care physician and the patient, denoted by entering said physician's initials into a log, as well as by documentation in the patient's medical record.<br>**Numerator Details**<br>Not available at this time | **Denominator Statement**<br>All patients undergoing a biopsy.<br>**Denominator Details**<br>2P – Biopsy results not communicated with primary care physician due to patient refusal<br>3P – Biopsy not entered into log due to system reasons<br>8P – Reason not otherwise specified.<br>Biopsy Procedure – CPT codes:<br>11100, 11101, 11755, 19100, 19101, 19102, 19103, 19295,<br>20200, 20205, 20206, 20220, 20250, 20251, 21550, 21920, 21925, 23065, 23066, 23100, 23101, 23105, 23106, 24065, 24066, 24100, 24101, 25065, 25066, 25100, 25101, 26100, 26105, 26110, 27040, 27041, 27050, 27052, 27323, 27324, 27330, 27331, 27613, 27614, 28050, 28052, 28054,<br>30100, 31050, 31051, 31237, 31510, 31576, 31625, 31628, 31629, +31632, +31633, 31717, 32095, 32100, 32400, 32402, 32405, 37200, 38500, 38505, 38510, 38520, 38525, 38530, 38570, 38571, 38572, 38792, 39400 37609, 38221, | **Denominator Exclusions**<br>Patients not undergoing a biopsy | • Paper Medical Record |

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| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Biopsy follow-up**<br>*(continued)* | | | | 40808, 41100-41105, 41108, 40490, 42100, 42405, 42800, 42802, 42804, 42806, 44010, 44020, 44100, 43202, 43600-43605, 44322, 43261, 43239, 44361, 44377, 44382, 44389, 44025, 45100, 45305, 45331, 45380, 45391, 45392, 46606, 47000, 47001, 47100, 47553, 47561, 48100, 49000, 49010,<br>50200, 50205, 50555, 50557, 50574, 50576, 50955, 50957, 50974, 50976, 52204, 52224, 52250, 52354, 53200, 54100, 54105, 54500, 54505, 54800, 54865, 55700, 55705, 55706, 56605, +56606, 56821, 57100, 57105, 57421, 58100, +58110, 58558, 58900, 59015,<br>60100, 60540, 60545, 61140, 61332, 61575, 61576, 61750, 61751, 62269, 63275, 63276, 63277, 63278, 63280, 63281, 63282, 63283, 63285, 63286, 63287, 63290, 63615, 65410, 67400, 67415, 67450, 67810, 68100, 69100, 69105,<br>89290, 89291,<br>93505 | | |

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| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Reconciled medication list received by discharged patients (inpatient discharges to home/self care or any other site of care)** | Measure ID #: 0646<br>Review #: CC-073-09 | AMA PCPI | **Numerator Statement**<br>Patients or their caregiver(s) who received a reconciled medication list at the time of discharge including, at a minimum, medications in the following categories:<br>Medications to be TAKEN by patient:<br>• Continued*<br>Medications prescribed before inpatient stay that patient should continue to take after discharge, including any change in dosage or directions<br>AND<br>• New*<br>Medications started during inpatient stay that are to be continued after discharge and newly prescribed medications that patient should begin taking after discharge.<br>**Prescribed dosage, instructions, and intended duration must be included for each continued and new medication listed.*<br>Medications NOT to be taken by patient:<br>• Discontinued<br>Medications taken by patient before the inpatient stay that should be discontinued or held after discharge, | **Denominator Statement**<br>All patients, regardless of age, discharged from an inpatient facility (e.g., hospital inpatient or observation, skilled nursing facility, or rehabilitation facility) to home/ self care or any other site of care.<br>**Denominator Details**<br>The denominator may be identified using UB-04 claims data:<br>UB-04 (Form Locator 04 - Type of Bill):<br>• 0111 (Hospital, Inpatient, Admit through Discharge Claim)<br>• 0121 (Hospital, Inpatient - Medicare Part B only, Admit through Discharge Claim)<br>• 0114 (Hospital, Inpatient, Last Claim)<br>• 0124 (Hospital, Inpatient - Medicare Part B only, Interim - Last Claim)<br>• 0211 (Skilled Nursing - Inpatient, Admit through Discharge Claim)<br>• 0214 (Skilled Nursing - Inpatient, Interim, Last Claim)<br>• 0221 (Skilled Nursing - Inpatient, Medicare Part B only, Admit through Discharge Claim)<br>• 0224 (Skilled Nursing - Interim, Last Claim)<br>• 0281 (Skilled Nursing - Swing Beds, Admit through Discharge Claim) | **Denominator Exclusions**<br>Patients who died.<br>Patients who left against medical advice (AMA) or discontinued care. | • Electronic Health/Medical Record<br>• Paper Medical Record<br>• Hybrid, electronic data collection supplemented with medical record abstraction |

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| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Reconciled medication list received by discharged patients (inpatient discharges to home/self care or any other site of care)**<br>*(continued)* | | | AND<br>• Allergies and Adverse Reactions Medications administered during the inpatient stay that caused an allergic reaction or adverse event and were therefore discontinued.<br>Time Window: Each time a patient is discharged from an inpatient facility.<br>**Numerator Details**<br>Numerator details to be obtained through medical record abstraction. See Retrospective data collection tool in measure worksheet document for numerator details.<br>Definitions specific to Measure #XXXX:<br>• For the purposes of this measure, "medications" includes prescription, over-the-counter, and herbal products. Generic and proprietary names should be provided for each medication, when available.<br>• Given the complexity of the medication reconciliation process and variability across inpatient facilities in documentation of that process, this measure does not require that the medication list be organized under the "Taken/NOT taken" headings OR the specified sub-categories, | • 0284 (Skilled Nursing - Swing Beds, Interim, Last Claim)<br>AND<br>Discharge Status (Form Locator 17):<br>• 01 (Discharged to home care or self care (routine discharge)<br>• 02 (Discharged/transferred to a short-term general hospital for inpatient care)<br>• 03 (Discharged/transferred to skilled nursing facility (SNF) with Medicare certification in anticipation of skilled care)<br>• 04 (Discharged/transferred to an intermediate-care facility)<br>• 05 Discharged/transferred to a designated cancer center or children's hospital<br>• 06 (Discharged/transferred to home under care of organized home health service org. in anticipation of covered skilled care)<br>• 43 (Discharged/transferred to a federal healthcare facility)<br>• 50 (Hospice – home)<br>• 51 (Hospice - medical facility (certified) providing hospice level of care)<br>• 61 (Discharged/transferred to hospital-based Medicare-approved swing bed) | | |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Reconciled medication list received by discharged patients (inpatient discharges to home/self care or any other site of care)**<br>*(continued)* | | | provided that the status of each medication (continued, new, or discontinued) is specified within the list AND any allergic reactions are identified.<br>Detailed specifications with coding can be found at **www.ama-assn.org/ama/pub/physician-resources/clinical-practice-improvement/clinical-quality/physician-consortium-performance-improvement/pcpi-measures.shtml.** | • 62 (Discharged/transferred to an inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital)<br>• 63 (Discharged/transferred to a Medicare-certified long-term care hospital (LTCH))<br>• 64 (Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare)<br>• 65 (Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital)<br>• 66 (Discharged/transferred to a Critical Access Hospital (CAH))<br>• 70 (Discharged/transferred to another type of healthcare institution not defined elsewhere in this code list)<br>OR<br>UB-04 (Form Locator 04 - Type of Bill):<br>• 0131 (Hospital Outpatient, Admit through Discharge Claim)<br>• 0134 (Hospital Outpatient, Interim, Last Claim)<br>AND<br>UB-04 (Form Locator 42 - Revenue Code):<br>• 0762 (Hospital Observation) | | |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Reconciled medication list received by discharged patients (inpatient discharges to home/self care or any other site of care)**<br>*(continued)* | | | | • 0490 (Ambulatory Surgery)<br>• 0499 (Other Ambulatory Surgery)<br>AND<br>Discharge Status (Form Locator 17):<br>• 01 (Discharged to home care or self care (routine discharge)<br>• 02 (Discharged/transferred to a short-term general hospital for inpatient care)<br>• 03 (Discharged/transferred to skilled nursing facility (SNF) with Medicare certification in anticipation of skilled care)<br>• 04 (Discharged/transferred to an intermediate-care facility)<br>• 05 Discharged/transferred to a designated cancer center or children's hospital<br>• 06 (Discharged/transferred to home under care of organized home health service org. in anticipation of covered skilled care)<br>• 43 (Discharged/transferred to a federal healthcare facility)<br>• 50 (Hospice - home)<br>• 51 (Hospice - medical facility (certified) providing hospice level of care)<br>• 61 (Discharged/transferred to hospital-based Medicare-approved swing bed) | | |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Reconciled medication list received by discharged patients (inpatient discharges to home/self care or any other site of care)**<br>*(continued)* | | | | • 62 (Discharged/transferred to an inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital)<br>• 63 (Discharged/transferred to a Medicare-certified long-term care hospital (LTCH))<br>• 64 (Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare)<br>• 65 (Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital)<br>• 66 (Discharged/transferred to a Critical Access Hospital (CAH))<br>• 70 (Discharged/transferred to another type of healthcare institution not defined elsewhere in this code list).<br>Detailed specifications with coding can be found at **www.ama-assn.org/ama/pub/physician-resources/clinical-practice-improvement/clinical-quality/physician-consortium-performance-improvement/pcpi-measures.shtml.** | | |

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# Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Transition record with specified elements received by discharged patients (inpatient discharges to home/self care or any other site of care)** | Measure ID #: 0647<br>Review #: CC-074-09 | AMA PCPI | **Numerator Statement**<br>Patients or their caregiver(s) who received a transition record (and with whom a review of all included information was documented) at the time of discharge including, at a minimum, all of the following elements:<br>Inpatient Care:<br>• Reason for inpatient admission, AND<br>• Major procedures and tests performed during inpatient stay and summary of results, AND<br>• Principal diagnosis at discharge<br>Post-Discharge/Patient Self-Management:<br>• Current medication list, AND<br>• Studies pending at discharge (e.g., laboratory, radiological), AND<br>• Patient instructions<br>Advance Care Plan:<br>• Advance directives or surrogate decision maker documented OR<br>• Documented reason for not providing advance care plan<br>• Contact Information/Plan for Follow-up Care: | **Denominator Statement**<br>All patients, regardless of age, discharged from an inpatient facility (e.g., hospital inpatient or observation, skilled nursing facility, or rehabilitation facility) to home/self care or any other site of care.<br>Time Window: Each time a patient is discharged from an inpatient facility.<br>**Denominator Details**<br>UB-04 (Form Locator 04 - Type of Bill):<br>• 0111 (Hospital, Inpatient, Admit through Discharge Claim)<br>• 0121 (Hospital, Inpatient - Medicare Part B only, Admit through Discharge Claim)<br>• 0114 (Hospital, Inpatient, Last Claim)<br>• 0124 (Hospital, Inpatient - Medicare Part B only, Interim - Last Claim)<br>• 0211 (Skilled Nursing - Inpatient, Admit through Discharge Claim)<br>• 0214 (Skilled Nursing - Inpatient, Interim, Last Claim)<br>• 0221 (Skilled Nursing - Inpatient, Medicare Part B only, Admit through Discharge Claim)<br>• 0224 (Skilled Nursing - Interim, Last Claim) | **Denominator Exclusions**<br>Patients who died.<br>Patients who left against medical advice (AMA) or discontinued care. | • Electronic Health/Medical Record<br>• Paper Medical Record<br>• Hybrid, electronic data collection supplemented with medical record abstraction |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Transition record with specified elements received by discharged patients (inpatient discharges to home/self care or any other site of care)**<br>*(continued)* | | | • 24-hour/7-day contact information including physician for emergencies related to inpatient stay, AND<br>• Contact information for obtaining results of studies pending at discharge, AND<br>• Plan for follow-up care, AND<br>• Primary physician, other health care professional, or site designated for follow-up care.<br>Time Window: Each time a patient is discharged from an inpatient facility.<br>**Numerator Details:**<br>Numerator details to be obtained through medical record abstraction. See Retrospective data collection tool in measure worksheet document for numerator details.<br>Definitions specific to Measure #XXXX:<br>a. Transition record: a core, standardized set of data elements related to patient's diagnosis, treatment, and care plan that is discussed with and provided to patient in a printed or electronic format at each transition of care, and transmitted to the facility/physician/other healthcare professional providing follow-up care. Electronic format may | • 0281 (Skilled Nursing - Swing Beds, Admit through Discharge Claim)<br>• 0284 (Skilled Nursing - Swing Beds, Interim, Last Claim)<br>AND<br>Discharge Status (Form Locator 17):<br>• 01 (Discharged to home care or self care (routine discharge)<br>• 02 (Discharged/transferred to a short-term general hospital for inpatient care)<br>• 03 (Discharged/transferred to skilled nursing facility (SNF) with Medicare certification in anticipation of skilled care)<br>• 04 (Discharged/transferred to an intermediate-care facility)<br>• 05 Discharged/transferred to a designated cancer center or children's hospital<br>• 06 (Discharged/transferred to home under care of organized home health service org. in anticipation of covered skilled care)<br>• 43 (Discharged/transferred to a federal healthcare facility)<br>• 50 (Hospice - home) | | |

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# Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Transition record with specified elements received by discharged patients (inpatient discharges to home/self care or any other site of care)**<br>*(continued)* | | | be provided only if acceptable to patient.<br>b. Current medication list: all medications to be taken by patient after discharge, including all continued and new medications.<br>c. Advance directives: e.g., written statement of patient wishes regarding future use of life-sustaining medical treatment.<br>d. Documented reason for not providing advance care plan: documentation that advance care plan was discussed but patient did not wish or was not able to name a surrogate decisionmaker or provide an advance care plan, OR documentation as appropriate that the patient's cultural and/or spiritual beliefs preclude a discussion of advance care planning as it would be viewed as harmful to the patient's beliefs and thus harmful to the physician-patient relationship.<br>e. Contact information/plan for follow-up care: for patients discharged to an inpatient facility, the transition record may indicate that these four elements are to be discussed between the | • 51 (Hospice - medical facility (certified) providing hospice level of care)<br>• 61 (Discharged/transferred to hospital-based Medicare- approved swing bed)<br>• 62 (Discharged/transferred to an inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital)<br>• 63 (Discharged/transferred to a Medicare-certified long- term care hospital (LTCH))<br>• 64 (Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare)<br>• 65 (Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital)<br>• 66 (Discharged/transferred to a Critical Access Hospital (CAH))<br>• 70 (Discharged/transferred to another type of healthcare institution not defined elsewhere in this code list)<br>UB-04 (Form Locator 04 - Type of Bill):<br>• 0131 (Hospital Outpatient, Admit through Discharge Claim)<br>• 0134 (Hospital Outpatient, Interim, Last Claim) | | |

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| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Transition record with specified elements received by discharged patients (inpatient discharges to home/self care or any other site of care)**<br>*(continued)* | | | discharging and the "receiving" facilities.<br>f. Plan for follow-up care: may include any postdischarge therapy needed (e.g., oxygen therapy, physical therapy, occupational therapy), any durable medical equipment needed, family/psychosocial resources available for patient support, etc.<br>g. Primary physician or other healthcare professional designated for follow-up care: may be designated primary care physician (PCP), medical specialist, or other physician or healthcare professional.<br>Detailed specifications with coding can be found at **www.ama-assn.org/ama/pub/physician-resources/clinical-practice-improvement/clinical-quality/physician-consortium-performance-improvement/pcpi-measures.shtml.** | AND<br>UB-04 (Form Locator 42 - Revenue Code):<br>• 0762 (Hospital Observation)<br>• 0490 (Ambulatory Surgery)<br>• 0499 (Other Ambulatory Surgery)<br>AND<br>Discharge Status (Form Locator 17):<br>• 01 (Discharged to home care or self care (routine discharge)<br>• 02 (Discharged/transferred to a short-term general hospital for inpatient care)<br>• 03 (Discharged/transferred to skilled nursing facility (SNF) with Medicare certification in anticipation of skilled care)<br>• 04 (Discharged/transferred to an intermediate-care facility)<br>• 05 Discharged/transferred to a designated cancer center or children's hospital<br>• 06 (Discharged/transferred to home under care of organized home health service org. in anticipation of covered skilled care)<br>• 43 (Discharged/transferred to a federal healthcare facility)<br>• 50 (Hospice - home) | | |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Transition record with specified elements received by discharged patients (inpatient discharges to home/self care or any other site of care)**<br>*(continued)* | | | | • 51 (Hospice - medical facility (certified) providing hospice level of care)<br>• 61 (Discharged/transferred to hospital-based Medicare- approved swing bed)<br>• 62 (Discharged/transferred to an inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital)<br>• 63 (Discharged/transferred to a Medicare-certified long-term care hospital (LTCH))<br>• 64 (Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare)<br>• 65 (Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital)<br>• 66 (Discharged/transferred to a Critical Access Hospital (CAH))<br>• 70 (Discharged/transferred to another type of healthcare institution not defined elsewhere in this code list).<br>Detailed specifications with coding can be found at www.ama-assn.org/ama/pub/physician**-resources/clinical-practice-improvement/clinical-quality/physician-consortium-performance-improvement/pcpi-measures.shtml.** | | |

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# Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Timely transmission of transition record (inpatient discharges to home/self care or any other site of care** | Measure ID #: 0648<br>Review #: CC-075-09 | AMA PCPI | **Numerator Statement**<br>Patients for whom a transition record was transmitted to the facility or primary physician or other healthcare professional designated for follow-up care within 24 hours of discharge.<br>Time Window: Each time a patient is discharged from an inpatient facility.<br>**Numerator Details**<br>Numerator details to be obtained through medical record abstraction. See Retrospective data collection tool in measure worksheet document for numerator details.<br>Definitions specific to Measure #XXXX:<br>a. Transition record: a core, standardized set of data elements related to patient's diagnosis, treatment, and care plan that is discussed with and provided to patient in a printed or electronic format at each transition of care, and transmitted to the facility/physician/other healthcare professional providing follow-up care. Electronic format may be provided only if acceptable to patient. | **Denominator Statement**<br>All patients, regardless of age, discharged from an inpatient facility (eg, hospital inpatient or observation, skilled nursing facility, or rehabilitation facility) to home/self care or any other site of care.<br>Time Window: Each time a patient is discharged from an inpatient facility.<br>**Denominator Details**<br>UB-04 (Form Locator 04 - Type of Bill):<br>• 0111 (Hospital, Inpatient, Admit through Discharge Claim)<br>• 0121 (Hospital, Inpatient - Medicare Part B only, Admit through Discharge Claim)<br>• 0114 (Hospital, Inpatient, Last Claim)<br>• 0124 (Hospital, Inpatient - Medicare Part B only, Interim - Last Claim)<br>• 0211 (Skilled Nursing - Inpatient, Admit through Discharge Claim)<br>• 0214 (Skilled Nursing - Inpatient, Interim, Last Claim)<br>• 0221 (Skilled Nursing - Inpatient, Medicare Part B only, Admit through Discharge Claim)<br>• 0224 (Skilled Nursing - Interim, Last Claim) | **Denominator Exclusions**<br>Patients who died.<br>Patients who left against medical advice (AMA) or discontinued care. | • Electronic Health/Medical Record<br>• Paper Medical Record<br>• Hybrid, electronic data collection supplemented with medical record abstraction |

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# Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Timely transmission of transition record (inpatient discharges to home/self care or any other site of care** *(continued)* | | | b. Transmitted: transition record may be transmitted to the facility or physician or other healthcare professional designated for follow-up care via fax, secure e-mail, or mutual access to an electronic health record (EHR).<br>c. Primary physician or other healthcare professional designated for follow-up care: may be designated primary care physician (PCP), medical specialist, or other physician or healthcare professional.<br>Detailed specifications with coding can be found at **www.ama-assn.org/ama/pub/physician-resources/clinical-practice-improvement/clinical-quality/physician-consortium-performance-improvement/pcpi-measures.shtml** | • 0281 (Skilled Nursing - Swing Beds, Admit through Discharge Claim)<br>• 0284 (Skilled Nursing - Swing Beds, Interim, Last Claim)<br>AND<br>Discharge Status (Form Locator 17):<br>• 01 (Discharged to home care or self care (routine discharge)<br>• 02 (Discharged/transferred to a short-term general hospital for inpatient care)<br>• 03 (Discharged/transferred to skilled nursing facility (SNF) with Medicare certification in anticipation of skilled care)<br>• 04 (Discharged/transferred to an intermediate-care facility)<br>• 05 (Discharged/transferred to a designated cancer center or children's hospital)<br>• 06 (Discharged/transferred to home under care of organized home health service org. in anticipation of covered skilled care)<br>• 43 (Discharged/transferred to a federal healthcare facility)<br>• 50 (Hospice - home)<br>• 51 (Hospice - medical facility (certified) providing hospice level of care) | | |

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# Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Timely transmission of transition record (inpatient discharges to home/self care or any other site of care** *(continued)* | | | | • 61 (Discharged/transferred to hospital-based Medicare-approved swing bed)<br>• 62 (Discharged/transferred to an inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital)<br>• 63 (Discharged/transferred to a Medicare-certified long-term care hospital (LTCH))<br>• 64 (Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare)<br>• 65 (Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital)<br>• 66 (Discharged/transferred to a Critical Access Hospital (CAH))<br>• 70 (Discharged/transferred to another type of healthcare institution not defined elsewhere in this code list)<br>OR<br>UB-04 (Form Locator 04 - Type of Bill):<br>• 0131 (Hospital Outpatient, Admit through Discharge Claim)<br>• 0134 (Hospital Outpatient, Interim, Last Claim)<br>AND | | |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Timely transmission of transition record (inpatient discharges to home/self care or any other site of care**<br>*(continued)* | | | | UB-04 (Form Locator 42 - Revenue Code):<br>• 0762 (Hospital Observation)<br>• 0490 (Ambulatory Surgery)<br>• 0499 (Other Ambulatory Surgery)<br>AND<br>Discharge Status (Form Locator 17):<br>• 01 (Discharged to home care or self care (routine discharge)<br>• 02 (Discharged/transferred to a short-term general hospital for inpatient care)<br>• 03 (Discharged/transferred to skilled nursing facility (SNF) with Medicare certification in anticipation of skilled care)<br>• 04 (Discharged/transferred to an intermediate-care facility)<br>• 05 (Discharged/transferred to a designated cancer center or children's hospital)<br>• 06 (Discharged/transferred to home under care of organized home health service org. in anticipation of covered skilled care)<br>• 43 (Discharged/transferred to a federal healthcare facility)<br>• 50 (Hospice - home)<br>• 51 (Hospice - medical facility (certified) providing hospice level of care) | | |

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| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Timely transmission of transition record (inpatient discharges to home/self care or any other site of care**<br>*(continued)* | | | | • 61 (Discharged/transferred to hospital-based Medicare-approved swing bed)<br>• 62 (Discharged/transferred to an inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital)<br>• 63 (Discharged/transferred to a Medicare-certified long-term care hospital (LTCH))<br>• 64 (Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare)<br>• 65 (Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital)<br>• 66 (Discharged/transferred to a Critical Access Hospital (CAH))<br>• 70 (Discharged/transferred to another type of healthcare institution not defined elsewhere in this code list).<br>Detailed specifications with coding can be found at **www.ama-assn.org/ama/pub/physician-resources/clinical-practice-improvement/clinical-quality/physician-consortium-performance-improvement/pcpi-measures.shtml.** | | |

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## Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Transition record with specified elements received by discharged patients (emergency department discharges to ambulatory care [home/self care])** | Measure ID #: 0649<br>Review #: CC-076-09 | AMA PCPI | **Numerator Statement**<br>Patients or their caregiver(s) who received a transition record at the time of emergency department (ED) discharge including, at a minimum, all of the following elements:<br>• Major procedures and tests performed during ED visit, AND<br>• Principal diagnosis at discharge OR chief complaint, AND<br>• Patient instructions, AND<br>• Plan for follow-up care (OR statement that none required), including primary physician, other healthcare professional, or site designated for follow-up care, AND<br>• List of new medications and changes to continued medications that patient should take after ED discharge, with quantity prescribed and/or dispensed (OR intended duration) and instructions for each.<br>**Numerator Details**<br>Numerator details to be obtained through medical record abstraction. See Retrospective data collection tool in measure worksheet document for numerator details. | **Denominator Statement**<br>All patients, regardless of age, discharged from an emergency department (ED) to ambulatory care (home/self care) or home health/<br>**Denominator Details**<br>UB-04 (Form Locator 4 - Type of Bill):<br>• 0131 (Hospital, Outpatient, Admit through Discharge Claim)<br>AND<br>UB-04 (Form Locator 42 - Revenue Code):<br>• 0450 (Emergency Room)<br>AND<br>UB-04 (Form Locator 17 - Discharge Status):<br>• 01 (Discharged to home care or self care (routine discharge))<br>• 06 (Discharged/transferred to home under care of organized home health service org. in anticipation of covered skilled care).<br>Detailed specifications with coding can be found at www.ama-assn.org/ama/pub/physici**an-resources/clinical-practice-improvement/clinical-quality/physician-consortium-performance-improvement/pcpi-measures.shtml.** | **Denominator Exclusions**<br>Patients who died.<br>Patients who left against medical advice (AMA) or discontinued care.<br>Patients who declined receipt of transition record. | • Electronic Health/Medical Record<br>• Paper Medical Record<br>• Hybrid, electronic data collection supplemented with medical record abstraction |

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| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Transition record with specified elements received by discharged patients (emergency department discharges to ambulatory care [home/self care])**<br>*(continued)* | | | Definitions specific to Measure #XXXX:<br>a. Transition record (for ED discharges): a core, standardized set of data elements related to patient's diagnosis, treatment, and care plan that is discussed with and provided to patient in written, printed, or electronic format. Electronic format may be provided only if acceptable to patient.<br>b. Primary physician or other healthcare professional designated for follow-up care: may be primary care physician (PCP), medical specialist, or other physician or health care professional. If no physician, other healthcare professional, or site designated or available, patient may be provided with information on alternatives for obtaining follow-up care needed, which may include a list of community health services/other resources.<br>Detailed specifications with coding can be found at **www.ama-assn.org/ama/pub/physician-resources/clinical-practice-improvement/clinical-quality/physician-consortium-performance-improvement/pcpi-measures.shtml.** | | | |

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# Appendix A – Specifications of the National Voluntary Consensus Standards for Care Coordination

| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **Melanoma continuity of care – recall system** | Measure ID #: 0650<br>Review #: CC-078-09 | AMA PCPI/ AAD/NCQA | **Numerator Statement**<br>Patients whose information is entered, at least once within a 12-month period, into a recall system* that includes:<br>• A target date for the next complete physical skin exam, AND<br>• A process to follow up with patients who either did not make an appointment within the specified timeframe or who missed a scheduled appointment.<br>**Numerator Details**<br>Patient information entered into a recall system that includes target date for the next exam specified AND a process to follow up with patients regarding missed or unscheduled appointments (7010F)<br>**To satisfy this measure, the recall system must be linked to a process to notify patients when their next physical exam is due and to follow up with patients who either did not make an appointment within the specified timeframe or who missed a scheduled appointment and must include the following elements at a minimum: patient identifier, patient contact information, cancer diagnosis(es), dates(s) of initial cancer diagnosis (if known), and the target date for the next complete physical exam.* | **Denominator Statement**<br>All patients with a current diagnosis of melanoma or a history of melanoma.<br>**Denominator Details**<br>All patients, regardless of age, with a current diagnosis of melanoma or history of melanoma.<br>ICD-9 diagnosis codes: 172.0, 172.1, 172.2, 172.3, 172.4, 172.5, 172.6, 172.7, 172.8, 172.9, V10.82<br>AND<br>CPT E/M codes: 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245 | **Denominator Exclusions**<br>Documentation of system reason(s) for not entering patients into a recall system (e.g., melanoma being monitored by another provider):<br>Append modifier to CPT Category II codes: 7010F-3P. | • Claims<br>• Medical Record<br>• Electronic Health/Medical Record<br>• Hybrid, electronic data collection supplemented with medical record abstraction |

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| MEASURE TITLE | MEASURE NUMBERS | MEASURE STEWARD[a] | NUMERATOR | DENOMINATOR | EXCLUSIONS | DATA SOURCE |
|---|---|---|---|---|---|---|
| **3-Item Care Transition Measure (CTM-3)[1]** | Measure ID #: 0228 | Care Transitions Program | The 15-item and the 3-item CTM share the same set of response patterns: Strongly Disagree; Disagree; Agree; Strongly Agree (there is also a response for Don't Know; Don't Remember; Not Applicable). Based on a subject's response, a score can be assigned to each item as follows:<br>• Strongly Disagree = 1<br>• Disagree = 2<br>• Agree = 3<br>• Strongly Agree = 4<br>Next, the scores can be aggregated across either the 15 or 3 items, and then transformed to a scale ranging from 0 to 100. Thus the denominator is 100 and the numerator can range from 0 to 100.<br>Recommended to survey within 30 days of event. | The CTM has application to all hospitalized adults. Testing has not included children, but the measure may have potential application to this population as well. Persons with cognitive impairment have been included in prior testing, provided they are able to identify a willing and able proxy. The CTM has been tested in English- and Spanish-speaking (using an available Spanish version of the CTM) populations. | | Standardized patient survey |

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[1] NQF-endorsed measure, recommended for continued endorsement.

# Appendix B
# Care Coordination Steering Committee

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Atlantic Health
Morristown, NJ

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Emory University, Nell Hodgson Woodruff School of Nursing
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# Rural Veterans

The Veterans Health Administration (VA) provides comprehensive healthcare services to approximately 7.8 million of the 23 million United States Veterans.[1] U.S. soldiers in recent conflicts are increasingly drawn from rural areas and, therefore, rural VA users are growing proportionate to urban VA users.[2] Youths living in the most sparsely populated zip codes are 22 percent more likely to join the Army, with an opposite trend in cities. Regionally, most enlistees come from the South (40 percent) and West (24 percent).[3]

Prior cross-sectional and longitudinal analyses indicate that veterans who live in rural settings have greater healthcare needs than their urban counterparts.[4,5] Specifically, rural Veterans have lower health-related quality-of-life scores[6] and experience a higher prevalence of physical illness compared to urban Veterans.[7] While prevalence of most psychiatric disorders is lower for rural compared to urban Veterans, rural Veterans with psychiatric disorders are sicker as measured by lower health-related quality-of-life compared with urban Veterans.[8] These difference in health-related quality-of-life scores, which equate to lower self-rated health status, among rural dwelling Veterans, are substantial, clinically meaningful and associated with increased demand for healthcare services

Despite greater health care needs, rural veterans are less likely to access health services for both physical or mental illness either through the VA or the private sector.[9-13] In particular, rural Veterans have lower access to care for chronic conditions such as hypertension[14] and post-traumatic stress disorder.[15] Travel barriers including greater distance to care and lack of public transportation contribute to limited access to care for rural as compared to urban Veterans.[13, 16-18] To address these distance and access barriers, VA has invested in a full spectrum of telemedicine technologies including tele-video for provision of psychiatric services at a distance, combination telephone case management and health monitoring technologies for chronic disease care, and audio-visual telemedicine diagnostic strategies for a variety of conditions including pulmonary care, cardiology, diabetic care, dermatology, and pathology services. Studies to date suggest these distance strategies are feasible, acceptable, and cost-effective.[19-23]

## References

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# A Review of the Literature:
# Rural vs. Urban Ambulatory Healthcare

There are approximately three million Veterans enrolled in the VA healthcare system who live in rural areas (as defined by VA). The Rural Veterans Care Act of 2006 was signed into law to improve care for Veterans living in rural settings. Ensuring that the healthcare needs of rural Veterans are met has become a top priority for VA, resulting in a considerable expansion of community-based outpatient clinics (CBOCs), inclusion of rural health/access as a research priority, and creation of the VA Office of Rural Health in 2006.

Investigators at the VA Evidence-based Synthesis Program in Minneapolis, MN conducted a review of the literature from 1990 through June 2010 to examine the evidence regarding potential disparities between rural and urban areas in the provision and delivery of ambulatory care, and how differences in care may contribute to disparities in health outcomes. Because Veterans who use VA healthcare have been found to use more non-VA healthcare overall, investigators expanded the focus of this review to include comparisons of rural vs. urban healthcare in non-VA healthcare systems. Articles were categorized under the following ambulatory care services: preventive care, ambulatory care sensitive conditions (conditions in which inadequate outpatient treatment leads to increases in hospitalization), cancer care, diabetes, end-stage renal disease, cardiovascular disease, HIV/AIDS, neurologic conditions, and mental health.

Investigators reviewed 102 studies to answer these four key questions:

**Question #1**
Do adults with healthcare needs living in rural areas have different intermediate (e.g., hemoglobin A1c, blood pressure) or final health outcomes (i.e., mortality, morbidity, quality of life) than those living in urban areas?

- Some evidence was identified regarding healthcare disparities for the following conditions: suicide rates, hospitalization for ambulatory care sensitive conditions, stage of cancer presentation, and end-stage renal disease (ESRD).
- The available evidence suggests that there is no disparity in diabetes care, the prevalence of ESRD, or control of hypertension.

**Question #2**
Is the structure (e.g., types of available providers) or the process (e.g., likelihood of referral) of healthcare different for adults with healthcare needs who live in urban vs.

rural environments?

- Urban residents tended to receive more medications, but the evidence was limited. There were no consistent differences in the receipt of or adherence to medication.
- Office visits, medical procedures, and diagnostic tests were less frequent in rural settings, with consistently lower screening rates for breast and cervical cancer.
- In rural areas, cancers were more likely to be un-staged at diagnosis.
- Rural residents were less likely to see medical specialists, including mental health specialists.
- Rural residents were as likely as urban residents to have a usual source of care (e.g., particular clinic); however, rural residents were more likely to have better continuity of care with a specific provider.
- Highly rural areas have an insufficient supply of healthcare providers.
- Data on quality of care were only available for a few conditions, with some evidence suggesting lower quality of care in rural areas for patients with HIV or cancer; findings were less consistent for depression treatment.

**Question #3**
If there are differences in the structure or the process of healthcare in rural vs. urban environments, do those differences contribute to variation in overall or intermediate health outcomes for adults with healthcare needs?

- Although many studies documented differences in healthcare structure or processes, very few studies associated these differences with variation in health outcomes.
- Among the limited findings were: higher rates of invasive cervical and breast cancers (associated with lower screening rates in rural areas); improved adherence to guideline care for diabetes treatment (associated with improved access to rural healthcare clinics); higher rates of suicide in rural areas (associated with differential use in antidepressants, especially older antidepressants); and better continuity of care (associated with fewer providers in rural areas).

**Question #4**
If there are differences in intermediate or final health outcomes for adult patients with healthcare needs, what other systems factors moderate those differences (e.g., availability of specialists, type of treatment needed, travel distance)?

- Other factors identified include: insurance, travel distance, patient attitudes, and racial disparities. For example, for many conditions covered in this review, racial disparities were greater in urban than in rural areas; however, racial disparities were greater in rural areas for mortality rates among Hispanics for ESRD.

**Notes and Limitations**:
Few studies had enrolled Veterans, and several important clinical conditions have not been addressed. There also were several conditions for which there was a paucity of evidence regarding their prevention, diagnosis, or treatment in rural healthcare settings (e.g., COPD, chronic pain, hepatitis C, substance use disorders, traumatic brain injury).

Moreover, few studies associated healthcare differences with health outcomes. Therefore, most of the conclusions in this review are, at best, suggestive.

An important methodologic issue is the lack of consistency across studies regarding the conventions used to define levels of rurality across communities, zip codes, or counties. This inconsistency affects interpretation of the individual studies, as well as comparability of findings across studies.

The authors also note that, because the evidence base relied on peer-reviewed articles, their review did not include national reports examining potential differences in rural vs. urban healthcare. Because these reports serve to inform policymakers, findings from the 2010 National Healthcare Disparities Report and the 2010 VHA Facility Quality and Safety Report are compared with the results of this systematic review and are provided at the end of this review.

**Potential Impacts**:
VA's Office of Quality and Performance plans to use this evidence review to inform VA's measurement systems and reports. They also will work with the Office of Rural Health to create more robust indicators of rural health disparities, and they believe this partnership will be strengthened by this report. In addition, VA investigators can use this report to help focus their efforts and assure that their research is applicable to Veterans in rural and highly-rural areas.

**Suggestions for Future Research**:
Investigators recommend several areas for future research, such as:

- Examine rural vs. urban healthcare processes and outcomes for conditions relevant to Veterans (e.g., TBI, PTSD, chronic pain, hepatitis C).
- Where a rural disparity exists, determine what factors underlie the disparity.
- Determine whether differences in healthcare processes result in disparities in health outcomes.
- Examine potential interactions between rural residence and race and/or geographic region in healthcare disparities.

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This report is a product of the HSR&D Evidence-based Synthesis Program (ESP), which was established to provide timely and accurate synthesis of targeted healthcare topics of particular importance to VA managers and policymakers – and to disseminate these reports throughout VA.

**Reference**
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View the full report online
(http://www.hsrd.research.va.gov/publications/esp/ambulatory.cfm)

# NATIONAL PRIORITIES PARTNERSHIP

*Convened by the National Quality Forum*

## HEALTHY PEOPLE / HEALTHY COMMUNITIES SUBCOMMITTEE KEY THEMES

Under contract with the Department of Health and Human Services (HHS), the National Quality Forum is convening the National Priorities Partnership (NPP) to provide input into HHS' National Quality Strategy (NQS). Specifically, HHS has requested NPP to identify goals, measures, and strategic opportunities for improvement for each of the six priorities outlined in the NQS. Operationally, three Subcommittees were formed mirroring the NQS aims—better care, affordable care, and healthy people/healthy communities—to address this work. Each Subcommittee will present its recommendations to the NPP Coordinating Committee for discussion and deliberation. NPP will submit a final report to HHS by September 1, 2011.

Several key themes emerged from the Healthy People/Healthy Communities Subcommittee's discussions to identify goals and measures for the HHS' NQS priorities of 1) promoting the prevention and treatment of the leading causes of mortality, and 2) supporting communities to promote healthy living. These key themes will be discussed at the full NPP on June 17 as they may impact the identification of goals and measures more broadly.

- **Framing goals to reflect the promotion of health and well-being.**
  The Subcommittee emphasized the importance of aiming toward improved well-being, as an extension of a continuum of quality of life that includes health and functional status. This approach recognizes the influence of social and environmental factors outside of the health system, such as meaningful relationships, supportive social and built environments, and employment.
- **Prioritizing health equity at all stages of goal setting and measurement.**
  The Subcommittee recognized the unique challenges of addressing and measuring health disparities, but emphasized the importance of addressing health equity deliberately and throughout the priority areas of the NQS. The Subcommittee also recognized the need for alternative approaches to measuring health equity, such as identifying "fairness" and "goodness" components for each goal to capture both average performance and improvement as well as the difference between the most and least disadvantaged group.
- **Recognizing the need for interventions across the lifespan.**
  The Subcommittee recognized the need for services that target all age groups, including children, adolescents, and the elderly. The Subcommittee members also recognized the potential impact of addressing risk factors early on in life to prevent poor health at a later age "downstream." In addition, the Subcommittee discussed the need for aggregate measures to reflect outcomes across the life span, but noted the need to be able to stratify appropriately.
- **Incorporating community, behavioral, and clinical concepts into goals, measures, and strategic opportunities**.
  This three-pronged approach recognized the importance of addressing the clinical preventive needs of each individual, but also recognizes the role of the local community and the wider environment as influential components of population-based health. The Subcommittee agreed to an approach to selecting measures for the goals in each priority area that would address community, behavioral, and individual determinants of health. In addition, to the extent possible, Subcommittee members emphasized that measures for each priority should offer an opportunity to promote accountability at the individual, provider, and/or community level.
- **Emphasizing the importance of composite and outcome measures.**
  The Subcommittee emphasized the importance of moving towards outcome measures that capture population-level health outcomes, as well as the use of composite measures to offer a more complete picture of performance (e.g., for delivery of multiple clinical services, or adoption of a collection of healthy behaviors). The Subcommittee recognized that many composite and outcome-based measures are not readily available for these two priorities areas and their respective goals, but recommended that the development of composite and outcome measures be made a priority.

# NATIONAL PRIORITIES PARTNERSHIP

*Convened by the National Quality Forum*

## HEALTHY PEOPLE/HEALTHY COMMUNITIES SUBCOMMITTEE — PROPOSED GOALS, MEASURES, STRATEGIC OPPORTUNITIES

| ***Priority*** | **Work with communities to promote wide use of best practices to enable healthy living and well-being.** | | | | | |
|---|---|---|---|---|---|---|
| ***Goals*** | Promote healthy living and well-being through community interventions that result in improvement of social, economic, and environmental factors. | | Promote healthy living and well-being through interventions that result in adoption of the most important healthy lifestyle behaviors across the lifespan. | | Promote healthy living and well-being through receipt of effective clinical preventive services across the lifespan in clinical and community settings. | |
| ***Measures*** | *Inadequate social support*[1] | *Emergency department visits for nonfatal injuries*[2] | *Healthy behavior index (smoking, eating healthy, weekly eating of fruits and vegetables, weekly exercise frequency)*[3] | *Proportion of persons engaging in binge drinking during the past month for:*<br>*--Adults >=18 yrs*[4]<br>*--Adolescents aged 12 to 17 years*[5] | *Primary care physician (PCP) office visits that screen adults for depression*[6]<br>*PCP office visits that screen youth aged 12-18 years for depression*[7] | *Proportion of children, adolescents, and adults who used the oral health system in the past year*[8] |
| ***Equity Data*** | *Yes* | *Yes* | *No* | *Yes* | *Yes – adults;*<br>*No – adolescents* | *Yes* |
| ***Opportunities*** | 1, 2, 3 | | 1, 2, 3, 6 | | 3, 4, 5, 6, 7 | |

| ***Priority*** | **Promote the most effective prevention, treatment, and intervention practices for the leading causes of mortality, starting with cardiovascular disease.** | | | | | |
|---|---|---|---|---|---|---|
| ***Goals*** | Promote cardiovascular health through community interventions that result in improvement of social, economic, and environmental factors. | | Promote cardiovascular health through interventions that result in adoption of the most important healthy lifestyle behaviors across the lifespan. | | Promote cardiovascular health through receipt of effective clinical preventive services across the lifespan in clinical and community settings. | |
| ***Measures*** | *Access to healthy foods*[9] | *Access to recreational facilities*[10] | *Cigarette smoking by adults*[11]<br>*Adolescent use of tobacco products*[12] | *Consumption of calories from solid fats and added sugars*[13] | *Proportion of adults with high BP whose BP is under control*[14] | *Prevalence of adults using cholesterol medications with controlled high chol*[15] |
| ***Equity Data*** | *State level data* | *State level data* | *Yes* | *Yes* | *Yes* | *Yes* |
| ***Opportunities*** | 1, 2, 3, 4 | | 1, 2, 3, 4, 6 | | 3, 5, 6, 7 | |

**NQF-Endorsed*

## HEALTHY PEOPLE/HEALTHY COMMUNITIES SUBCOMMITTEE—PROPOSED GOALS, MEASURES, STRATEGIC OPPORTUNITIES

| *Cross-Cutting Strategic Opportunities* | |
|---|---|
| **1. Grant Funding** | Encourage alignment of grant programs at improve health and chronic disease through the NQS focus areas.<br>Support high-need communities to take advantage of funding opportunities.<br>Specific opportunities exist with CTGs focused on tobacco-free living, active living and healthy eating, evidence-based quality clinical and preventive services, specifically for high blood pressure and high cholesterol, social and emotional wellness, and healthy/safe physical environments; State tobacco grants; Chronic Disease and Health Promotion Grants/Comprehensive Chronic Disease Prevention Program; SAMHSA State grants; and Prevention Block Grants. |
| **2. CDC Prevention Status Report** | Encourage broad use of the CDC Prevention Status Reports (PSR) to drive change at the state and local levels, particularly the policy indicators that emphasize the goals and measures of the National Quality Strategy (NQS). |
| **3. CDC Guide to Community Preventive Services** | Encourage broader use of the Community Guide to improve health and prevent disease in communities.<br>Opportunity to assist local communities with identifying areas in need of improvement through public reporting programs (e.g., MATCH County Health Rankings), and to identify evidence-based program and policy interventions. |
| **4. Community Benefit Strategies** | Encourage states to adopt hospital community benefit requirements in statute or regulations that narrow the focus of the programs to the goals and measures in the NQS. |
| **5. Clinician Support** | Support clinicians in the use of data to identify their patient populations; the use of performance data for quality improvement and public reporting (e.g., control of blood pressure/cholesterol, screening for depression); and in identifying and linking to available community resources. |
| **6. Payment Incentives** | Develop payment incentives at the individual, provider, employer, community/public health levels to promote the delivery/receipt of effective clinical preventive services and the adoption of healthy lifestyle behaviors. |
| **7. Measurement/ Data** | Stratify measurement to promote/monitor progress on measures of goodness and fairness (e.g., lifespan, race, ethnicity); develop composite measures for ABCS and healthy lifestyle behaviors at the population and provider level.<br>Work with public and private plans to aggregate healthcare delivery system and public health data. |

How do we further prioritize and operationalize these opportunities to address barriers to progress?
What concrete actions need to be taken? Who needs to be involved and how? Who will take a leadership role in driving the action steps?

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[2] HP2020, indicator IVP-1.3; data source: National Hospital Ambulatory Medical Care Survey (NHAMCS), CDC, NCHS.

[3] Gallup-Healthways Well-Being Index; www.well-beingindex.com.

[4] HP2020, indicator SA-14.3; data source: National Survey on Drug Use and Health (NSDUH), SAMHSA.

[5] HP2020, indicator SA-14.4; data source: NSDUH, SAMHSA.

[6] HP2020, indicator MHMD-11.1; data source: National Ambulatory Medical Care Survey (NAMCS), CDC, NCHS.

[7] HP2020, indicator MHMD-11.2; data source: NAMCS, CDC, NCHS.

[8] HP2020, indicator OH-7; data source: Medical Expenditure Panel Survey (MEPS), Agency for Healthcare Research and Quality (AHRQ).

[9] County Health Rankings, Mobilizing Action Toward Community Health (MATCH); data source: Census Zip Code Business Patterns, 2008.

[10] Ibid.

[11] Healthy People 2020 (HP2020), indicator TU-1.1; data source: National Health Interview Survey (NHIS), Centers for Disease Control and Prevention (CDC), National Center for Healthcare Statistics (NCHS).

[12] HP2020, indicator TU-2.1; data source: Youth Risk Behavior Surveillance System (YRBSS), CDC, National Center for Chronic Disease Prevention and Healthy Promotion (NCCDPHP).

[13] HP2020, indicator NWS-17.3; data source: NHANES, CDC, NCHS, and United States Department of Agriculture, Agricultural Research Service.

[14] HP2020, indicator HDS-12; data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

[15] CDC Vitalsigns, February 2011; data source: NHANES, CDC, NCHS.

# NATIONAL PRIORITIES PARTNERSHIP

*Convened by the National Quality Forum*

## BETTER CARE SUBCOMMITTEE KEY THEMES

Several key themes emerged from the Better Care Subcommittee's discussion to identify goals and measures for the HHS' NQS priorities of 1) ensuring person- and family-centered care; 2) promoting effective communication and care coordination; and 3) making care safer.

- **Balancing achievable and aspirational goals**
  The Subcommittee recognized the importance of identifying goals for each priority area that are achievable in the short-term, while also acknowledging that to fully realize better care, affordable care, and healthy people/communities—the aims of the NQS—there is a desire to identify goals that are more aspirational in order to drive transformational change. The Subcommittee aimed to identify achievable goals based on existing resources that enable patients, their families, and caregivers to make informed decisions and actively participate in managing their own care. Moreover, the Subcommittee highlighted limitations in the current evidence, measurement and infrastructure supports in their discussion of aspirational goals. The group began to identify strategies for addressing these limitations, such as advancing health information technology, promoting research and measure testing to fill gaps in performance measurement, and developing standardized shared decisionmaking models and tools.

- **Communication across the full continuum of care**
  The Subcommittee identified effective communication across the full continuum of care as a key component to achieving better patient outcomes. The group stressed the importance of communication among providers, as well as between providers and their patients, families, and caregivers. The group emphasized the need for education and resources that enable providers to communicate and connect with patients, families, and caregivers in a compassionate, culturally sensitive, and linguistically appropriate manner. The Subcommittee's discussion of care transitions stressed the importance of linkages between care settings, both those within and beyond the healthcare delivery system, to ensure that communication of patient information and preference is properly transmitted in a timely manner.

- **Health literacy**
  The Subcommittee emphasized the importance of health literacy in terms of patients' ability to make informed decisions around selecting a provider, as well as their choice of treatment options. They expressed concern over the lack of resources available to consumers to improve or address health literacy and identified this as an important strategic opportunity for moving forward. Moreover, they recognized the critical role of providers in promoting health literacy through the translation of their plan of care into language that is understandable and culturally appropriate for their patients.

- **Infrastructure supports**
  The Subcommittee recognized the need for taking a systems approach to advancing the infrastructure supports necessary to improve care and achieve more aspirational goals. The group identified health information technology (HIT) as an essential infrastructure support for capturing and accessing real time, reliable data as part of the care process. In particular, data on patient-reported outcomes was identified as a key driver for accelerating achievement of national priorities and goals. Examples of additional opportunities include the use of personal health records, as well as learning networks that promote broadly applicable innovation, collaboration, communication, and shared learning.

- **Considerations for ongoing measure development**
  The Subcommittee recognized the need for continued measure development that aims to: 1) include strong and current evidence; 2) capture the patient voice and experience of care across multiple settings and the lifespan; 3) offer proximal linkages between processes and improved outcomes; 4) address needs of vulnerable populations; and 5) promote accountability and utilization within public reporting programs to incentivize the delivery of high-quality care.

# NATIONAL PRIORITIES PARTNERSHIP

*Convened by the National Quality Forum*

## BETTER CARE SUBCOMMITTEE — PROPOSED GOALS, MEASURES, STRATEGIC OPPORTUNITIES

| ***Priority*** | **Ensure Person- and Family-Centered Care** | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Goals*** | Improve patient, family, and caregiver experience of care related to quality, safety, and access across settings. | | In partnership with patients, families and caregivers--and using a shared decisionmaking process--develop care plans that are culturally sensitive and understandable. | | Enable patients and their families and caregivers to appropriately and effectively navigate, coordinate, and manage their care. | | |
| ***Measures*** | *Composites of patient experience related to access to care, doctor communication and office staff*[1] | *Patient-centered hospital care – pain management, responded when needed help, and explained medications*[2] | *Persons whose healthcare providers always involved them in decisions about their health care as much as they wanted*[3] | *PCMH collaborates to develop individual care plan, including treatment goals, written plan of care, and assessment and addressing of barriers*[4] | *Older adults w/ one or more chronic conditions who report confidence in managing their conditions*[5] | *Persons whose healthcare providers always gave them easy-to-understand instructions of how to take care of their illness*[6] | *PCMH engages in activities to understand and meet the cultural and linguistic needs of patients/ families*[7] |
| ***Equity Data*** | *tbd* | *tbd* | *Yes* | *tbd* | *Yes* | *Yes* | *tbd* |
| ***Opportunities*** | 1, 2 | | 1, 2, 4, 5 | | 2, 3, 4, 5 | | |

| ***Priority*** | **Promote Effective Communication and Coordination of Care** | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Goals*** | Improve the quality of care transitions and communications across care settings. | | Improve the quality of life for patients with chronic illness and disability by following a current care plan that anticipates and addresses pain and symptom management, psychosocial needs, and functional status. | | | Establish shared accountability and integration between communities and healthcare systems to improve the quality of care and reduce health disparities. | |
| ***Measures*** | *Transition record with specified elements received by discharged patients**[8] | *Care Transitions Measure CTM-3**[9] | *Chronic disease under control – diabetes, high blood pressure*[10] | *Hospice patients who didn't receive care consistent with EOL wishes**[11] | *Vulnerable populations:*<br>*Long stay NH residents w/ mod-severe pain; w/ depressive symptoms**[12]<br>*Change in QOL for children with special healthcare needs*[13] | *Health outcomes – mortality and morbidity; poor physical health days; poor mental health days; low birth weight.*[14] | *Children/children with special healthcare needs with effective care coordination and with access to a medical home*[15,16] |
| ***Equity Data*** | *tbd* | *tbd* | *Yes* | *tbd* | *Yes; tbd* | *Yes* | *Yes* |
| ***Opportunities*** | 1, 2, 3 | | 1, 3, 5 | | | 1, 2, 3, 5 | |

**NQF-Endorsed*

## BETTER CARE SUBCOMMITTEE — PROPOSED GOALS, MEASURES, STRATEGIC OPPORTUNITIES

| ***Priority*** | **Make Care Safer** | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Goals*** | Reduce preventable hospital admissions and readmissions. | | Reduce the incidence of adverse healthcare-associated conditions by focusing on the elimination of healthcare-associated infections; pressure ulcers; falls; adverse obstetrical events; VTE; and ADE. | | Reduce harm from inappropriate medication use, polypharmacy, and lack of medication reconciliation; unnecessary diagnostic radiation exposure; elective deliveries prior to 39 weeks. | | |
| ***Measures*** | *Hospital admissions for ambulatory-sensitive conditions*[17] | *All-cause readmission index**[18] | *Hospital-acquired conditions – all-cause composite*[19] | *Hospital acquired conditions – individual measures*[20] | *Adults 65 and older who receive potentially inappropriate medications*[21] | *Elective deliveries prior to 39 completed weeks**[22] | *Imaging for acute low back pain with no risk factors**[23] |
| ***Equity Data*** | *Yes* | *tbd* | *tbd* | *tbd* | *yes* | *tbd* | *tbd* |
| ***Opportunities*** | 1, 3, 5 | | 1, 3, 5 | | 1, 3, 5 | | |

**NQF-Endorsed*

## BETTER CARE SUBCOMMITTEE—PROPOSED GOALS, MEASURES, STRATEGIC OPPORTUNITIES

| ***Cross-Cutting Strategic Opportunities*** | |
|---|---|
| **1. Payment Incentives** | Promote payment incentives for:<br>• e-visits, including email, texting, etc.;<br>• telemonitoring;<br>• medication reconciliation;<br>• communication; and<br>• coordination.<br>Encourage public-private sector alignment of incentives |
| **2. Accreditation, Certification, Regulation** | Identify opportunities to incorporate identified goals and measures into PCMH, ACO, and other standards<br>Identify opportunities to leverage Maintenance of Certification (MOC)—e.g., incorporation of CAHPS and safety modules—to address identified goals and measures |
| **3. Measurement HIT Infrastructure** | For all NQS measures, develop parallel measures for all settings and populations (e.g., adult, pediatric, dual eligibles)<br>Standardize measures and enable sharing of data across settings<br>Identify proximal process/structural measures tied to reducing readmissions and harm<br>Integrate self-management goal into meaningful use and build into HIT infrastructure<br>Hardwire structural changes for emerging and existing healthcare delivery models to simplify the collection and reporting of measures, and to bridge communities and healthcare delivery systems to foster collaboration<br>Incorporate Culturally and Linguistically Appropriate Services (CLAS) standards into measurement to address health equity issues |
| **4. Research** | Build stronger body of research around shared decisionmaking tools and resources and SDM quality, care transitions |
| **5. Clinician Support—Education, Training, Tools and Resources** | Develop tools and resources to assist providers/clinicians with:<br>• assessing organizational communication;<br>• training on advance directives; and<br>• cultural sensitivity and health literacy. |

How do we further prioritize these—which have the greatest opportunity to address barriers across the Better Care goals more broadly?
How do we further operationalize these opportunities—who and how?

- What concrete actions need to be taken?
- Who needs to be involved and how?
- Who will take a leadership role in driving the action steps?

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[6] HP2020, indicator HC/HIT-1.1; data source: Medicare Expenditure Panel Survey (MEPS), AHRQ.

[7] 2011 PCMH Recognition Program—Standard 1F; NCQA.

[8] Transition record with specified elements received by discharged patients for inpatient discharges to home/self care or any other site of care (inpatient care summary; post d/c self management; advance care plan; contact info and plan for follow-up care); measure developer: AMA-PCPI.

[9] Care Transitions Measure—CTM-3—measures quality of preparation for care transitions for adult hospital discharge (took preferences into account; understood things responsible for to manage health; understood purpose for taking each medication); measure developer: Colorado Health Sciences Center.

[10] Why Not the Best? The Commonwealth Fund Commission on a High Performance Health System; data source: National Health and Nutrition Examination Survey (NHANES), Healthcare Effectiveness Data and Information Set (HEDIS).

[11] AHRQ National Healthcare Quality/Disparities Report; Agency for Healthcare Research and Quality; data source: Family Evaluation of Hospice Care, National Hospice and Palliative Care Organization.

[12] Nursing Home Compare; data source: Minimum Data Set (MDS).

[13] Individual measures—patients with autism who demonstrate improvement; patients who have a reduction in disability score due to headaches; patients self-report of reduction in pain; Mapping of Potential Measure Concepts to NPP and Leading Conditions; Cincinnati Children's Hospital.

[14] County Health Rankings, Mobilizing Action Toward Community Health (MATCH); data source: NCHS, BRFSS.

[15] AHRQ National Healthcare Quality/Disparities Report; data source: Health Resources Services Agency (HRSA), Maternal Child Health Bureau (MCHB); CDC; NCHS; National Survey of Children's Health (NSCH).

[16] HP2020 MICH-30.1, MICH-30.2; data source: HRSA, MCHB; CDC; NCHS; NSCH.

[17] Why Not the Best? The Commonwealth Fund Commission on a High Performance Health System; data source: Healthcare Cost and Utilization Project (HCUP).

[18] United Health Group.

[19] Centers for Medicare & Medicaid Services Partnership for Patients Initiative.

[20] ibid.

[21] AHRQ National Healthcare Quality/Disparities Report; data source: MEPS.

[22] AMA-PCPI

[23] Why Not the Best? The Commonwealth Fund Commission on a High Performance Health System; data source: HEDIS, NCQA Audit Means.