



National Impact Assessment of Medicare Quality Measures

March 2012

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CMS Measures Management Innovation Project: HHSM-500-2011-AZ10C

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Executive Summary

Overview

The Centers for Medicare & Medicaid Services (CMS) has been a leader in measuring health care quality and using quality measures to promote improvements in care delivery and payment, and to increase transparency. In using quality measures CMS seeks to promote the goal of achieving a high quality, sustainable health care system.

Section 3014 of the Affordable Care Act of 2010 (Affordable Care Act, or ACA) (P.L. 111-148 and P.L. 111-152) enacted Section 1890A(a) of the Social Security Act (the Act). This provision establishes a federal “pre-rulemaking process” for the selection of quality and efficiency measures for use in certain specific programs and for use in performance reporting within the Department of Health and Human Services (HHS). It directs CMS to make available to the public by December 1st, annually, a list of measures being “considered for selection” by HHS for use in various programs or for use in performance reporting under Title XVIII. HHS will take into consideration the multi-stakeholders’ input on this list of measures when finalizing the measures for implementation. HHS has contracted with the National Quality Forum (NQF), as the consensus-based entity, for the specific purpose of convening multi-stakeholder groups (the Measures Application Partnership or MAP) to provide input to HHS on the identification of the best available performance measures and the selection of these measures for use in the programs listed in Section 1890(b)(7)(B)(i)(I) of the Act (some of which involve performance-based payment) and for use in public reporting, as described under Section 1890(b)(7)(B)(i)(II) of the Act. Section 1890(b)(7)(B)(i) was enacted by Section 3014(a) of the ACA. Chapter 10 of this report specifically addresses the list of measures that CMS is considering for future use and assesses the measures’ potential quality and efficiency impact on the six National Quality Strategy (NQS) priorities.

Section 3014 (b) of the ACA states that not later than March 1, 2012, and at least once every three years thereafter, the Secretary of the HHS is to conduct an assessment of the quality and efficiency impact of the NQF-endorsed quality and efficiency measures for use in certain specific health care programs and measures for use in reporting performance information to the public. We do not include measures for use in health care programs other than for use under the Social Security Act. While quality measures may be used in such other programs, we do not believe this category of measures is relevant to the pre-rulemaking process. This is the first report completed in compliance with this requirement.

Measures included in this report for which impact is assessed fall into two general categories:

1. Implemented Measures with at least two years performance information



While these currently implemented measures are not under consideration as part of the pre-rulemaking process, an assessment of the impact of measures currently in use can help guide the selection of additional measures for the current and future pre-rulemaking processes. These measures are limited to those with at least two years of national data that are readily available from 2006–2010 and currently endorsed by the National Quality Forum (NQF) or were previously NQF-endorsed during the above time frame. Based on the above criteria, the measures included in this report are only a subset of the total number of measures that are associated with each program. The discussion of the impact of currently adopted measures is included in Chapters 2 through 9 of this initial report.

2. Measures under Consideration by CMS and made available to the public.

Since these measures are under consideration for use in CMS programs, there is insufficient information about impact in the context of CMS programs to provide an assessment; therefore, the report assesses anticipated impact on health care relating to the National Quality Strategy priorities. The impact of the measures included in the *Measures under Consideration* list posted on the NQF Web site is discussed in Chapter 10 of this report.

Programs Included in This Report

All of the programs addressed in Chapters 2 thru 9 of this report receive funding from Medicare. The program measures addressed are those that meet the inclusion criteria for implemented measures described above for this initial report. These chapters will present trended measure data for eight programs: Hospital Inpatient Quality Reporting System (Hospital IQR), Hospital Outpatient Quality Reporting (Hospital OQR), Physician Quality Reporting System (PQRS), Nursing Home (NH), Home Health (HH), End-Stage Renal Disease (ESRD), Medicare Part C (Part C), and Medicare Part D (Part D).

Other CMS programs have quality measures and web sites that are either under development, in the planning stage, or in the early implementation stage. Trend data from these CMS programs are not presented in this initial report, as they do not meet the inclusion criteria described above. Future reports may expand to include trend data on these newer programs, which include programs funded by Medicaid and the Children’s Health Insurance Program (CHIP). CMS believes that recognizing these programs will foster alignment of the measures across programs, harmonization of the measures across settings, reduction of provider reporting burden, and alignment of the measures with the National Quality Strategy priorities.

CMS Measures Under Consideration, Chapter 10, assesses measures CMS is considering adopting for 12 CMS programs in 2012 rulemaking for implementation in future years: End Stage Renal Disease Quality Improvement, Hospice Quality Reporting, Hospital Inpatient Quality Reporting, Hospital Value-Based Purchasing, Inpatient Psychiatric Facility Quality Reporting, Inpatient Rehabilitation Facility Quality Reporting, Long-Term Care Hospital Quality Reporting, PPS-exempt Cancer Hospital Quality Reporting, Medicare and Medicaid EHR Incentive Program



for Eligible Professionals, Medicare and Medicaid EHR Incentive Program for Hospitals and CAHs, Physician Quality Reporting System, and Physician Feedback/Value-Based Modifier Program.

National Quality Strategy Priorities

The National Strategy for Quality Improvement in Health Care (National Quality Strategy, or NQS), which was submitted to Congress on March 21, 2011, establishes a national strategy to improve the delivery of health care services, patient health outcomes, and population health. It focuses on six priorities: *Safety, Person and Family Centered Care, Communication and Care Coordination, Effective Prevention and Treatment of Illness, Best Practices for Healthy Living, and Affordable Care.*

The NQS is the national framework for quality improvement and measurement activities and has been adopted across HHS. In recognition of the importance of the NQS to the national quality improvement agenda, the MAP used as one of its measure selection criteria the extent to which measures addressed one of the six NQS priorities. CMS has therefore based its assessment of the impact of quality and efficiency measures on the quality of health care through the lens of the NQS aims and priorities.

CMS is committed to these NQS priorities and is working to include measures that address each of the priorities. While it is understood that some measures can be appropriately classified under more than one NQS priority area, for the purposes of this report, each quality measure is assigned to only one specific NQS priority area. The report assesses each measure based on how well it addresses the priority area.

Methods

The performance results included in this report come from a variety of data sources, including CMS measure contractors and CMS web sites that report on Medicare quality measures. The quality measures associated with each of the eight CMS programs addressed in this report are organized conceptually by measure type (e.g., process, outcome, etc.) or by service type (e.g., outpatient imaging). Results are plotted on a trend chart to highlight performance over time. Quality measure results are based on archived data and were not recalculated using updated measure specifications.

Information for measures that CMS is considering adopting in calendar year 2012 can be found in the list of *Measures under Consideration* posted on the NQF Measure Applications Partnership (MAP) website at www.qualityforum.org/MAP. It should be noted that CMS determined that 23 CMS programs could submit measure sets to the MAP for review; however, only 12 CMS programs were considering adding new measures to their program through 2012 rulemaking. These 12 programs encompass the measures evaluated in Chapter 10.

Findings

Detailed findings for the implemented measures are presented in eight chapters. For each chapter, the number of quality measures that met the inclusion criteria for this report ranges from 1 (for ESRD) to 123 (for PQRS). Each chapter illustrates the trends over time and examines the extent to which many of the measure trends within each program have declined, remained unchanged, or increased. The results presented in this report are descriptive in nature, as neither linear trending analysis nor statistical significance testing was conducted when evaluating change. As such, relatively small differences over time are interpreted with caution.

Overall, the majority of performance measures assessed across the following Medicare programs showed some increase in rates between the start period and end period: Hospital IQR, Hospital OQR, Nursing Home, Home Health, ESRD, Part C, and Part D. Excluding PQRS measures, only about 14 percent of the measures in these other seven programs showed an actual decrease in reported rates during the study period. In general, measures associated with health care delivery exhibited higher rates. Trends among the PQRS measures cannot be evaluated due to limitations associated with the available data.

Chapter 10 presents CMS's assessment of *Measures under Consideration*. The measures were assessed for their likelihood of improving health care as it relates to the six NQS priorities. The *Measures under Consideration* were also evaluated for their alignment with existing programs. Sixty of the measures were expected to have the most significant impact with respect to identified NQS goals based on available information. An additional ninety-six of the *Measures Under Consideration* are already implemented in other programs. CMS expects these measures, if adopted, to have a greater impact because they are aligned across programs and settings.

Limitations

There are important limitations that should be considered when attempting to interpret the results of this assessment. First, the results presented within this report are of a descriptive nature and are intended to provide a national context for current performance trends in the measures covered in the report, which are only a subset of the total measures associated with each of the relevant programs. The results are not sufficient to draw conclusive findings regarding the direct impact of CMS programs on the reported measure outcomes.

Second, the rates reported in some of the chapters represent unweighted results or simple averages across facilities. This means that differences in the size of a facility or health plan membership were not taken into account for some measures when producing the national rates. As such, some of the measures may not provide an accurate picture of national performance and instead reflect the average performance reported at a facility-level. This limitation was generally related to the type of data available for this report.

Finally, in some cases, changes in specifications within a measure over time may affect the meaningful comparison of measures. These changes may include altered cut-off values, inclusion or exclusion criteria, or recommended frequency of service. Such changes may result in differences in performance from year to year that do not necessarily reflect an accurate



change in the quality of care provided. When applicable, these limitations are discussed in the individual program chapters.

Summary

This report assesses the impact of the use of endorsed measures listed in section 1890(b)(7)(B) of the Social Security Act (the Act). We include an assessment of the impact of both those measures already adopted and those under consideration for adoption included in the pre-rulemaking process required by ACA. For measures already implemented we highlight areas for which performance rates have shown positive trends during the period included in this analysis and other areas for which the trends have remained relatively unchanged or are declining. In general, a review of the results presented in this report shows that more than 80 percent of the quality measures discussed have seen increases in their reported results. We believe that this information is valuable for the pre-rulemaking process. CMS and others can better understand which measures have worked well, which have had less impact on quality, and the context of existing quality program for which additional measures are being considered. With respect to the measures under consideration through the pre-rulemaking process, these are assessed as to their likelihood of having a significant impact on health care in the priority areas identified in the National Quality Strategy. Sixty measures are expected to have the most significant impact with respect to identified National Quality Strategy goals based on available information. An additional ninety-six of the measures under consideration are already implemented in other programs are expected to have added impact through alignment across programs and settings.

Next Steps

CMS intends to continue to evaluate the impact of NQF endorsed quality measures in use and to make public a report at least every 3 years as part of the ongoing pre-rulemaking process. CMS intends to use this information to inform measure selection and removal from its quality programs.

The CMS contractor, Health Services Advisory Group, will convene a technical expert panel (TEP) to review and identify critical areas for further impact analysis.. The TEP will include members of various health care consulting companies; health care associations; RAND Health Policy Researchers; and the National Quality Forum. Representatives from Centers for Disease Control and Prevention, Health Resources and Services Administration, and Centers for Medicare and Medicaid Services will be in attendance.

1. Introduction

Background of CMS Quality Measure Collection and Reporting

The Centers for Medicare & Medicaid Services (CMS), which provides health coverage for roughly one in three Americans, is focused on achieving a sustainable, high quality health care system. To achieve this goal, CMS has been a leader in measuring health care quality. CMS uses quality measures to increase transparency and to promote improvements in the delivery of care, which in turn can influence payment for services provided. Quality measures form the foundation of every quality initiative undertaken by CMS in the pursuit of improvements in the quality and safety of health care delivered to Medicare and Medicaid beneficiaries. One such initiative is public reporting of providers' quality data, which motivates health care providers to improve care and assists consumers in making health care decisions.

CMS began collecting a standardized set of performance measures for managed care plans in 1997 and began publicly reporting these measures in 1999. In 2001, CMS began public reporting of performance data for dialysis facilities. Today, CMS measures and publicly reports on the quality of care provided in hospitals, nursing homes, home health agencies, and Medicare Part D plans. Future efforts will be expanded to include physicians, ambulatory surgery centers, inpatient rehabilitation facilities, inpatient psychiatric facilities, cancer hospitals, long term care hospitals, and hospice programs. Information to help consumers make health care decisions can be found at www.medicare.gov.

To achieve greater health care transformation, Medicare is moving from being a passive payer to an active payer of services by linking incentives to providers' delivery of services with better quality and value to Medicare beneficiaries. This value-based purchasing system will rely on a mix of measure types, such as structural, process, outcome, patient experience of care, and efficiency measures. The system will also include measures of care transitions and changes in patient functional status. Achieving better outcomes—including patient experience of care and patient functional status—are the ultimate goals of policy makers, purchasers, consumers, and other stakeholders. Therefore, CMS will move as quickly as possible to use more outcome, patient experience, and system integration measures. CMS is also committed to aligning measures, to the extent possible, across public reporting and payment systems under Medicare, Medicaid, and the Children's Health Insurance Program (CHIP).

Data on quality measures are collected in various ways, including claims, assessment instruments, medical charts, and registries. The data are collected and reported at various intervals: monthly, quarterly, and/or yearly. Currently, CMS is developing efficient and reliable ways to collect and report measures using electronic health records. This will ultimately decrease the burden on health care providers and others involved in collecting and reporting quality measure data.

Section 3014 of the Affordable Care Act of 2010 (ACA) (P.L. 111-148 and P.L. 111-152) requires the establishment of a federal “pre-rulemaking process.” The pre-rulemaking process includes:

- ◆ Making publicly available, by December 1st annually, a list of measures currently under consideration by HHS for qualifying programs within the Department, including measures suggested by the public;
- ◆ Providing the opportunity for multi-stakeholder groups to review and provide input by February 1st annually to HHS on the measures under consideration, and for HHS to consider this input;
- ◆ Publishing the rationale for the selection of any quality and efficiency measures that are not endorsed by the National Quality Forum (NQF); and
- ◆ Assessing the impact of endorsed quality and efficiency measures at least every three years (the first report due to the public by March 1, 2012).

This new pre-rulemaking process will inform the measure selection and adoption process for each applicable program. Specifically, feedback provided from multi-stakeholder groups on the December 1 posting of measures under consideration by HHS will be incorporated into the program-specific measures selection criteria for adoption through rulemaking annually. Similarly, the triennial assessment of impact of endorsed quality and efficiency measures report will inform program measure selection and removal determinations. Finally, the rationale for the selection of quality and efficiency measures that are not endorsed by the National Quality Forum (NQF) will be published in each applicable program’s notice of proposed rulemaking (NPRM) and final rule publication.

We limit this impact report to those programs covered by the pre-rulemaking process, which includes the selection of quality and efficiency measures for use in certain specific programs and for use in performance reporting within the Department of Health and Human Services (HHS). We do not include measures for use in health care programs other than for use under the Social Security Act. While quality measures may be used in such other programs, we do not believe this category of measures is relevant to the pre-rulemaking process.

HHS has contracted with the National Quality Forum (NQF) as the consensus-based entity for the specific purpose of convening multi-stakeholder groups (the Measures Application Partnership or MAP) to provide input to HHS on the selection of the best available performance measures for use in the programs specifically listed in section 1890(b)(7)(B)(i)(I) of the Act, as enacted by section 3014(a) of ACA, for use in public reporting and for performance-based payment. On December, 1, 2011, the first list of “Measures under Consideration” was made available to the public via the NQF web site (<http://www.qualityforum.org/MAP/>).

Purpose of the Report

The intent of this report is to meet a final requirement in the pre-rulemaking process established by Section 3014 of ACA. Specifically, ACA Section 3014 (b) requires that not later than March 1, 2012, and at least once every three years thereafter, the Secretary of the U.S. Department of Health and Human Services (HHS) shall:

- ◆ Conduct an assessment of the quality and efficiency impact of the use of endorsed measures (i.e., quality and efficiency measures for use in certain specific health care programs, for use in reporting performance information to the public, and for use in health care programs other than for use under the Social Security Act).
- ◆ Make such an assessment available to the public.

This is the first such report completed in response to the ACA pre-rulemaking requirement.

Measures Included in this Report

Measures included in this report, for which impact is assessed, fall in to two general categories:

1. Measures that have been implemented for which at least two years performance information is available to assess impact. These are included in Chapters 2 through 9. Each of these included measures:
 - ◆ Have at least two years of national data that are readily available from 2006–2010.
 - ◆ Are currently endorsed by the National Quality Forum (NQF) or were previously NQF-endorsed during the above time frame.
2. “Measures under Consideration” by CMS that have been made available to the public and reviewed by the NQF-convened Measure Applications Partnership (MAP). The assessment of the impact of these measures is discussed in Chapter 10 of this report. This analysis includes 367 measures. It should be noted that CMS determined that 23 CMS programs’ measure sets should be submitted for MAP for review; however, only 12 CMS programs considered adding new measures to their program for implementation in future years through 2012 rulemaking. Therefore, these 12 programs encompass the measures evaluated in this chapter.

These measures have insufficient information about performance to assess impact based on implementation; therefore, the anticipated impact on health care in relation to the National Quality Strategy is assessed.

While measures already adopted are not under consideration for program selection as part of the pre-rulemaking process, we believe that an assessment of the impact of measures already in use is valuable in considering the selection of additional measures. With this information,

CMS and others can better understand which measures have worked well, which have had less impact on quality, and the context of existing quality program for which additional measures are being considered.

With respect to new measures under consideration, we believe that the National Quality Strategy provides an important benchmark for the selection of quality measures. Insofar as such measures may be selected for program implementation, we would expect in future reports to include performance information.

Per the statutory requirements of Section 3014 of the Affordable Care Act, it should be noted that this initial report focuses on NQF-endorsed measures only. Measures that are not endorsed by the NQF but are still utilized by CMS may be included in future impact analyses.

The NQF is a consensus-based organization that endorses health care quality measures and is contracted by HHS for some of the work described in the Section 3014 of the ACA. NQF-endorsed measures have undergone rigorous scientific and evidence-based review. A variety of stakeholders, including patients and/or caregivers, purchasers, providers, and measurement experts in the health care industry, provided input regarding measures that undergo NQF consensus review. The NQF measure evaluation criteria include:

- ◆ Importance to Measure and Report
- ◆ Scientific Acceptability of the Measure Properties
- ◆ Usability
- ◆ Feasibility

Under the criteria of *Importance to Measure and Report*, NQF evaluates whether a measure's focus addresses a national goal, priority, or issues related to high-impact aspects of care, such as the leading cause of morbidity/mortality, high resource use, or severity of consequences due to poor quality care. Under the *Scientific Acceptability* criteria, NQF evaluates how specifically a measure's properties relate to reliability, validity, and risk adjustment. Under the *Usability* criteria, NQF evaluates whether a measure demonstrates results that are meaningful for decision making and understandable to intended audiences. Lastly, under the *Feasibility* criteria, NQF evaluates the extent to which the required data for a measure are readily available, retrievable without undue burden, and can be implemented for performance measurement. Information about NQF's endorsement process can be found at <http://www.qualityforum.org/Home.aspx>.

CMS uses measures that are NQF-endorsed whenever possible. CMS may choose to use non-NQF endorsed measures when no NQF-endorsed measures exist for a specified area or medical topic. In many of its programs, CMS adopts existing quality measures developed by national organizations. In some cases, CMS contracts with organizations to develop measures for use in its programs. When this occurs, a CMS consensus-based measure development process called

the CMS Measures Management System (MMS) is utilized. The MMS includes broad stakeholder input and, when practical, the measures are also tested for their feasibility, validity, and reliability. The CMS processes are documented in the *CMS Measures Management System Blueprint (Blueprint)*. The *Blueprint* is a standardized approach developed by CMS for the development and maintenance of quality measures that are used in its quality initiatives. The *Blueprint* was launched in 2003 and includes a set of business process and decision criteria that CMS-funded measure developers use in the development, implementation, and maintenance of quality measures. The *Blueprint* is aligned with the criteria used by NQF and assists the measure contractors to produce quality measures that meet the four NQF evaluation criteria listed above. Additional information about Medicare's quality initiatives can be found at <http://www.cms.gov/QualityInitiativesGenInfo/>, and additional information about the *Blueprint* can be found at <http://www.cms.gov/MMS/>.

Programs Included in This Report

The following CMS programs have implemented quality measures that meet the criteria set forth by the ACA, and their trend data are included in this report:

- ◆ Chapter 2: Hospital Inpatient Quality Reporting (Hospital IQR)
- ◆ Chapter 3: Hospital Outpatient Quality Reporting (Hospital OQR)
- ◆ Chapter 4: Physician Quality Reporting System (PQRS)
- ◆ Chapter 5: Nursing Home (NH)
- ◆ Chapter 6: Home Health (HH)
- ◆ Chapter 7: End-Stage Renal Disease (ESRD)
- ◆ Chapter 8: Medicare Part C (Part C)
- ◆ Chapter 9: Medicare Part D (Part D)

The following CMS programs have quality measures and Web sites that are either under development, in the planning stage, or in the early implementation stage. Therefore, trend data from these CMS programs are not presented in this report. Future reports may include performance data on these programs:

- ◆ Hospice Quality Reporting
- ◆ Ambulatory Surgery Center Quality Reporting
- ◆ Prospective Payment System—Exempt Cancer Hospital Quality Reporting
- ◆ Inpatient Rehabilitation Facility Quality Reporting
- ◆ Long-Term Care Hospital Quality Reporting
- ◆ Hospital Value-Based Purchasing
- ◆ Inpatient Psychiatric Facility Quality Reporting
- ◆ Electronic Prescribing Incentive Program
- ◆ Medicare and Medicaid Electronic Health Record Incentive Program for Eligible Professionals

- ◆ Medicare and Medicaid Electronic Health Record Incentive Program for Hospitals and Critical Access Hospitals
- ◆ Medicare Shared Savings Program
- ◆ Medicare Physician Feedback/Value-Based Modifier Program
- ◆ Children's Health Insurance Program Reauthorization Act Quality Reporting
- ◆ Health Insurance Exchange Quality Reporting
- ◆ Initial Core Set of Health Care Quality Measures for Medicaid-Eligible Adults

National Quality Strategy Priorities

Section 3011 of the ACA requires the Secretary of HHS to establish a national strategy to improve the delivery of health care services, patient health outcomes, and population health. The National Strategy for Quality Improvement in Health Care (National Quality Strategy, or NQS) was submitted to Congress on March 21, 2011. The NQS sets priorities to guide the efforts to increase access to high-quality, affordable health care and includes a strategic plan for how to achieve those priorities. For more information on the NQS, please go to <http://www.healthcare.gov/center/reports/nationalqualitystrategy032011.pdf>.

The NQS is the national framework for quality improvement and measurement activities. In recognition of the importance of the NQS to the national quality improvement agenda, the MAP used as one of its measure selection criteria the extent to which measures addressed one of the six NQS priorities. CMS has therefore based its assessment of the impact of quality and efficiency measures on the quality of health care through the lens of the NQS aims and priorities. NQS focuses on six priorities:

1. Making care safer by reducing harm caused in the delivery of care (*Safety*).
2. Ensuring that each person and family is engaged as partners in their care (*Person and Family Centered Care*).
3. Promoting effective communication and coordination of care (*Communication and Care Coordination*).
4. Promoting the most effective prevention and treatment practices for the leading causes of mortality, starting with cardiovascular disease (*Effective Prevention and Treatment of Illness*).
5. Working with communities to promote wide use of best practices to enable healthy living (*Best Practices for Healthy Living*).
6. Making quality care more affordable for individuals, families, employers, and governments by developing and spreading new health care delivery models (*Affordable Care*).

CMS is committed to NQS priorities and is working to include measures that address each of the priorities. While it is understood that some measures can be appropriately classified under more than one NQS priority area, for the purposes of this report each quality measure is

assigned to only one specific NQS priority area (other reports may assign the measure to a different NQS priority). Each program is assessed as to the extent that its measures cover all of the priorities.

Structure of the Report

The remainder of this report is divided into chapters that contain information about the programs identified above. Each chapter is dedicated to a specific quality reporting program and includes the following information:

- ◆ A description of the program—including the program’s data collection and public reporting history, and information about the measures used in the program from 2006 to 2010.
- ◆ A description of individual measures included in the chapter, including information about the data sources and the data collection methodology.
- ◆ Methods, including where the data for the report were obtained and how the analyses were completed.
- ◆ Results, which include figures and/or tables showing the data trends for the number of reporting facilities, data trends for the quality measures, and an analysis of each figure and/or table presented.
- ◆ Limitations.
- ◆ Conclusions and next steps.

Some information is intentionally repeated in every chapter to accommodate readers who are only interested in reading one specific chapter. It should be noted that most quality measures have multiple measure names. The measure names used in the chapters are based on those used on the public reporting Web sites.

Methodology and Limitations of the Analysis

The data included in this report come from a variety of sources—including Medicare measure development contractors, CMS, and CMS Web sites that report on quality measures. Some programs have retired measures during the reporting period and some data collection reporting systems have been updated or modified. Conclusions that can be drawn from the data are limited for this inaugural impact assessment report due to the variety of data sources, differences in the time period for which data are available, and modifications to the collection and reporting systems. Future reports will include a more thorough analysis of the impact of the quality measures used by CMS. (Please see *Future Analysis* section below.)

The quality measures associated with each of the eight CMS programs reviewed herein (i.e., Hospital Inpatient Quality Reporting, Hospital Outpatient Quality Reporting, Physician Quality Reporting System, Nursing Home, Home Health, End-Stage Renal Disease, Medicare Part C, and Medicare Part D) are organized conceptually by either measure type (process, outcome, and

survey measures) or by service type (e.g., outpatient imaging). This organizational scheme reflects the categorization methods employed on public reporting Web sites, as well as the use of similar metrics and disease conditions.

Measures with three or more data points were plotted on a trend chart with yearly data displayed to highlight performance over time. Measures with only two data points were presented in bar graphs. Although no statistical testing was conducted to evaluate trends, the descriptive presentation of data allows for general comparisons of performance over time. As such, relatively small differences over time should be interpreted with caution. Overall, general observations of improvement or decline in performance were noted along with the magnitude of change.

Future Analysis

In the coming years, CMS expects to expand on its impact analysis pertinent to future sets of measures under consideration identified through the pre-rulemaking process to include a more robust assessment of the impact of quality measures. We also plan to assess the impact of measures that are currently under consideration to the extent that they have been selected for implementation. We believe that assessing the impact of implemented measures is important to inform subsequent pre-rulemaking processes.

Appendix 1-1: ACA 3014 Section Language

SEC. 3014. QUALITY MEASUREMENT.

“(6) ASSESSMENT OF IMPACT.—Not later than March 1, 2012, and at least once every three years thereafter, the Secretary shall—

“(A) conduct an assessment of the quality impact of the use of endorsed measures described in section 1890(b)(7)(B); and

“(B) make such assessment available to the public.

“(b) PROCESS FOR DISSEMINATION OF MEASURES USED BY THE SECRETARY.—

“(1) IN GENERAL.—The Secretary shall establish a process for disseminating quality measures used by the Secretary. Such process shall include the following:

“(A) The incorporation of such measures, where applicable, in workforce programs, training curricula, and any other means of dissemination determined appropriate by the Secretary.

“(B) The dissemination of such quality measures through the national strategy developed under section 399HH of the Public Health Service Act.

“(2) EXISTING METHODS.—To the extent practicable, the Secretary shall utilize and expand existing dissemination methods in disseminating quality measures under the process established under paragraph (1).

“(

“(c) REVIEW OF QUALITY MEASURES USED BY THE SECRETARY.—

“(1) IN GENERAL.—The Secretary shall—

“(A) periodically (but in no case less often than once every 3 years) review quality measures described in section 1890(b)(7)(B); and

“(B) with respect to each such measure, determine whether to—

“(i) maintain the use of such measure; or

“(ii) phase out such measure.

“(2) CONSIDERATIONS.—In conducting the review under paragraph (1), the Secretary shall take steps to—

“(A) seek to avoid duplication of measures used; and

“(B) take into consideration current innovative methodologies and strategies for quality improvement practices in the delivery of health care services that represent best practices for such quality improvement and measures endorsed by the entity with a contract under section 1890 since the previous review by the Secretary.

“(d) RULE OF CONSTRUCTION.—Nothing in this section shall preclude a State from using the quality measures identified under sections 1139A and 1139B.”

2. Hospital Inpatient Quality Reporting Program

Introduction

The Centers for Medicare & Medicaid Services (CMS) has longstanding initiatives for ensuring the provision of quality health care. CMS has implemented a number of programs aimed at improving the quality of care, one of which is the Hospital Inpatient Quality Reporting (Hospital IQR) Program. The Hospital IQR Program was developed as a result of the Medicare Prescription Drug, Improvement and Modernization Act (MMA) of 2003 and is a pay-for-reporting program. Section 5001(a) of Pub. 109-171 of the Deficit Reduction Act (DRA) of 2005 provided new requirements for the Hospital IQR Program—such as the voluntary Hospital Quality Initiative, which uses a variety of tools to help stimulate and support improvements in the quality of care delivered by hospitals. By making quality-of-care data publicly available, CMS enables Medicare beneficiaries to make more informed decisions about their health care and encourages providers to improve the quality of inpatient care.

In accordance with the DRA of 2005, the Inpatient Prospective Payment System (IPPS) pays hospitals that treat Medicare beneficiaries a financial incentive, in addition to making data publicly available. This incentive, referred to as the Annual Payment Update (APU), is authorized by the MMA of 2003. The APU is offered to hospitals that meet CMS requirements to collect and submit accurate, complete, and timely clinical-process-measure data. The intent is to encourage hospitals to adopt evidence-based, outcomes-driven health care delivery practices. The APU is sometimes considered a “cost-of-living” increase that is added to payment rates for submitting hospitals. Payments are subject to a 2.0 percent reduction for any IPPS hospital that does not meet the Hospital IQR Program requirements or chooses not to participate.

Reporting and Data Collection History

The quality measures associated with the Hospital IQR Program include the following measure types: process, outcome, and survey. These measures are based on a variety of data sources including claims, chart-abstraction, and survey instruments.

The performance results of the measures are reported on Hospital Compare. Hospital Compare is a public reporting Web site launched by the joint efforts of CMS and the Hospital Quality Alliance (HQA) in April 2005. HQA, disbanded in December 2011 after reaching its goals, was a public-private collaboration established to promote reporting on hospital quality of care. HQA consisted of organizations that represented consumers, hospitals, doctors, nurses, employers, accrediting organizations, and Federal agencies. Hospital Compare allows consumers and patients to review and compare facilities and make informed decisions about their care. There were 17 chart-abstracted measures initially reported on Hospital Compare in 2004. In order to

receive the financial incentive, participating hospitals were required to report on a “starter set” of 10 measures for acute myocardial infarction (AMI), heart failure (HF), and pneumonia (PN).

Since 2004, CMS has increased the number of measures publicly reported on Hospital Compare from the starter set of 10 quality measures. In 2010, outpatient measures were added to the Web site. Hospital Compare currently reports quality performance data for over 50 inpatient measures. There will be a total of 76 measures in the FY 2015 payment determination for the Hospital IQR measure set, but CMS will only be collecting data on 72 of those measures. (The four measures for which CMS will not collect data are suspended.) This set includes chart-abstracted measures, Web-based structural measures, survey measures, claims-based outcome measures, and a claims-based cost efficiency measure. The Hospital Compare Web site can be found at: <http://hospitalcompare.hhs.gov/>.¹

Measures Included in This Chapter

CMS primarily uses NQF-endorsed measures when feasible. However, when NQF-endorsed measures do not exist for a specified area or medical topic, CMS chooses to use measures that are not endorsed by the NQF. Based on the inclusion criteria described above for this initial report, only information and data for 43 hospital process, outcome, and survey measures are included in this chapter. Measures are from the following categories:

- ◆ Acute Myocardial Infarction (AMI)
- ◆ Heart Failure (HF)
- ◆ Pneumonia (PN)
- ◆ Surgical Care and Improvement Project (SCIP)
- ◆ Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)

The AMI, HF, PN, and SCIP process measures are collected by the reporting hospitals by manually abstracting retrospective data from medical records. These data are collected and submitted to CMS on a quarterly basis and those updates are reflected on the Hospital Compare Web site quarterly, but provided as a rolling 12-month score. CMS receives “raw data” from each reporting hospital, thereby allowing for calculation of performance scores rather than solely relying on self-reporting of aggregate scores.

The readmission and mortality outcome measures are NQF-endorsed at the facility level (national risk-standardized). However, for the purposes of this chapter, the average among the hospital-level risk standardized rates for US hospitals was used. . The facility-level outcome measures reported on Hospital Compare are refreshed annually and are based on data for a rolling three years. Using a hierarchical logistic regression model, readmission and mortality rates

¹ Additional information about the Hospital IQR Program is available at https://www.cms.gov/HospitalQualityInits/08_HospitalRHQDAPU.asp#TopOfPage and at <http://qualitynet.org/>.

for AMI, HF, and PN are risk-adjusted using inpatient and outpatient claims data from 12 months prior to admission to the hospital. The initial hospital admission is often referred to as the “index admission.” Based on the diagnosis information on the index admission and the prior patient inpatient and outpatient claims data, the measures adjust for the clinical status of the patient (e.g., comorbidities and indicators of frailty) while taking into account the effect of clustering of patients in hospitals. The risk-adjusted rates are produced based on Medicare fee-for-service (FFS) claims for patients aged 65 and over and are not representative of all patients with the specified clinical condition. Additional information about the risk-adjustment methodology can be found at

<http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1163010398556>.

The Hospital Consumer Assessment of Healthcare Providers Survey (HCAHPS) is the first national, standardized, publicly reported survey of patients' perspectives of hospital care and was first reported on Hospital Compare in 2008. The HCAHPS survey asks discharged patients 27 questions about their recent hospital stay. The survey contains 18 core questions about critical aspects of patients' hospital experiences (communication with nurses and doctors, the responsiveness of hospital staff, the cleanliness and quietness of the hospital environment, pain management, communication about medicines, discharge information, overall rating of hospital, and would they recommend the hospital). The 2010 scores are based on more than 2.7 million completed surveys from 3,827 hospitals.² Annual response rates were approximately 32.5 percent for 2007–2010. The national response rates, like the actual scores, are averages of hospital-level values, each hospital being equally weighted.

The HCAHPS survey is administered to a random sample of adult patients across medical conditions between 48 hours and six weeks after discharge; the survey is not restricted to Medicare beneficiaries. Hospitals may either use an approved survey vendor or collect their own HCAHPS data (if approved by CMS to do so). HCAHPS can be implemented via four different survey modes: mail, telephone, mail with telephone follow-up, or active interactive voice recognition. Publicly reported HCAHPS results are based on four consecutive quarters of patient surveys. CMS publishes participating hospitals' HCAHPS results on the Hospital Compare Web site; results are updated quarterly and represent a rolling 12-month score.

Publicly reported HCAHPS results include six composite measures, two individual items, and two global items. The composite measures are formed by combining multiple questions from the HCAHPS survey. The HCAHPS survey was endorsed as a single measure (NQF 0166), however, this chapter includes the results for the ten component measures as they are publicly reported.

Hospitals' HCAHPS results are adjusted for the effects of both mode of survey administration and patient-mix. The mode adjustment coefficients were derived by conducting a randomized

² HCAHPSonline.org Web site accessed on 1/11/13, available at http://www.hcahpsonline.org/executive_insight/default.aspx.

mode experiment. The patient-mix adjustments are re-estimated every quarter using a multiple regression model. Patient characteristics used in patient-mix adjustment include age, self-reported health status, education, primary language spoken at home, and service line (maternity, surgical, and medical). More details regarding the mode experiment results and application of patient-mix adjustment (including actual patient-mix adjustments) can be found by going to the *Mode & Patient-Mix Adj* button at www.hcahpsonline.org.

It should be noted that most quality measures have multiple measure names. The measure names used in this chapter are based on the measure names located on the Hospital Compare Web site which is used for public reporting.

The measures included in this chapter are listed in tables 2-1 through 2-5; they are grouped by patient health conditions and show the NQS priority area applicable to each measure. The Hospital IQR Program contains measures addressing five of the six NQS priority domains; however most address *Effective Prevention and Treatment of Illness*. The only domain not addressed in this measure set is *Affordable Care*.

Acute Myocardial Infarction (AMI)

Table 2-1 includes the AMI process and outcome measures. Detailed measure specifications for these measures can be found on the QualityNet Web site at <http://qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228767363466>.

Table 2-1: Acute Myocardial Infarction

NQF #	Hospital Manual #	Measure Name	Measure Description	National Quality Strategy Priority
0132	AMI-1	Heart Attack Patients Given Aspirin at Arrival (Suspended Q1 2012)	Acute myocardial infarction (AMI) patients who received aspirin within 24 hours before or after hospital arrival	Effective Prevention and Treatment of Illness
0142	AMI-2	Heart Attack Patients Given Aspirin at Discharge	Acute myocardial infarction (AMI) patients who are prescribed aspirin at hospital discharge	Effective Prevention and Treatment of Illness
0137	AMI-3	Heart Attack Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD) (Suspended Q1 2012)	Acute myocardial infarction (AMI) patients with left ventricular systolic dysfunction (LVSD) who are prescribed an ACEI or ARB at hospital discharge; for purposes of this measure, LVSD is defined as chart documentation of a left ventricular ejection fraction (LVEF) less than 40% or a narrative description of left ventricular systolic (LVS) function consistent with moderate or severe systolic dysfunction.	Effective Prevention and Treatment of Illness
0157	AMI-4	Heart Attack Patients Given	Adult smoking cessation advice/	Effective

NQF #	Hospital Manual #	Measure Name	Measure Description	National Quality Strategy Priority
		Smoking Cessation Advice/Counseling. (Retired Q1 2012)	counseling for AMI	Prevention and Treatment of Illness
0160	AMI-5	Heart Attack Patients Given Beta Blocker at Discharge (Suspended Q1 2012)	Acute myocardial infarction (AMI) patients who are prescribed a beta-blocker at hospital discharge	Effective Prevention and Treatment of Illness
0153	AMI-6	Heart Attack Patients Given Beta Blocker at Arrival (Retired Q2 2009)	Beta blocker at arrival for AMI	Effective Prevention and Treatment of Illness
0164	AMI-7a	Heart Attack Patients Given Fibrinolytic Medication Within 30 Minutes of Arrival	Acute myocardial infarction (AMI) patients with ST-segment elevation or LBBB on the ECG closest to arrival time receiving fibrinolytic therapy during the hospital stay and having a time from hospital arrival to fibrinolysis of 30 minutes or less	Effective Prevention and Treatment of Illness
0163	AMI-8a	Heart Attack Patients Given PCI Within 90 Minutes of Arrival ³	Acute myocardial infarction (AMI) patients with ST-segment elevation or LBBB on the ECG closest to arrival time receiving primary PCI during the hospital stay with a time from hospital arrival to PCI of 90 minutes or less	Effective Prevention and Treatment of Illness
0505	READM-30-AMI	Risk-Adjusted Rate of Readmission for Heart Attack Patients	Hospital-specific 30-day all-cause risk standardized readmission rate following hospitalization for AMI for Medicare beneficiaries aged 65 years and older	Safety ⁴
0230	MORT-30-AMI	Risk-Adjusted Death Rate for Heart Attack Patients	Hospital-specific risk-standardized all-cause 30-day mortality (defined as death from any cause within 30 days after the index admission date) for patients age 65 and over discharged from the hospital with a principal diagnosis of AMI	Effective Prevention and Treatment of Illness

Heart Failure (HF)

Table 2-2 includes the HF process and outcome measures. Detailed measure specifications for these measures can be found on the QualityNet Web site at <http://qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228767363466>.

³ This measure's specifications changed from 120 minutes to 90 minutes beginning Q3 2006.

⁴ Readmission measures also address the Care Coordination priority of the National Quality Strategy.

Table 2-2: Heart Failure

NQF #	Hospital Manual #	Measure Name	Measure Description	National Quality Strategy Priority
0136	HF-1	Heart Failure Patients Given Discharge Instructions	Heart failure patients discharged home with written instructions or educational material given to patient or caregiver at discharge or during the hospital stay addressing all of the following: activity level, diet, discharge medications, follow-up appointment, weight monitoring, and what to do if symptoms worsen	Communication and Care Coordination
0135	HF-2	Heart Failure Patients Given an Evaluation of Left Ventricular Systolic (LVS) Function	Percentage of heart failure patients with documentation in the hospital record that left ventricular systolic (LVS) function was evaluated before arrival, during hospitalization, or is planned for after discharge	Effective Prevention and Treatment of Illness
0162	HF-3	Heart Failure Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)	Heart failure patients with left ventricular systolic dysfunction (LVSD) who are prescribed an ACEI or ARB at hospital discharge. For purposes of this measure, LVSD is defined as chart documentation of a left ventricular ejection fraction (LVEF) less than 40% or a narrative description of left ventricular systolic (LVS) function consistent with moderate or severe systolic dysfunction	Effective Prevention and Treatment of Illness
0158	HF-4	Heart Failure Patients Given Smoking Cessation Advice/Counseling (Retired Q1 2012)	Heart failure patients (cigarette smokers) who receive smoking cessation advice or counseling during the hospital stay	Effective Prevention and Treatment of Illness
0330	READM-30-HF	Risk-Adjusted Rate of Readmission for Heart Failure Patients	Hospital-specific, risk-standardized, 30-day all-cause readmission rates for Medicare fee-for-service patients age 65 years and older discharged from the hospital with a principal discharge diagnosis of heart failure	Safety ⁵
0229	MORT-30-HF	Risk-Adjusted Death Rate for Heart Failure Patients	Hospital-specific, risk standardized all-cause 30-day mortality (defined as death from any cause within 30 days after the index admission date) for patients age 65 years and older discharged from the hospital with a principal diagnosis of heart failure	Effective Prevention and Treatment of Illness

⁵ Readmission measures also address the Care Coordination priority of the National Quality Strategy.

Pneumonia (PN)

Table 2-3 includes the Pneumonia process and outcome measures. Detailed measure specifications for these measures can be found on the QualityNet Web site at

<http://qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228767363466>.

Table 2-3: Pneumonia

NQF #	Hospital Manual #	Measure Name	Measure Description	National Quality Strategy Priority
0146	PN-1	Oxygenation Assessment (Retired Q1 2009)	Oxygenation Assessment	Effective Prevention and Treatment of Illness
0150	PN-2	Pneumonia Patients Assessed and Given Pneumococcal Vaccination (Replaced Q1 2012)	Pneumonia patients, age 65 and older, who were screened for pneumococcal vaccine status and were administered the vaccine prior to discharge, if indicated	Best Practices for Healthy Living
0148	PN-3b	Pneumonia Patients Whose Initial Emergency Room Blood Culture was Performed Prior to the Administration of the First Hospital Dose of Antibiotics	Pneumonia patients whose initial emergency room blood culture specimen was collected prior to first hospital dose of antibiotics. This measure focuses on the treatment provided to Emergency Department patients prior to admission orders	Effective Prevention and Treatment of Illness
0159	PN-4	Pneumonia Patients Given Smoking Cessation Advice/Counseling (Retired Q1 2012)	Pneumonia patients (cigarette smokers) who receive smoking cessation advice or counseling during the hospital stay	Effective Prevention and Treatment of Illness
0151	PN-5c	Pneumonia Patients Given Initial Antibiotic(s) Within 6 Hours After Arrival ⁶ (Retired Q1 2012)	Pneumonia patients who receive their first dose of antibiotics within 6 hours after arrival at the hospital	Effective Prevention and Treatment of Illness
0147	PN-6	Pneumonia Patients Given the Most Appropriate Initial Antibiotic(s)	Immunocompetent patients with Community-Acquired Pneumonia who receive an initial antibiotic regimen during the first 24 hours that is consistent with current guidelines	Effective Prevention and Treatment of Illness
0149	PN-7	Pneumonia Patients Assessed and Given Influenza Vaccination (Replaced Q1 2012)	Pneumonia patients age 50 years and older, hospitalized during October, November, December, January, February or March who were screened for influenza vaccine status and were vaccinated prior to discharge, if indicated	Best Practices for Healthy Living
0506	READM-30-PN	Risk-Adjusted Rate of Readmission for Pneumonia	Hospital-specific, risk-standardized, 30-day all-cause readmission rate for	Safety ⁷

⁶ The version of the measure with a 4-hour time frame was retired Q1 2009.

⁷ Readmission measures also address the Care Coordination priority of the National Quality Strategy.

NQF #	Hospital Manual #	Measure Name	Measure Description	National Quality Strategy Priority
		Patients	pneumonia among Medicare beneficiaries aged 65 years or older	
0468	MORT-30-PN	Risk-Adjusted Death Rate for Pneumonia Patients	Hospital-specific, risk standardized all-cause 30-day mortality (defined as death from any cause within 30 days after the index admission date) for patients discharged from the hospital with a principal diagnosis of pneumonia	Effective Prevention and Treatment of Illness

Surgical Care Improvement Project (SCIP)

Table 2-4 includes the SCIP process measures. Detailed measure specifications for these measures can be found on the QualityNet Web site at

<http://qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228767363466>.

Table 2-4: Surgical Care Improvement Project

NQF #	Hospital Manual #	Measure Name	Description	National Quality Strategy Priority
0284	SCIP-Card-2	Surgery Patients Who Were Taking Heart Drugs Called Beta Blockers Before Coming to the Hospital, Who Were Kept on the Beta Blockers During the Period Just Before and After Their Surgery	Surgery patients on beta-blocker therapy prior to arrival who received a beta-blocker during the perioperative period. The perioperative period for the SCIP Cardiac measure is defined as the day prior to surgery through postoperative day two (POD 2) with day of surgery being day zero	Effective Prevention and Treatment of Illness
0527	SCIP-Inf-1	Surgery Patients Who Were Given an Antibiotic at the Right Time (Within One Hour Before Surgery) to Help Prevent Infection	Surgical patients with prophylactic antibiotics initiated within one hour prior to surgical incision. Patients who received vancomycin or a fluoroquinolone for prophylactic antibiotics should have the antibiotics initiated within two hours prior to surgical incision. Due to the longer infusion time required for vancomycin or a fluoroquinolone, it is acceptable to start these antibiotics within two hours prior to incision time	Safety
0528	SCIP-Inf-2	Surgery Patients Who Were Given the Right Kind of Antibiotic to Help Prevent Infection	Surgical patients who received prophylactic antibiotics consistent with current guidelines (specific to each type of surgical procedure)	Safety
0529	SCIP-Inf-3	Surgery Patients Whose Preventive Antibiotics Were Stopped at the Right Time (Within 24 Hours After Surgery)	Surgical patients whose prophylactic antibiotics were discontinued within 24 hours after <i>Anesthesia End Time</i> ; the Society of Thoracic Surgeons (STS) Practice Guideline for Antibiotic	Safety

NQF #	Hospital Manual #	Measure Name	Description	National Quality Strategy Priority
			Prophylaxis in Cardiac Surgery (2006) indicates that there is no reason to extend antibiotics beyond 48 hours for cardiac surgery and very explicitly states that antibiotics should not be extended beyond 48 hours even with tubes and drains in place for cardiac surgery	
0300	SCIP-Inf-4	Heart Surgery Patients Whose Blood Sugar (Blood Glucose) Is Kept Under Good Control in the Days Right After Surgery	Cardiac surgery patients with controlled 6 A.M. blood glucose (less than or equal to 200 mg/dL) on postoperative day one (POD 1) and postoperative day two (POD 2) with <i>Anesthesia End Date</i> being postoperative day zero (POD 0)	Safety
0301	SCIP-Inf-6	Surgery Patients Needing Hair Removed From the Surgical Area Before Surgery, Who Had Hair Removed Using a Safer Method (Electric Clippers or Hair Removal Cream – Not a Razor) (Suspended 1Q 2012)	Surgery patients with appropriate surgical site hair removal. No hair removal, hair removal with clippers or depilatory is considered appropriate. Shaving is considered inappropriate	Safety
0217	SCIP-VTE-1	Surgery Patients Whose Doctors Ordered Treatments to Prevent Blood Clots After Certain Types of Surgeries	Surgery patients with recommended Venous Thromboembolism (VTE) prophylaxis ordered anytime from hospital arrival to 24 hours after <i>Anesthesia End Time</i>	Safety
0218	SCIP-VTE-2	Patients Who Got Treatment at the Right Time (Within 24 Hours Before or After Their Surgery) to Help Prevent Blood Clots After Certain Types of Surgery	Surgery patients who received appropriate Venous Thromboembolism (VTE) prophylaxis within 24 hours prior to <i>Anesthesia Start Time</i> to 24 hours after <i>Anesthesia End Time</i>	Safety

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)

Table 2-5 includes the HCAHPS survey measures. More detailed information about the survey and the measures can be found at www.hcahpsonline.org.

Table 2-5: Hospital Consumer Assessment of Healthcare Providers and Systems

NQF #	Measure Name	Measure Description	National Quality Strategy Priority
0166	HCAHPS	27-items survey instrument with 7 domain-level composites	Person and Family Centered Care
	Communication With Nurses	Patients who reported that their nurses "Always" communicated well	Person and Family Centered Care
	Communication With Doctors	Patients who reported that their doctors "Always" communicated well	Person and Family Centered Care

NQF #	Measure Name	Measure Description	National Quality Strategy Priority
	Responsiveness of Hospital Staff	Patients who reported that they "Always" received help as soon as they wanted	Person and Family Centered Care
	Pain Control	Patients who reported that their pain was "Always" well controlled	Person and Family Centered Care
	Communication About Medicines	Patients who reported that staff "Always" explained about medicines before giving it to them	Person and Family Centered Care
	Cleanliness of the Hospital Environment	Patients who reported that their room and bathroom were "Always" clean	Person and Family Centered Care
	Quietness of the Hospital Environment	Patients who reported that the area around their room was "Always" quiet at night	Person and Family Centered Care
	Discharge Information	Patients at each hospital who reported that YES, they were given information about what to do during their recovery at home	Person and Family Centered Care
	Hospital Rating	Patients who gave their hospital a rating of 9 or 10 on a scale from 0 (lowest) to 10 (highest)	Person and Family Centered Care
	Recommend Hospital	Patients who reported YES, they would definitely recommend the hospital	Person and Family Centered Care

Methods

The data presented in the graphs and tables below contain performance rates for the period of measurement from 2006 through 2010. The time period of the rates depicted may vary depending on implementation and data availability of the respective measures on Hospital Compare.

Data for the chart-abstracted process measures for AMI, HF, PN, and SCIP were obtained via download of historical data posted on Hospital Compare. The data in this chapter display national average facility rates for those hospitals submitting measures to CMS and are not limited to Medicare beneficiaries. As such, these rates do not represent a national aggregate mean that accounts for facility distributions, but rather a mean of means.

Data for the outcomes measures for mortality and readmissions rates for AMI, HF, and PN patients were obtained through QualityNet downloads of *Measures Maintenance Technical Reports*.⁸ These 30-day risk-standardized readmission and mortality measures are calculated using administrative claims for Medicare FFS beneficiaries aged 65 and over.

⁸ 2011 Measures Maintenance Technical Report: Acute Myocardial Infarction, Heart Failure, and Pneumonia 30-Day Risk-Standardized Mortality Measures. Submitted by Yale New Haven Health Services Corporation / Center for Outcomes Research & Evaluation (YNHSC/CORE). Available at <http://qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1163010421830>. Last accessed 1/13/12.

HCAHPS survey rates presented in this chapter were obtained from <http://hcahponline.org/SummaryAnalyses.aspx>. The HCAHPS survey is not restricted to Medicare beneficiaries and is administered to a random sample of adult patients across medical conditions between 48 hours and six weeks after discharge.

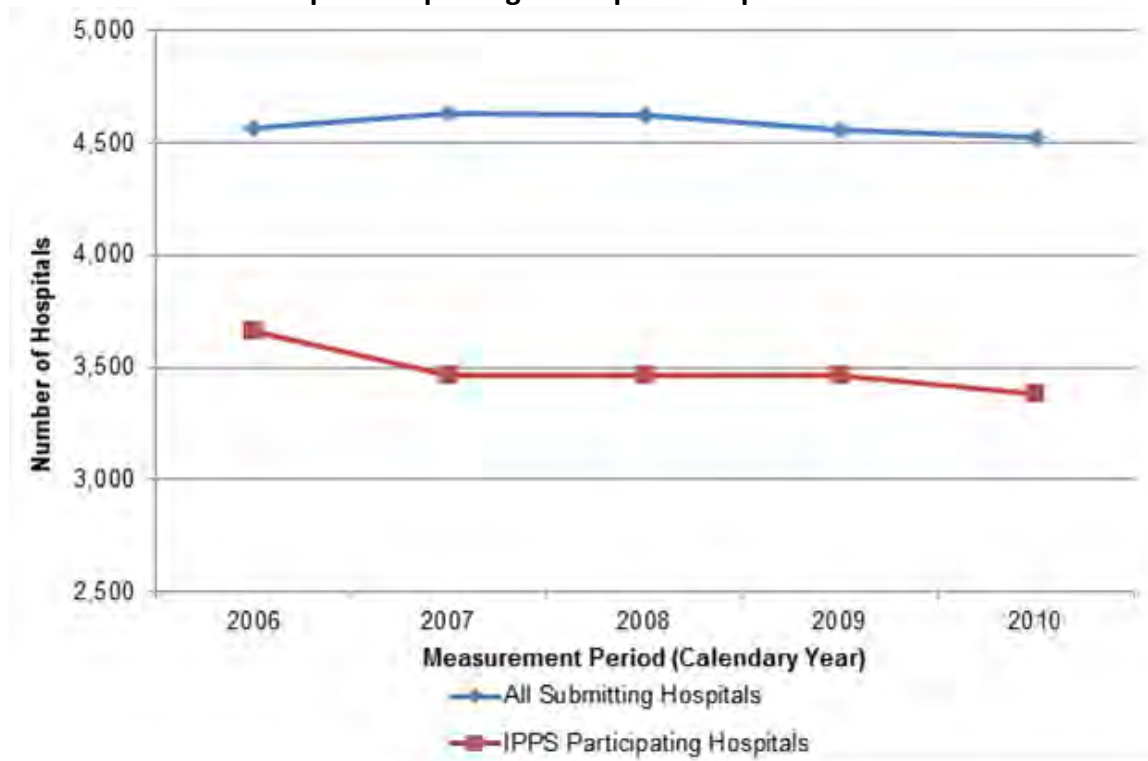
Results

Please refer to Appendix A: Measure Highlights for the summarized results to all of the measures presented in this chapter.

Number of Reporting Hospitals

Figure 2-1 illustrates the trend in the number of hospitals submitting data for public reporting to Hospital Compare and the number of IPPS-eligible hospitals that participated in the program.

Figure 2-1: Number of Hospitals Reporting to Hospital Compare



Measure	2006	2007	2008	2009	2010
All Submitting Hospitals	4,566	4,635	4,621	4,561	4,528
IPPS Participating Hospitals	3,662	3,462	3,468	3,466	3,385

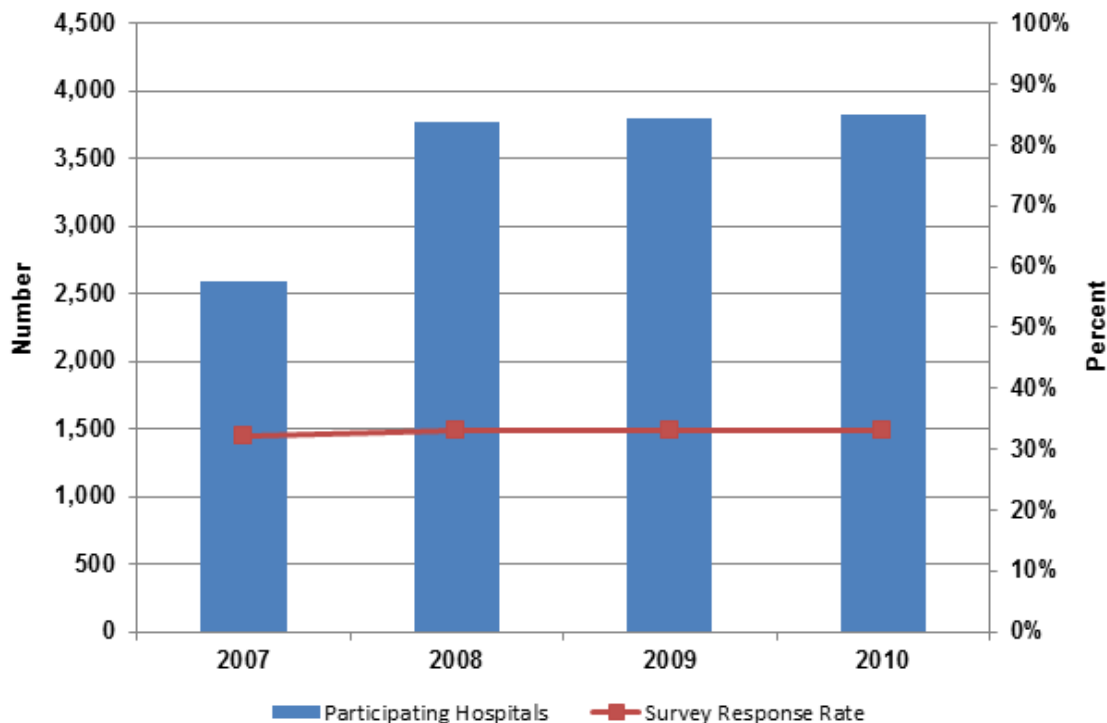
Data Source: CMS Measure Contractor

Hospitals submitting data for public reporting to Hospital Compare include IPPS-eligible hospitals that participate in the program, as well as Critical Access Hospitals (CAHs) and hospitals in Maryland. Overall, the data in Figure 2-1 show a decrease in the total number of hospitals submitting results to Hospital Compare. The total number of hospitals submitting

(IPPS-eligible plus non-IPPS eligible) was essentially constant between 2006 (4,566 hospitals) and 2010 (4,528 hospitals). The number of hospitals participating in IPPS declined by 7.6 percent, from 3,662 hospitals in 2006 to 3,385 hospitals in 2010. However, throughout the five-year measurement period, more than 99 percent of the hospitals eligible for the IPPS program agreed to participate.⁹ Further investigation may be conducted to understand these trends.

Number of Hospitals Participating in HCAHPS

Figure 2-2: HCAHPS Participating Hospitals and Overall Survey Response Rates



Measure	2007	2008	2009	2010
Participating Hospitals	2,595	3,765	3,792	3,827
Survey Response Rate	32%	33%	33%	33%

Data Source: HCAHPS Online accessed at <http://hcahpsonline.org/home.aspx>.

Overall, the number of hospitals participating in HCAHPS increased by 1,232 hospitals between 2007 and 2010, with most of the increase occurring between 2007 (2,595 hospitals) and 2008 (3,765 hospitals). This increase was largely due to a new CMS requirement that hospitals must submit HCAHPS data to receive their full IPPS APU. Since 2008, the number of participating hospitals has continued to increase incrementally by about 30 hospitals per year. The number of hospitals participating in HCAHPS includes non-IPPS-eligible hospitals that voluntarily submit

⁹ Colorado Foundation for Medical Care. Hospital Inpatient Quality Reporting Program Impact Special Project. August 30, 2011.

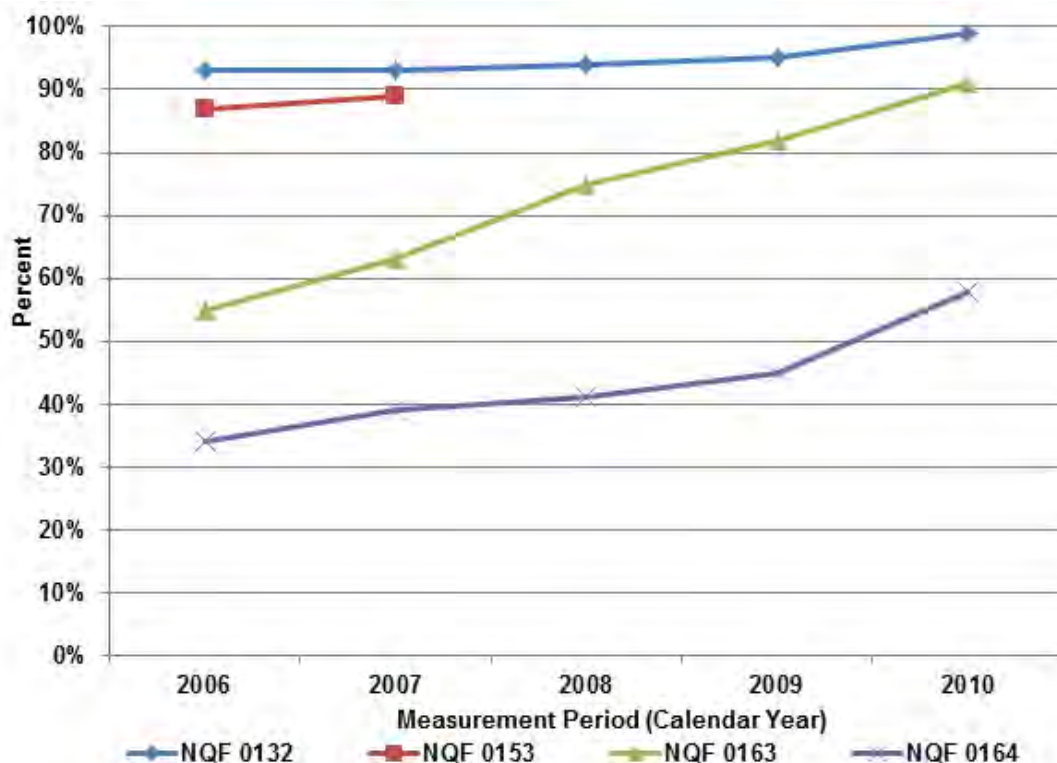
the survey data. Figure 2-2 also displays the response rates for each of the HCAHPS reporting periods. Little or no change in the response rates was observed across each of the time periods.

Performance Rates

Acute Myocardial Infarction (AMI) Measures

The following two graphs present measures pertaining to AMI, or heart attack. Process-of-care measures are shown in figures 2-3 and 2-4, and outcome measures are shown in Figure 2-5.

Figure 2-3: Process Measures (At Arrival) for AMI Patients, 2006–2010



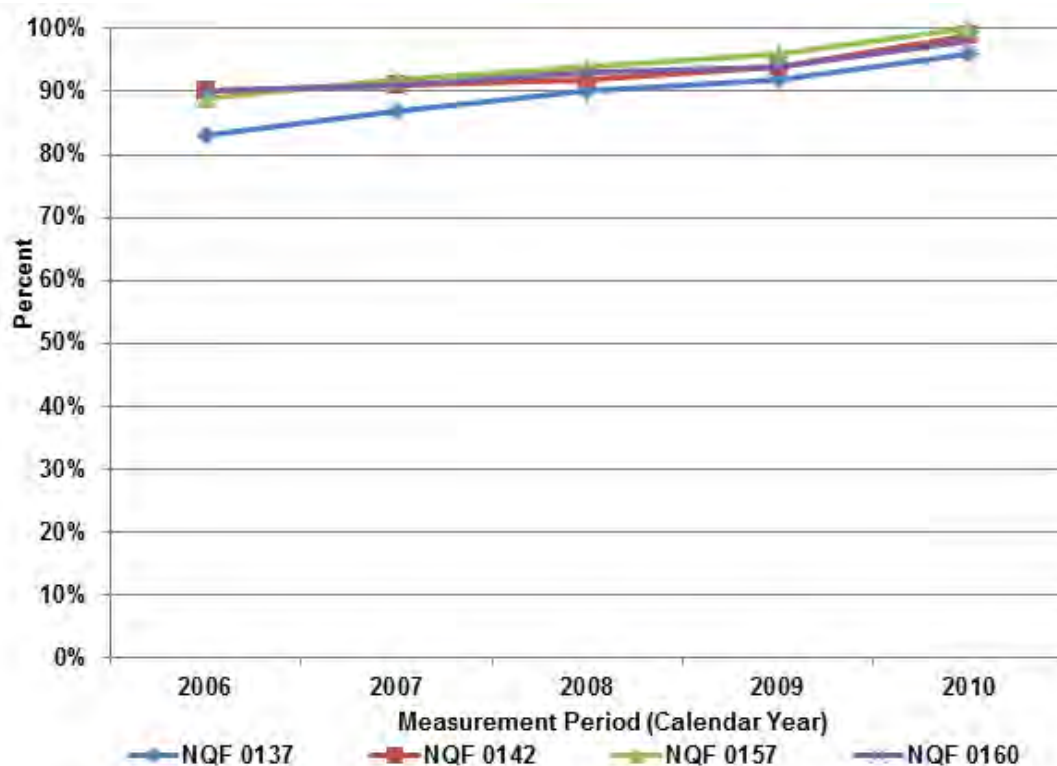
Measure	2006	2007	2008	2009	2010
NQF 0132 – Aspirin at Arrival	93%	93%	94%	95%	99%
NQF 0153 – Beta Blocker at Arrival (retired Q1 2009)	87%	89%	N/A	N/A	N/A
NQF 0163 – PCI Within 90 Minutes	55%	63%	75%	82%	91%
NQF 0164 – Fibrinolytic Medication Within 30 Minutes	34%	39%	41%	45%	58%

Data Source: Hospital Compare: <http://hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>

Note: NQF 0132 – Heart Attack Patients Given Aspirin at Arrival
 NQF 0153 – Heart Attack Patients Given Beta Blocker at Arrival
 NQF 0163 – Heart Attack Patients Given PCI within 90 Minutes of Arrival (Note that there was a measure specification change in July 2006 from 120 minutes to 90 minutes).
 NQF 0164 – Heart Attack Patients Given Fibrinolytic Medication within 30 Minutes of Arrival

Figure 2-3 displays results for the percentage of patients with an AMI receiving appropriate care according to clinical guidelines upon arrival to a hospital. Only two years of data were available for the *Beta Blocker at Arrival* measure because it was retired from the Hospital IQR Program in 2009. Overall, steady increases in rates were observed for all measures, with two measures having increases in rates of at least 20 percentage points (*Heart Attack Patients Given PCI Within 90 minutes of Arrival* and *Heart Attack Patients Given Fibrinolytic Medication Within 30 Minutes of Arrival*). By 2010, *Heart Attack Patients Given Aspirin at Arrival* reached nearly 100 percent and *Heart Attack Patients Given Percutaneous Coronary Intervention (PCI) Within 90 Minutes of Arrival* reached over 90 percent. Although *Fibrinolytic Medication Within 30 Minutes of Arrival* reported the highest rate of increase (71 percent, or 24 percentage points) since 2006, the overall level for this measure remains relatively low, with fewer than 60 percent of patients receiving the medication in 2010.

Figure 2-4: Process Measures (At Discharge) for AMI Patients, 2006–2010



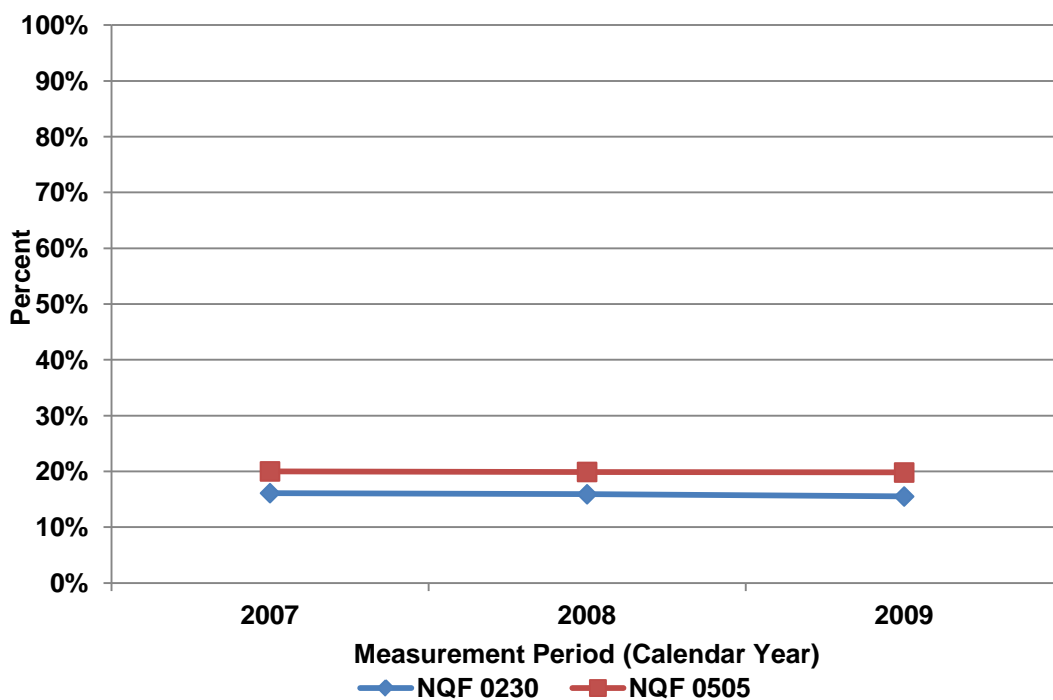
Measure	2006	2007	2008	2009	2010
NQF 0137 – ACEI/ARB for LVSD	83%	87%	90%	92%	96%
NQF 0142 – Aspirin at Discharge	90%	91%	92%	94%	99%
NQF 0157 – Smoking Cessation Advice/Counseling	89%	92%	94%	96%	100%
NQF 0160 – Beta Blocker at Discharge	90%	91%	93%	94%	98%

Data Source: Hospital Compare: <http://hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>

Note: NQF 0137 – Heart Attack Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)
NQF 0142 – Heart Attack Patients Given Aspirin at Discharge
NQF 0157 – Heart Attack Patients Given Smoking Cessation Advice/Counseling
NQF 0160 – Heart Attack Patients Given Beta Blocker at Discharge

Figure 2-4 displays the results for the percentage of patients with an AMI receiving appropriate care according to clinical guidelines at or before discharge. Overall, steady increases in rates were observed for all measures, with two measures having increases in rates of at least 10 percentage points (*Heart Attack Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction* and *Heart Attack Patients Given Smoking Cessation Advice/Counseling*). By 2010, all four measures had reached a rate of 96 percent or more.

Figure 2-5: Outcome Measures for AMI Patients, 2007–2009



Measure	2007	2008	2009
NQF 0230 – Mortality	16.1%	15.9%	15.5%
NQF 0505 – Readmission	20.0%	19.9%	19.8%

Data Source:

QualityNet: <http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1219069855841>. Last accessed on 1/10/12.

Note: NQF 0230 – Risk-Adjusted Death Rate for Heart Attack Patients
NQF 0505 – Risk-Adjusted Rate of Readmission for Heart Attack Patients

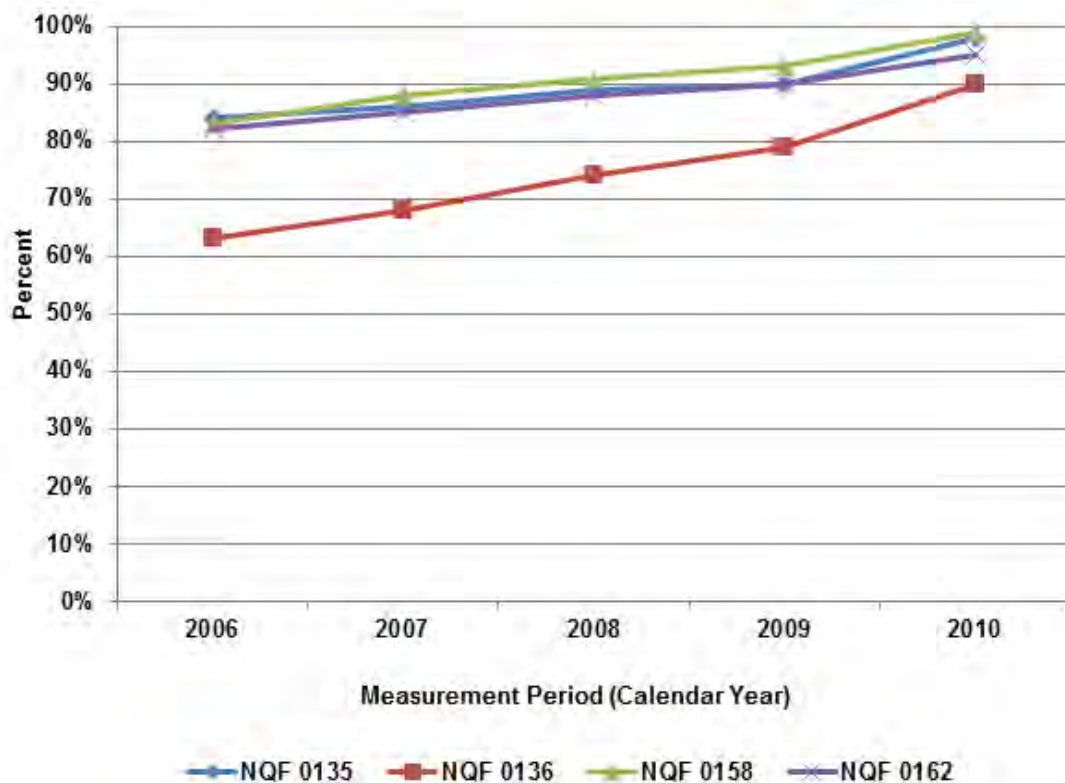
Figure 2-5 displays the results for the two outcome measures for AMI. There is little change in the risk-adjusted death rate during the three years under review. In 2009, 15.5 percent of patients with an AMI still died from the event. The death rate associated with AMI decreased 0.60 percentage points since 2007. Additionally, little change in the risk-adjusted 30-day readmission rate was also noted across the measurement periods. Throughout the time period, approximately one out of every five patients was readmitted within the 30-day all-cause readmission measure. Only a slight decline (0.20 percentage points) was noted between 2007 and 2009.

Overall, all AMI process measures showed an increase in rate over the measurement periods, and most indicated relatively high performance in 2010. However, little change in rate was noted among the AMI outcome measures. The relationship between the process and outcome measures may warrant further investigation in future analyses.

Heart Failure Measures

The following two graphs present measures pertaining to heart failure. Process-of-care measures are shown in Figure 2-6 and outcome measures are shown in Figure 2-7.

Figure 2-6: Process Measures for Heart Failure Patients, 2006–2010



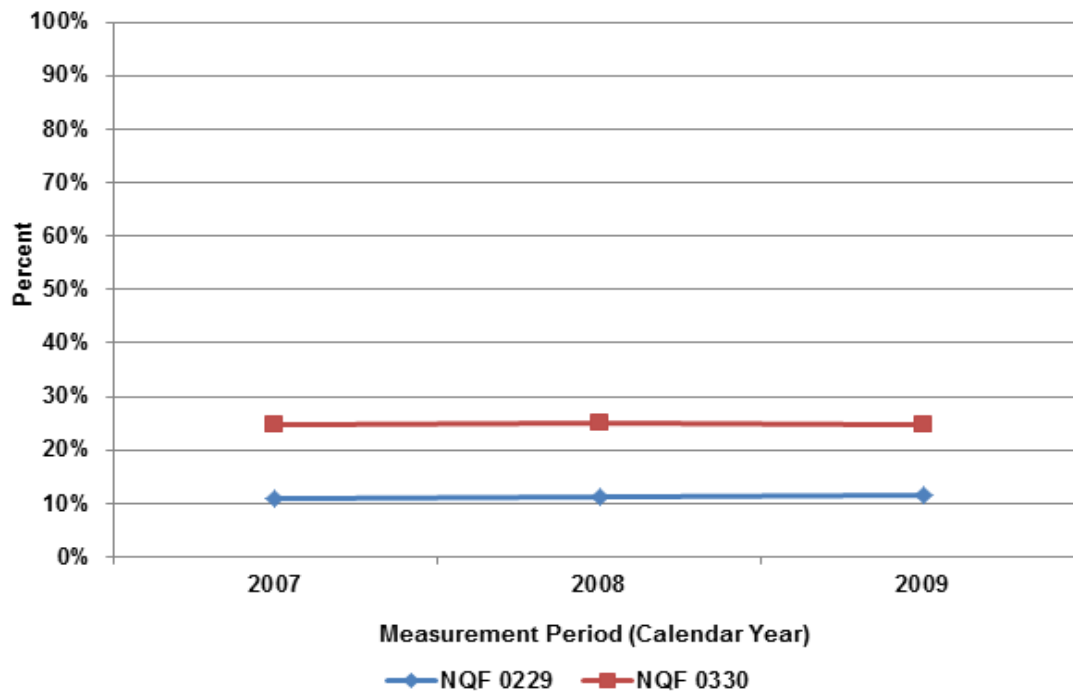
Measure	2006	2007	2008	2009	2010
NQF 0135 – Evaluation of LVSD	84%	86%	89%	90%	98%
NQF 0136 – Discharge Instructions	63%	68%	74%	79%	90%
NQF 0158 – Given Smoking Cessation Advice/Counseling	83%	88%	91%	93%	99%
NQF 0162 – ACEI/ARB for LVSD	82%	85%	88%	90%	95%

Data Source: Hospital Compare: <http://hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>

Note: NQF 0135 – Heart Failure Patients Given an Evaluation of Left Ventricular Systolic (LVS) Function
NQF 0136 – Heart Failure Patients Given Discharge Instructions
NQF 0158 – Heart Failure Patients Given Smoking Cession Advice/Counseling
NQF 0162 – Heart Failure Patients Given ACE Inhibitor or ARB for LVS Dysfunction (LVSD)

Figure 2-6 displays the results for the percentage of heart failure patients receiving appropriate care according to clinical guidelines. Overall, all four process measures exhibited increases in rate of more than 13 percentage points since 2006. Moreover, in 2010 at least 9 out of 10 heart failure patients were evaluated for LVS dysfunction and administered an ACEI/ARB appropriately. Also in 2010 at least 9 out of 10 heart failure patients received comprehensive discharge documentation outlining activity level, diet, discharge medications, follow-up appointment, weight monitoring, and what to do if symptoms worsen. The greatest rate of increase was related to the provision of discharge instructions: the rate increased 27 percentage points from 63 percent in 2006 to 90 percent in 2010.

Figure 2-7: Outcome Measures for Heart Failure Patients, 2007–2010



Measure	2007	2008	2009
NQF 0229 – Mortality	10.9%	11.2%	11.4%
NQF 0330 – Readmission	24.7%	24.9%	24.8%

Data Source:

QualityNet: <http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1219069855841>. Last accessed on 1/10/12.

Note: NQF 0229 – Risk-Adjusted Death Rate for Heart Failure Patients
NQF 0330 – Risk-Adjusted Rate of Readmission for Heart Failure Patients

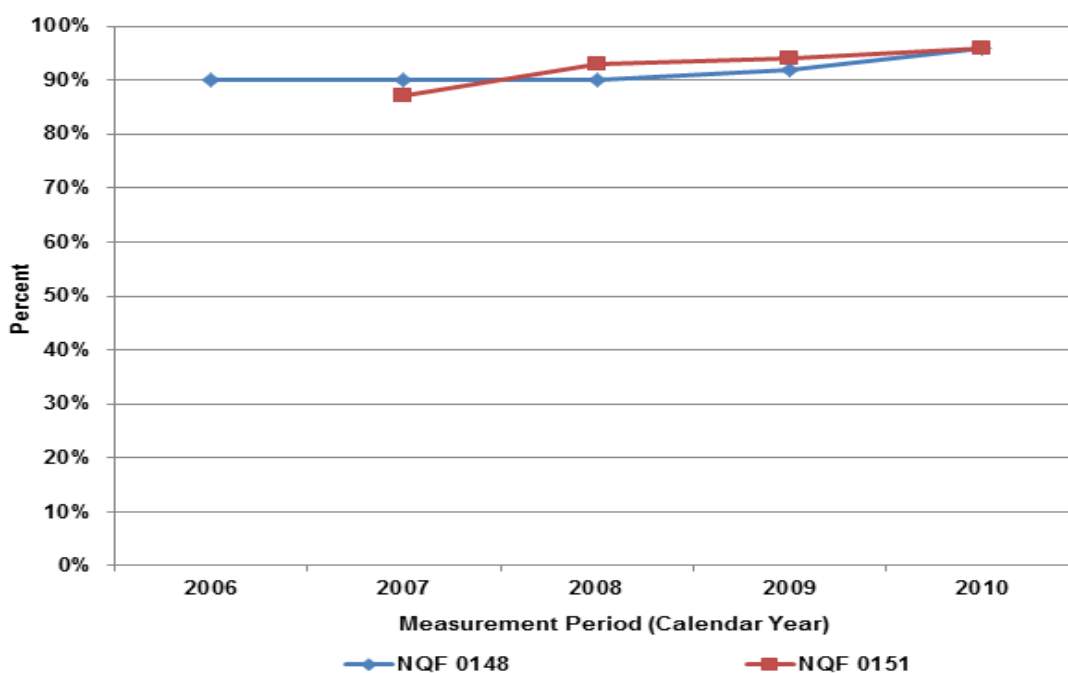
Figure 2-7 displays the results for the two risk-adjusted outcome measures pertaining to heart failure. In 2009, fewer than one in eight Medicare beneficiaries aged 65 years or older discharged from the hospital died from any cause within 30 days after a hospital admission with a principal diagnosis of heart failure. For hospital readmission among Medicare beneficiaries aged 65 years or older, almost one-quarter of the patients were being readmitted to the hospital after initial hospitalization for heart failure. Across the measurement periods, there was little change in the death rate and readmission rate for heart failure patients, although both showed a slight increase since 2007. However, the magnitude of decline in performance was small (0.50 percentage points for the death rate and 0.10 percentage points for the readmission rate).

Overall, the heart failure process-of-care measure rates illustrated positive trends, while there was little overall rate change in the heart failure outcome measures. Future analyses will include examination of the nature of relationship between these process and outcome measures.

Pneumonia Measures

The following two graphs present measures pertaining to pneumonia. Process measures are shown in figures 2-8 through 2-10, while outcome measures are shown in Figure 2-11.

Figure 2-8: Process Measures (At Arrival) for Pneumonia Patients, 2006 –2010



Measure	2006	2007	2008	2009	2010
NQF 0148 – ER Blood Culture	90%	90%	90%	92%	96%
NQF 0151 – Initial Antibiotic	N/A	93%	93%	94%	96%

Data Source: Hospital Compare. <http://hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>

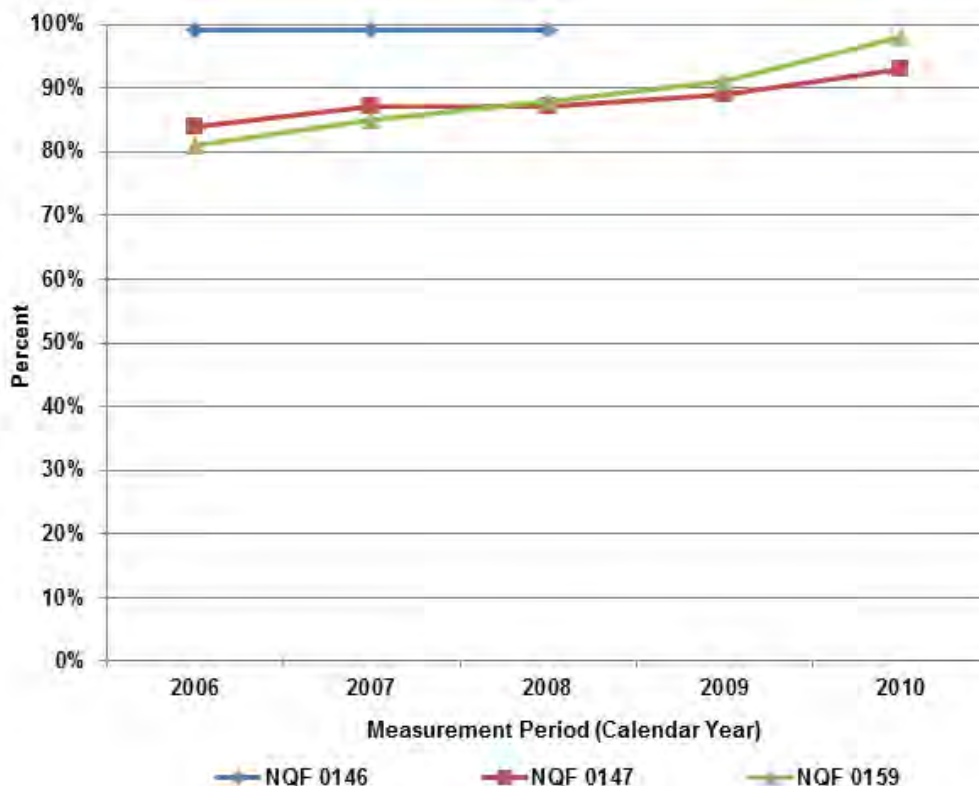
Note: NQF 0148 - Pneumonia Patients Whose Initial Emergency Room Blood Culture Was Performed Prior to the Administration of the First Hospital Dose of Antibiotics

NQF 0151 - Pneumonia Patients Given Initial Antibiotic(s) Within 6 Hours After Arrival (Note that in 2006, the specification for this measure was within 4 hours after arrival. Due to this specification change, the 2006 rate was not reported here.)

Figure 2-8 displays the results for the percentage of pneumonia patients receiving the appropriate care according to clinical guidelines upon arrival to the emergency room or hospital. Overall, both measures exhibited steady increases in rate such that, in 2010, more

than 95 percent of pneumonia patients received emergency room blood cultures and antibiotics within 6 hours of arrival at the hospital.

Figure 2-9: Process Measures (During Hospital Stay) for Pneumonia Patients, 2006 –2010



Measure	2006	2007	2008	2009	2010
NQF 0146 – Oxygenation Assessment (retired Q1 2009)	99%	99%	99%	N/A	N/A
NQF 0147 – Appropriate Antibiotic	84%	87%	87%	89%	93%
NQF 0159 – Given Smoking Cessation Advice/Counseling	81%	85%	88%	91%	98%

Data Source: Hospital Compare. <http://hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>

Note: NQF 0146 – Oxygenation Assessment

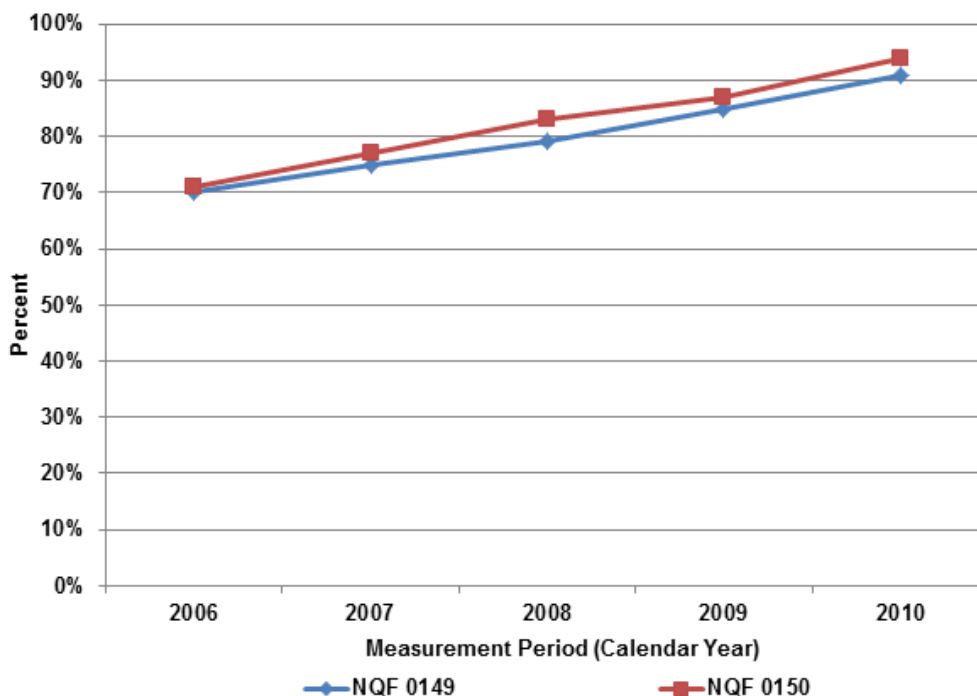
NQF 0147 – Pneumonia Patients Given the Most Appropriate Initial Antibiotic(s)

NQF 0159 – Pneumonia Patients Given Smoking Cessation Advice/Counseling

Figure 2-9 displays the results for the three process-of-care measures for pneumonia patients. Only three years of data were available for the *Oxygenation Assessment* measure because it was retired the first quarter of 2009 due to consistently high rates. For this measure, the rates remained unchanged at 99 percent across all measurement periods. For the other two measures, Figure 2-9 shows a steady increase in rate since 2006. By 2010, at least 9 out of 10 pneumonia patients were given the most appropriate initial antibiotics and smoking cessation advice/counseling during their hospital stay. The greatest rate of increase was related to

patients receiving smoking cessation advice/counseling: the rate increased 17 percentage points, from 81 percent in 2006 to 98 percent in 2010.

Figure 2-10: Process Measures (Immunizations) for Pneumonia Patients, 2006 –2010



Measure	2006	2007	2008	2009	2010
NQF 0149 – Influenza Vaccination	70%	75%	79%	85%	91%
NQF 0150 – Pneumococcal Vaccination	71%	77%	83%	87%	94%

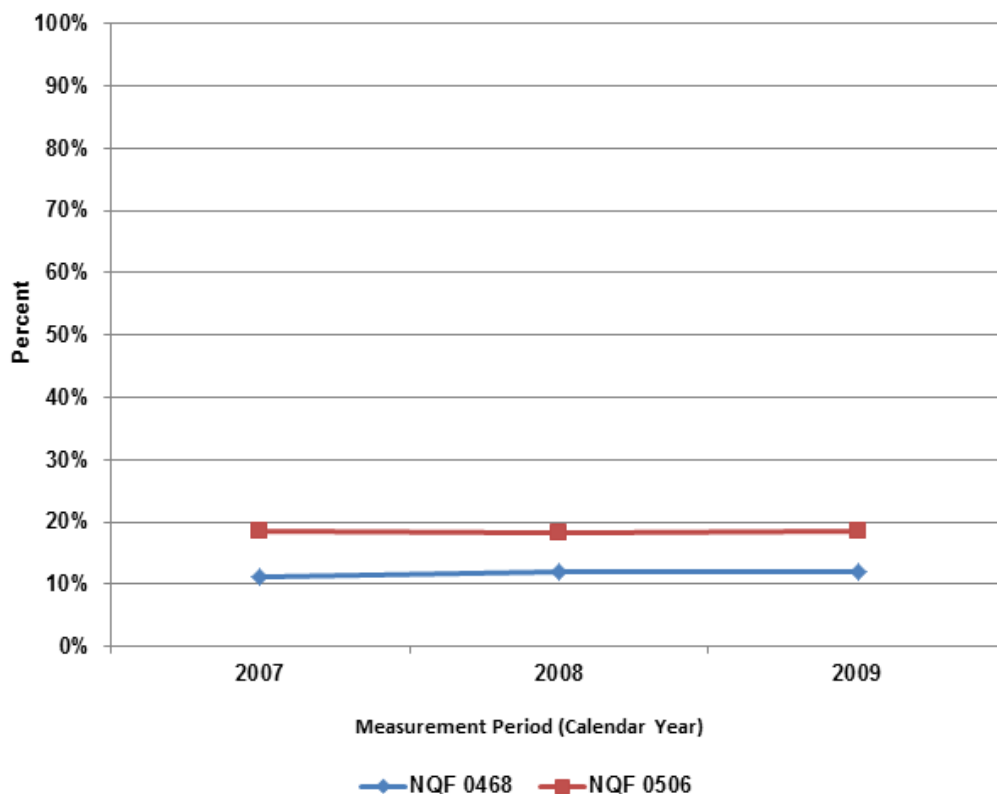
Data Source: Hospital Compare. <http://hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>

Note: NQF 0149 – Pneumonia Patients Assessed and Given Influenza Vaccination

NQF 0150 – Pneumonia Patients Assessed and Given Pneumococcal Vaccination

Figure 2-10 displays the results for two process measures for pneumonia patients at discharge. Notable increases in both the influenza and pneumococcal vaccination rates were observed. The percentage of pneumonia patients who were assessed and received influenza or pneumococcal vaccines increased steadily from 70 percent and 71 percent in 2006 to 91 percent and 94 percent in 2010, respectively.

Figure 2-11: Outcomes Measures Pneumonia Patients, 2007–2009



Measure	2007	2008	2009
NQF 0468 – Mortality	11.3%	11.9%	12.0%
NQF 0506 – Readmission	18.4%	18.3%	18.5%

Data Source:

QualityNet: <http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1219069855841>. Last accessed on 1/10/12.

Note: NQF 0468 – Risk-Adjusted Death Rate for Pneumonia Patients
NQF 0506 – Risk-Adjusted Rate of Readmission for Pneumonia Patients

Figure 2-11 displays the results for the two risk-adjusted outcome measures pertaining to pneumonia patients. Overall, little change was noted for both measures during the three years. Only a slight increase in both rates (undesirable trend) was noted since 2007, although the increase was less than one percentage point. In 2009, fewer than 12 percent of Medicare beneficiaries aged 65 years or older discharged from the hospital died from any cause within 30 days after a hospital admission with a principal diagnosis of pneumonia. For hospital readmissions among Medicare beneficiaries aged 65 years or older, 18.5 percent of Medicare patients were being readmitted to the hospital after an initial hospitalization for pneumonia.

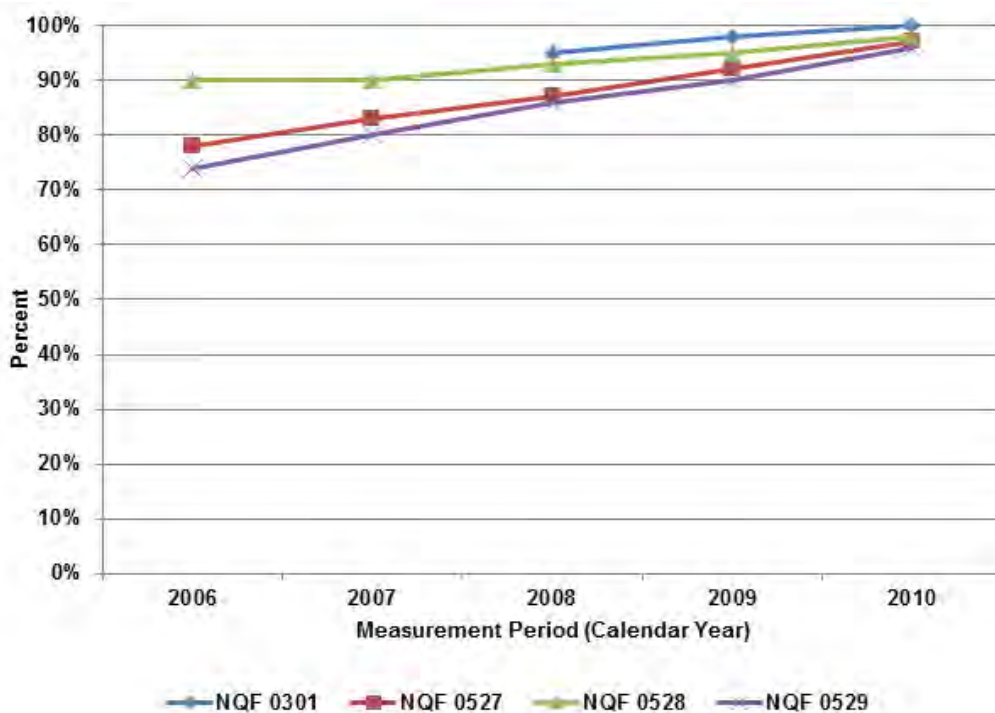
In general, the results for the pneumonia process-of-care measures were high: by 2010, all process measures had reached a rate of 91 percent or higher. The largest increases over the reported measurement periods were related to vaccination, where influenza and

pneumococcal vaccination rates increased by more than 20 percentage points. These two measures were replaced by non-condition-specific global immunization measures, effective with January 1, 2012 discharges. Although the mortality and readmission outcomes measures reported a slight increase in rate (decline in performance) from 2007 to 2009 of less than one percentage point, there was no discernible change in rates across the measurement periods.

Surgical Care Improvement Project (SCIP) Measures

The following graphs present measures pertaining to surgical care. These process measures are shown in figures 2-12 through 2-14.

Figure 2-12: Surgical Care Improvement Project – Infection Measures, 2006–2010



Measure	2006	2007	2008	2009	2010
NQF 0301 – Appropriate hair removal	N/A	N/A	95%	98%	100%
NQF 0527 – Timely receipt of antibiotic	78%	83%	87%	92%	97%
NQF 0528 – Appropriate antibiotic	90%	90%	93%	95%	98%
NQF 0529 – Antibiotics discontinued at right time	74%	80%	86%	90%	96%

Data Source: Hospital Compare. <http://hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>

Note: “N/A” indicates that the measure was not available for reporting during the specified time period.

NQF 0301 – Surgery Patients Needing Hair Removed from the Surgical Area Before Surgery, Who Had Hair Removed Using a Safer Method (Electric Clippers or Hair Removal Cream – Not a Razor)

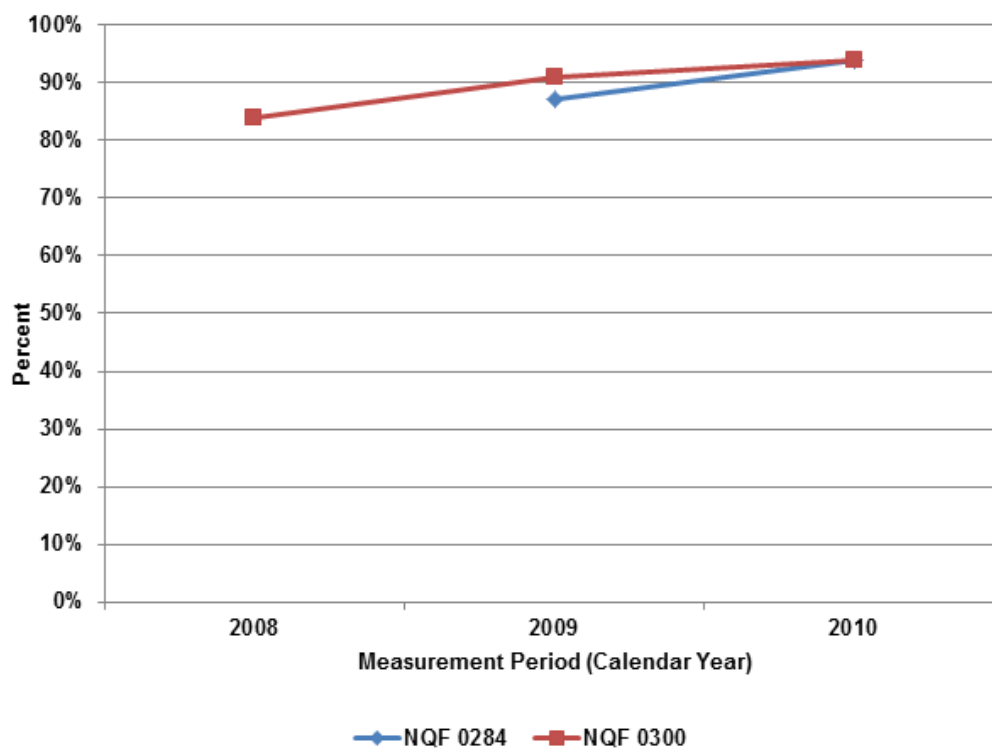
NQF 0527 – Surgery Patients Who Were Given an Antibiotic at the Right Time (Within One Hour Before Surgery) to Help Prevent Infection

NQF 0528 – Surgery Patients Who Were Given the Right Kind of Antibiotic to Help Prevent Infection

NQF 0529 – Surgery Patients Whose Preventive Antibiotics Were Stopped at the Right Time (Within 24 Hours After Surgery)

Figure 2-12 displays four SCIP process measures related to infection control. The *Surgery Patients Needing Hair Removed From Surgical Area* measure was introduced in 2008; therefore, only three years of data were available for analysis. Overall, all four SCIP infection measures exhibited a steady increase in rates across all measurement years, with two measures showing an increase of at least 19 percentage points (*Surgery Patients Who Were Given an Antibiotic at the Right Time to Help Prevent Infection* and *Surgery Patients Whose Preventive Antibiotics Were Stopped at the Right Time*). In 2010, all four measures had reached a rate of 96 percent or higher.

Figure 2-13: Surgical Care Improvement Project – Cardiac Measures, 2006–2010



Measure	2008	2009	2010
NQF 0284 – Beta blockers continued	N/A	87%	94%
NQF 0300 – Blood sugar under control	84%	91%	94%

Data Source: Hospital Compare. <http://hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>

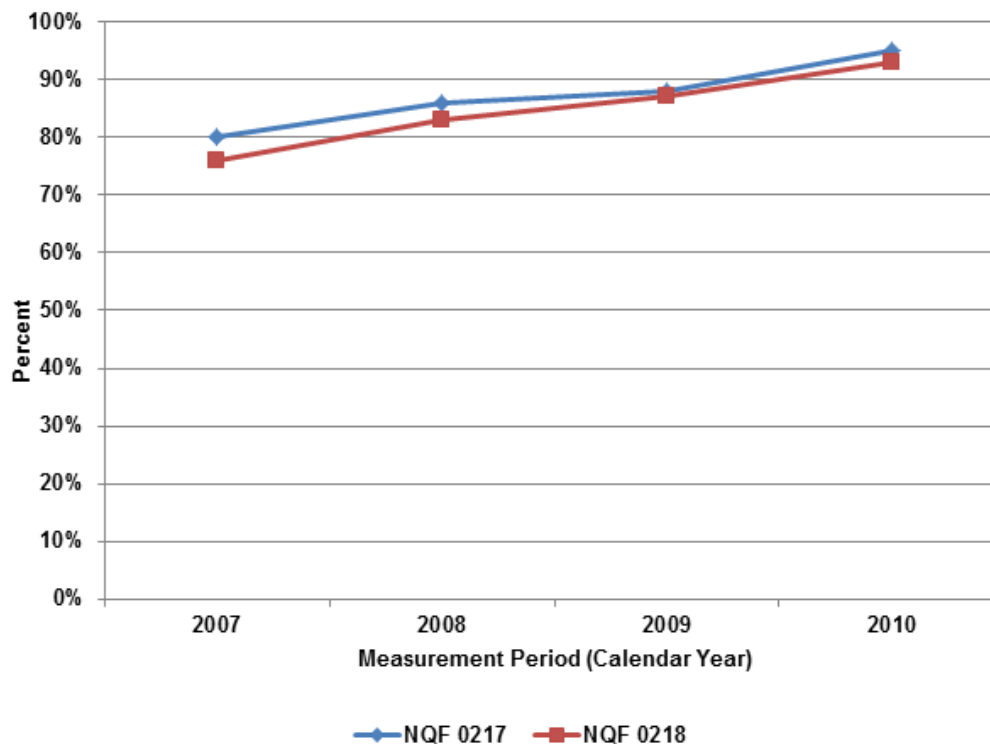
Note: “N/A” indicates that the measure was not available for reporting during the specified time period.

NQF 0284 – Surgery Patients Who Were Taking Heart Drugs Called Beta Blockers Before Coming to the Hospital, Who Were Kept on the Beta Blockers During the Period Just Before and After Their Surgery

NQF 0300 – Heart Surgery Patients Whose Blood Sugar (Blood Glucose) Is Kept Under Good Control in the Days Right After Surgery

Figure 2-13 displays two SCIP process measures related to cardiac care. Only two years of data were available for the beta-blocker measure, and three years of data were available for the blood-sugar-control measure. Overall, notable increases in rates for both measures were observed across the measurement periods. In 2010, both measures had reached a level of 94 percent. The blood-sugar-control measure exhibited an increase of 10 percentage points from 84 percent in 2008 to 94 percent in 2010.

Figure 2-14: Surgical Care Improvement Project – VTE (Blood Clots) Measures, 2006–2010



Measure	2007	2008	2009	2010
NQF 0217 – Treatment ordered to prevent blood clots	80%	86%	88%	95%
NQF 0218 – Treatment received to prevent blood clots	76%	83%	87%	93%

Data Source: Hospital Compare. <http://hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>

Note: “N/A” indicates that the measure was not available for reporting during the specified time period.

NQF 0217 – Surgery Patients Whose Doctors Ordered Treatments to Prevent Blood Clots After Certain Types of Surgeries

NQF 0218 – Patients Who Got Treatment at the Right Time (Within 24 Hours Before or After Their Surgery) to Help Prevent Blood Clots After Certain Types of Surgery

Figure 2-14 displays two SCIP process measures related to venous thromboembolism (VTE) or blood clots. Overall, both measures reported a steady increase in rates since 2007. In 2010, 95 percent of surgery patients had blood clot preventive treatment ordered for them by their doctors, and 93 percent received timely treatment. Of the two measures, the percentage of

Patients Who Got Treatment at the Right Time to Help Prevent Blood Clots After Certain Types of Surgery measure showed the greater increase, from 76 percent in 2007 to 93 percent in 2010, equating to a 17 percentage point increase.

In summary, both of the SCIP process measures related to cardiac care analyzed in this chapter exhibited steady increases in rates across the measurement periods. In 2010, the two measures reached a rate of 93 percent or higher.

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)

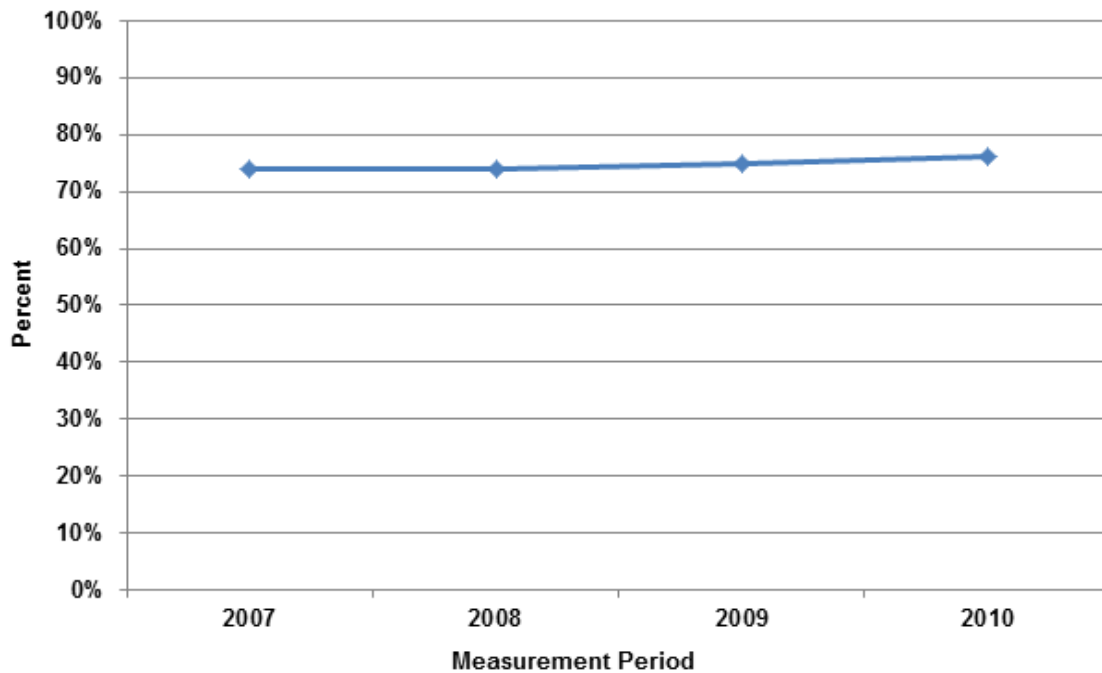
The measures in this category represent patients' perspectives of hospital care based on the publicly reported responses from a sample of discharged patients. Topics reflect critical aspects of patients' experiences and include communication with nurses and doctors, responsiveness of staff, the hospital environment, pain management, discharge information, patients' overall rating of the hospital, and whether they would recommend the hospital.

The graphs below display the trends of each of the component measures included in this endorsed measure (NQF 0166). The measures address how well each hospital responds to a specific member's needs including:

- ◆ Survey questions that are reported as one composite score: *Communication with Nurses, Communication with Doctors, Responsiveness of Hospital Staff, Pain Management, Communication About Medicines, and Discharge Information*. To produce composite scores, the proportion of cases in each response category for each question is calculated. Once the proportions are calculated for each response category, the average proportion of those responding to each category is then calculated across all the questions that make up a specific composite. Only the questions answered by the patient are included in the composite calculation.
- ◆ Individual measures: *Cleanliness of Hospital Environment* and *Quietness of Hospital Environment*
- ◆ Global measures: *Overall Hospital Rating* and *Recommend the Hospital*.

The results in this chapter are reported for the most positive response (or "top box") category. For instance, in Figure 2-15: *Communication with Nurses* shows the percentage of patients who responded that their nurses "always" communicate well.

Figure 2-15: Communication with Nurses, 2007–2010 [Patients Who Reported Nurses ‘Always’ Communicated Well]

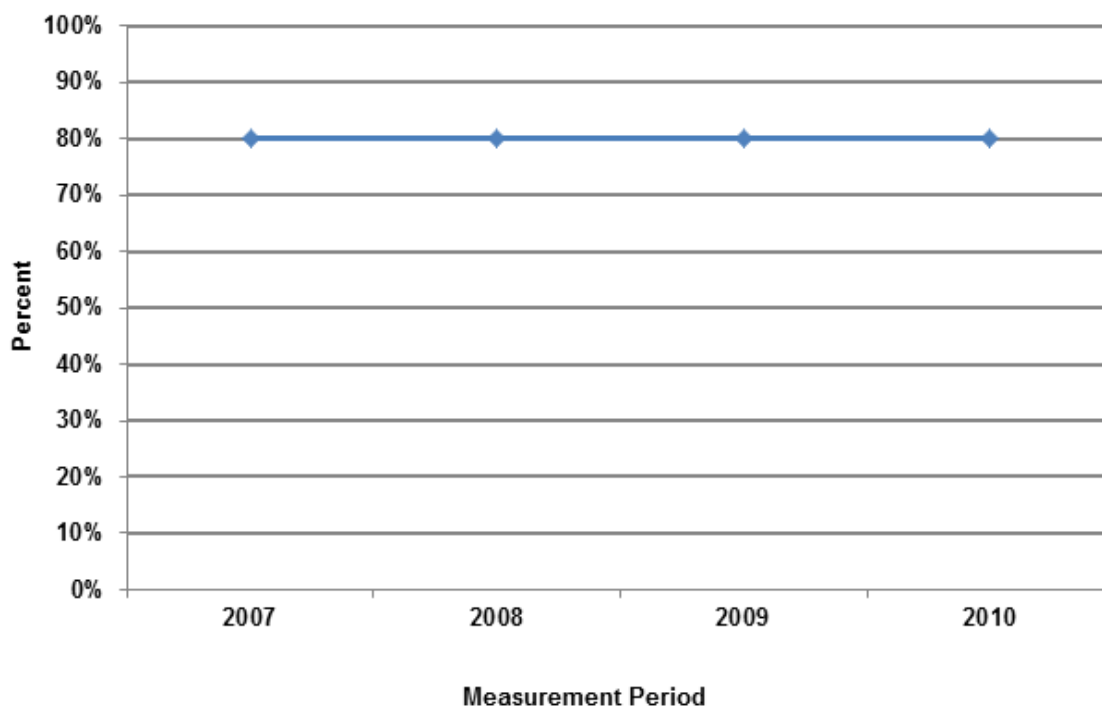


NQF 0166	2007	2008	2009	2010
Communication with Nurses	74%	74%	75%	76%

Data Source: HCAHPS Survey access at www.hcahpsonline.org.

Figure 2-15 displays the percentage of patients who reported their nurses ‘Always’ communicated well. Rates increased from 74 percent in 2007 to 76 percent in 2010 among hospitals publicly reporting HCAHPS results.

Figure 2-16: Communication with Doctors, 2007–2010 [Patients Who Reported Doctors ‘Always’ Communicated Well]

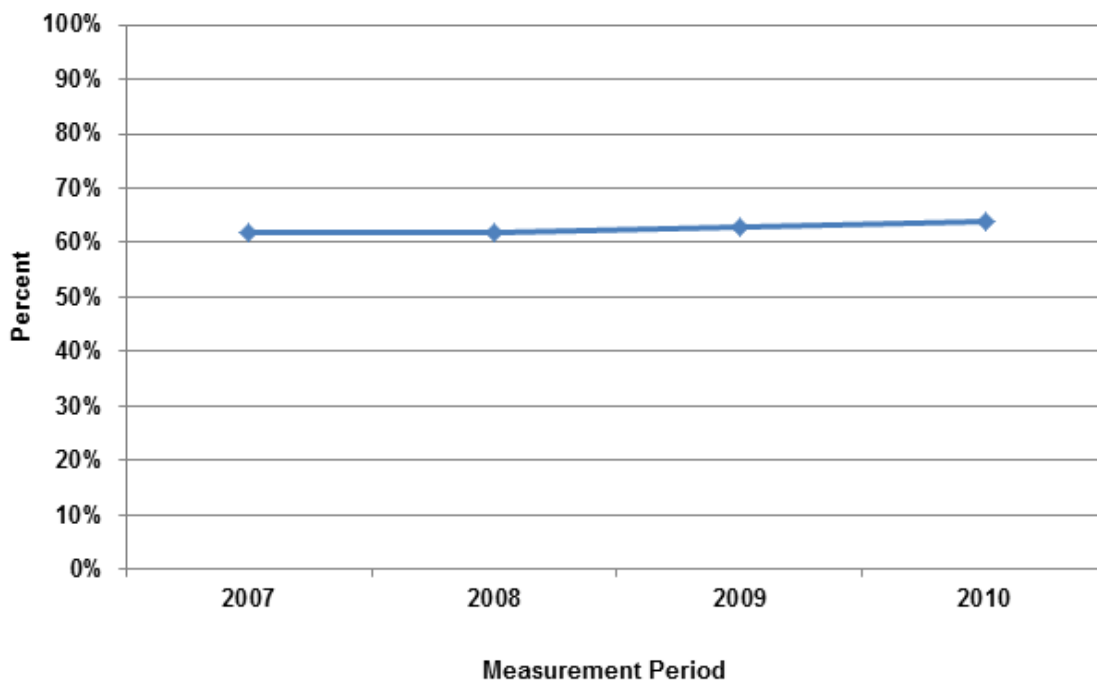


NQF 0166	2007	2008	2009	2010
Communication with Doctors	80%	80%	80%	80%

Data Source: HCAHPS Survey access at www.hcahpsonline.org.

Figure 2-16 shows the percentage of patients who reported their doctors ‘Always’ communicated well. Rates remained constant at 80 percent among hospitals publicly reporting HCAHPS results from 2007 to 2010.

Figure 2-17: Responsiveness of Staff, 2007–2010 [Patients Who Reported They ‘Always’ Received Help]

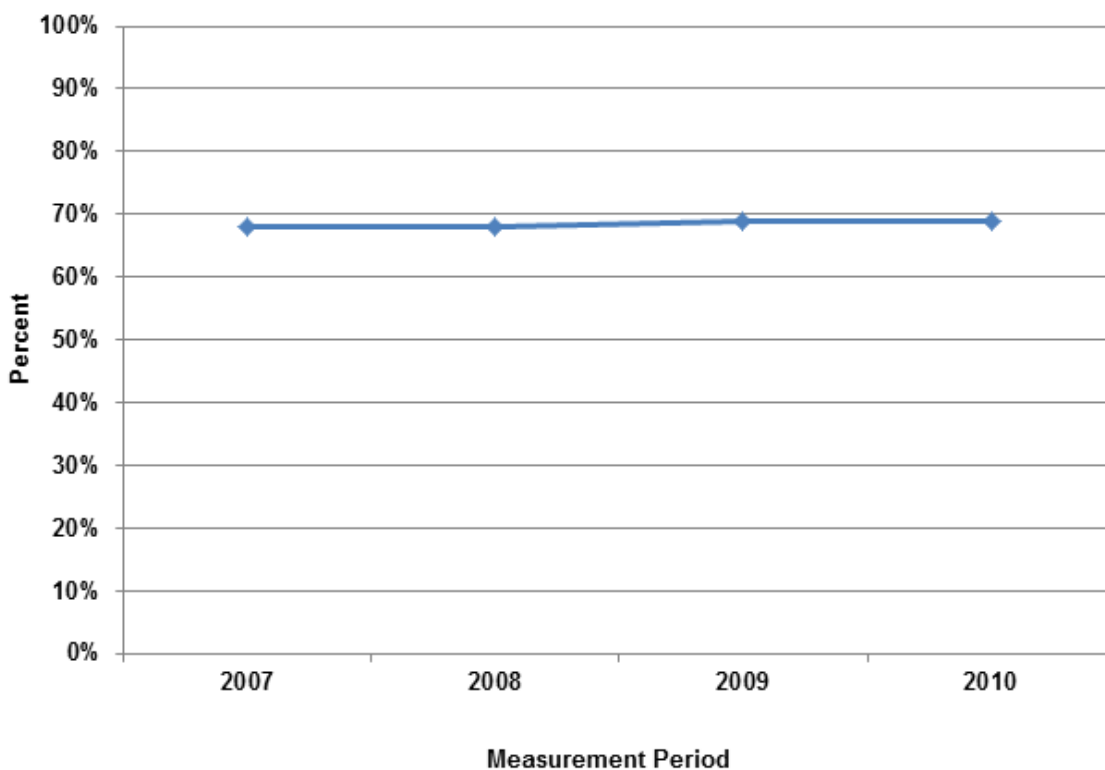


NQF 0166	2007	2008	2009	2010
Responsiveness of Staff	62%	62%	63%	64%

Data Source: HCAHPS Survey access at www.hcahpsonline.org.

Figure 2-17 displays the percentage of patients who reported that they ‘Always’ received help as soon as they wanted. This rate increased from 62 percent in 2007 to 64 percent in 2010 among hospitals publicly reporting HCAHPS results.

Figure 2-18: Pain Management, 2007–2010 [Patients Who Reported Their Pain was ‘Always’ Well Controlled]

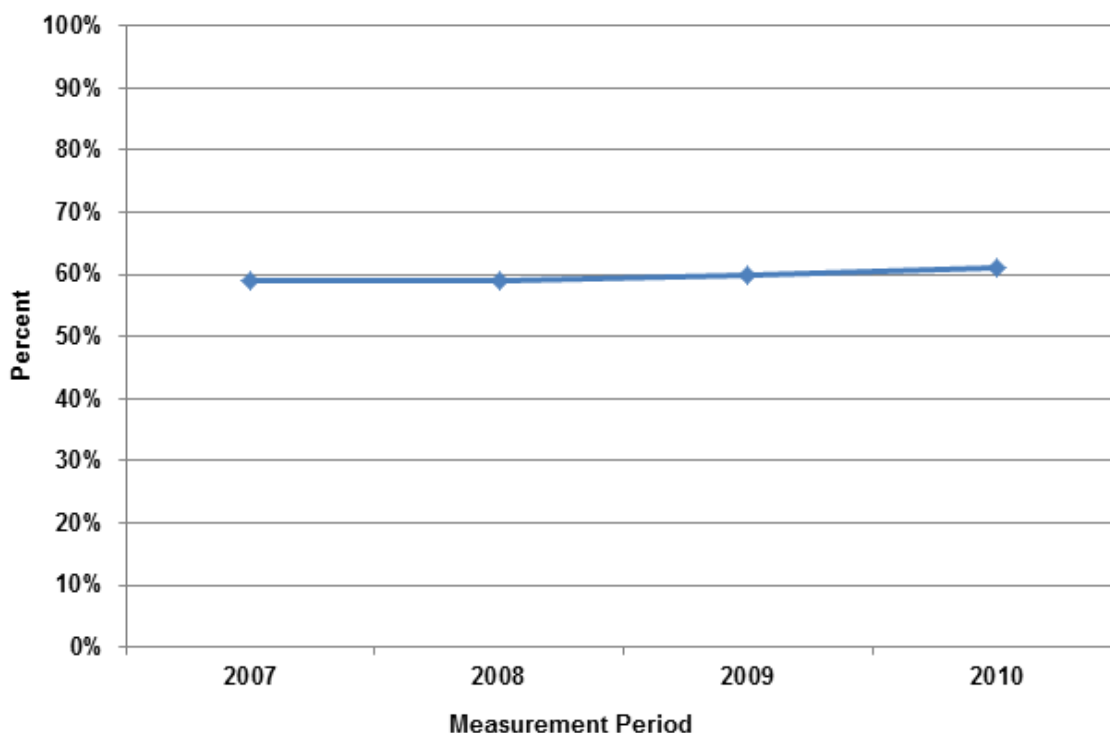


NQF 0166	2007	2008	2009	2010
Pain Management	68%	68%	69%	69%

Data Source: HCAHPS Survey access at www.hcahpsonline.org

Figure 2-18 illustrates the percentage of patients who reported that their pain was ‘Always’ well controlled. Rates increased from 68 percent in 2007 to 69 percent in 2010 among hospitals publicly reporting HCAHPS results.

Figure 2-19: Communication About Medicines, 2007–2010 [Patients who Reported Staff ‘Always’ Communicated About Medications]

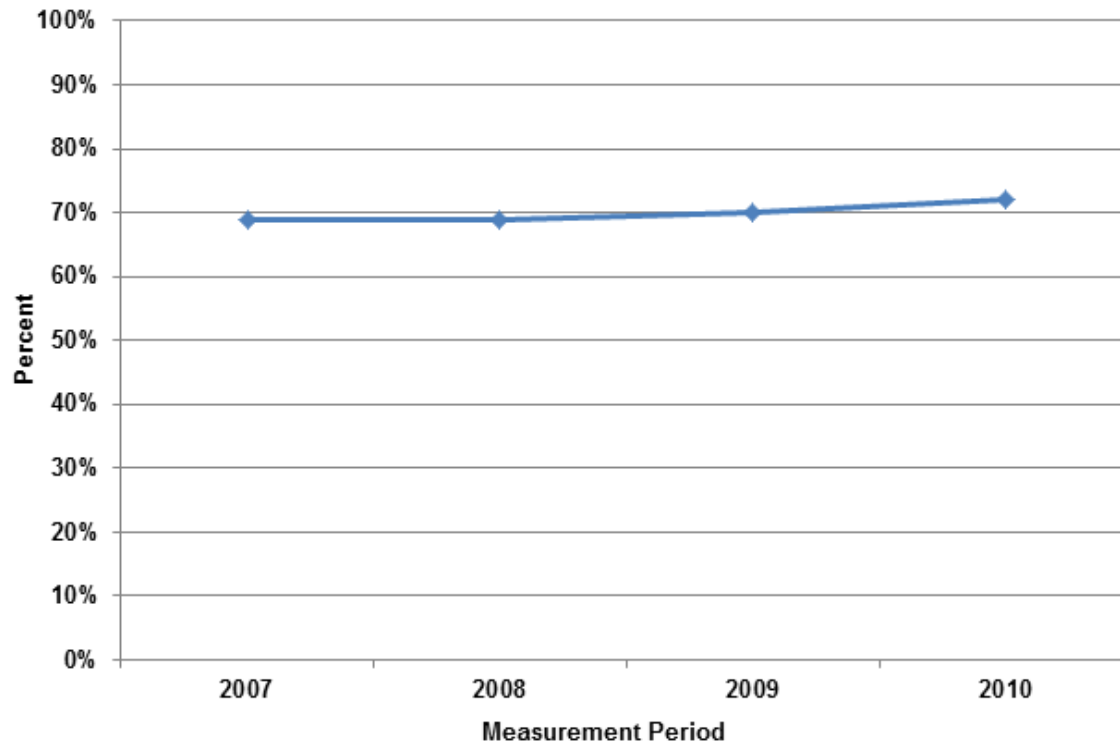


NQF 0166	2007	2008	2009	2010
Communication About Medicines	59%	59%	60%	61%

Data Source: HCAHPS Survey access at www.hcahpsonline.org.

The percentage of patients who reported that staff ‘Always’ explained about medicines before giving it to them increased from 59 percent in 2007 to 61 percent in 2010 among hospitals publicly reporting HCAHPS results.

Figure 2-20: Cleanliness of Hospital, 2007–2010 [Patients who Reported That Their Room and Bathroom Were ‘Always’ Clean]

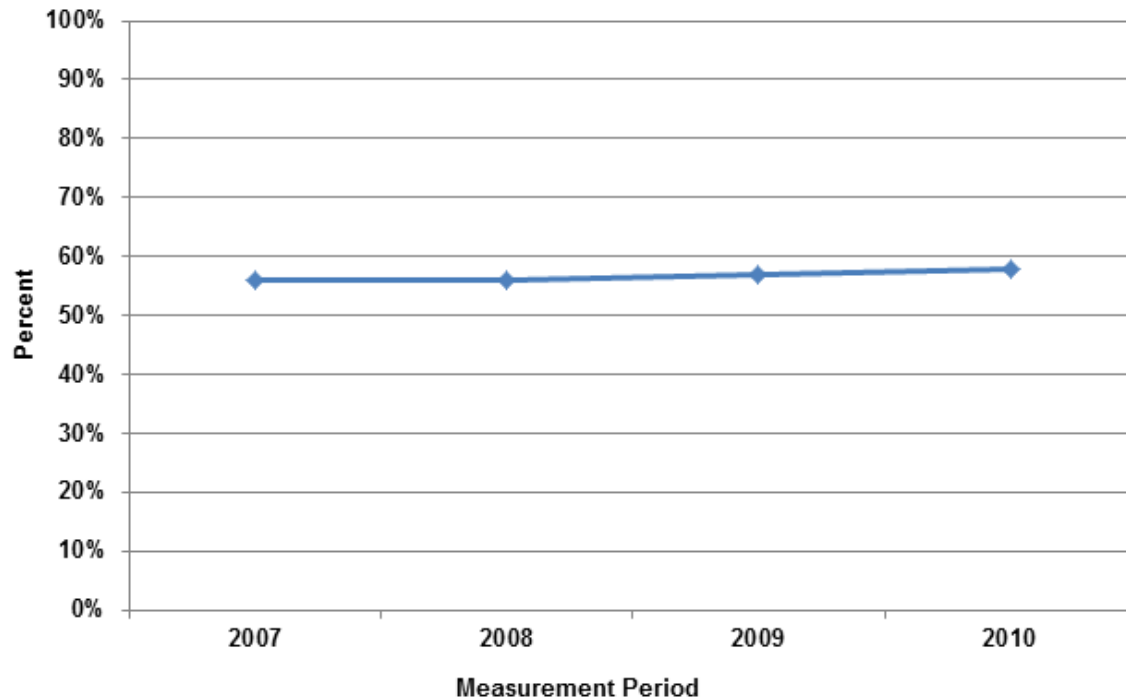


NQF 0166	2007	2008	2009	2010
Cleanliness of Hospital	69%	69%	70%	72%

Data Source: HCAHPS Survey access at www.hcahpsonline.org.

The percentage of patients who reported that their room and bathroom were ‘Always’ clean increased from 69 percent in 2007 to 72 percent in 2010 among hospitals publicly reporting HCAHPS results.

Figure 2-21: Quietness of Hospital, 2007–2010 [Patients who Reported That Area Around Their Room Was ‘Always’ Quiet at Night]

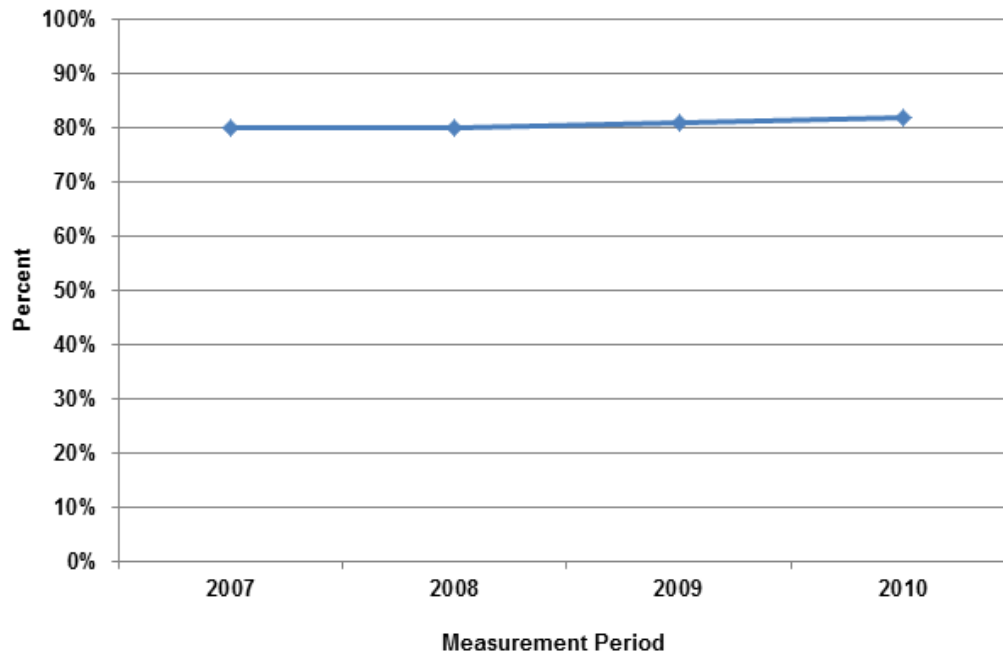


NQF 0166	2007	2008	2009	2010
Quietness of Hospital	56%	56%	57%	58%

Data Source: HCAHPS Survey access at www.hcahpsonline.org.

As seen in Figure 2-21, the percentage of patients who reported that the area around their room was ‘Always’ quiet at night increased from 56 percent in 2007 to 58 percent in 2010 among hospitals publicly reporting HCAHPS results.

Figure 2-22: Discharge Information, 2007–2010 [Patients who Reported ‘Yes’ to Receiving Discharge Information]

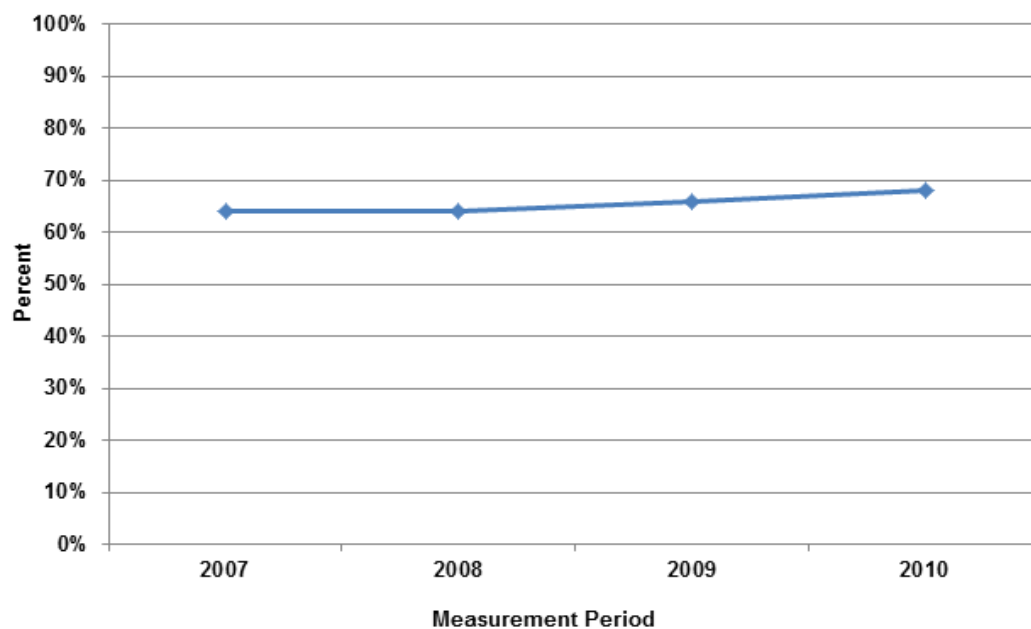


NQF 0166	2007	2008	2009	2010
Discharge Information	80%	80%	81%	82%

Data Source: HCAHPS Survey access at www.hcahpsonline.org.

Figure 2-22 shows that the percentage of patients who reported ‘Yes’ to receiving discharge instructions increased from 80 percent in 2007 to 82 percent in 2010 among hospitals publicly reporting HCAHPS results.

Figure 2-23: Overall Hospital Rating, 2007–2010 [Patients who Gave Their Hospital a Rating of '9' or '10']

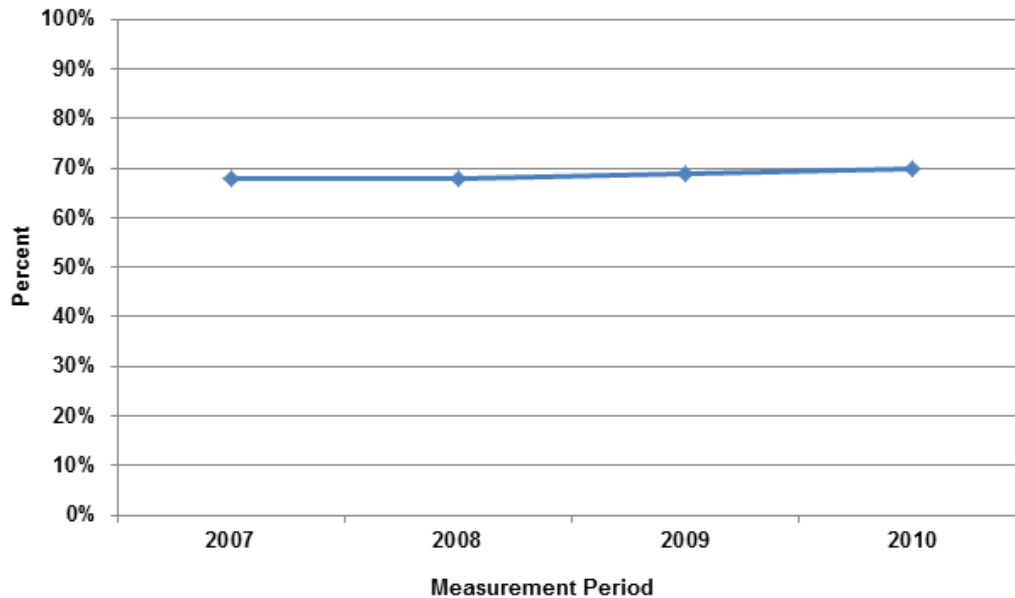


NQF 0166	2007	2008	2009	2010
Overall Hospital Rating	64%	64%	66%	68%

Data Source: HCAHPS Survey access at www.hcahpsonline.org.

Figure 2-23 shows the percentage of patients who gave their hospital a rating of '9' or '10' on a scale from '0' (lowest) to '10' (highest). The rate increased from 64 percent in 2007 to 68 percent in 2010 among hospitals publicly reporting HCAHPS results.

Figure 2-24: Recommend the Hospital, 2007–2010 [Patients who Reported They Would ‘Definitely Recommend’ the Hospital]



NQF 0166	2007	2008	2009	2010
Recommend the Hospital	68%	68%	69%	70%

Data Source: HCAHPS Survey access at www.hcahpsonline.org.

Figure 2-24 highlights the percentage of patients who reported they would ‘Definitely Recommend’ the hospital. The rate increased from 68 percent in 2007 to 70 percent in 2010 among hospitals publicly reporting HCAHPS results.

Overall, 9 of the 10 HCAHPS measures showed an increase in percentage of patients reporting more favorably since 2007. The only HCAHPS measure that remained consistently at 80 percent was the measure stating that the *Doctor ‘Always’ Communicated Well*. The degree of increase for all other HCAHPS measures ranged from 1 percentage point to 4 percentage points.

Limitations

When reviewing the results presented in this chapter, several limitations should be considered when interpreting the results and trends. First, since this review was limited to NQF-endorsed measures that are publicly available and have nationally representative data; the selected process, outcome, and survey measures represent only a subset of the total measures reported by hospitals. As such, the results are not sufficient to draw conclusive findings regarding the overall impact of CMS’ complete set of hospital inpatient measures.

Second, this report presents national facility averages for the process measures for hospital patients with heart attack, heart failure, pneumonia, and surgical care. These rates are not national aggregate means, and therefore are not risk-adjusted with hospital-level characteristics or facility population distributions. The NQF-endorsed readmission and mortality outcome measures are endorsed at the facility level and the rates in this chapter are reported at the national level. The data analysis presented in this chapter did not include any formal tests of whether changes in rates across years were statistically significant. As such, caution should be used when interpreting changes in rates as an improvement or decline in performance.

Third, the data presented within this chapter were not collected specifically for this analysis report. Caution should also be used when attributing the trended results to the public reporting of these data.

Fourth, findings for the process measures are based on hospital data that are self-reported. While these measures undergo a well-defined chart review and validation process via the Clinical Data Abstraction Center, the validation is limited to 12 charts per quarter for the 800 randomly selected hospitals. The hospitals' processes for defining each measure's study population are not subject to an external audit. While CMS provides detailed specifications for defining the study population and sampling protocol, variations in the hospitals' execution of these specifications may impact the reporting of the rates.

Finally, although more hospitals have participated in the HCAHPS survey since 2007, the annual response rate remained fairly consistent at 32.5 percent, although CMS has instituted rigorous and standardized HCAHPS protocols that all survey vendors and self-administering hospitals must uniformly adhere to in HCAHPS data collection.

Conclusions and Next Steps

In general, the results of NQF-endorsed Hospital IQR Program measures included in this chapter indicate consistent increases in rates for nearly all measures under review. . However, it is notable that for both the Heart Failure and Pneumonia measures, process measures improved, while outcomes measures remained relatively constant. The magnitude of change ranged from less than 1 percentage point (*Readmission and Mortality Outcome* measures) to 36 percentage points for the *Heart Attack Patients Given PCI within 90 Minutes of Arrival* measure. Overall, 24 of the 43 NQF-endorsed measures reported rates of 90 percent or higher. Moreover, seven of the process-of-care measures showed rate increases of over 20 percentage points during the five-year period. These six measures are:

- ◆ *Heart Attack Patients Given Fibrinolytic Medication Within 30 Minutes of Arrival* (24 percentage point increase)
- ◆ *Heart Attack Patients Given PCI Within 90 Minutes of Arrival* (36 percentage points increase)
- ◆ *Heart Failure Patients Given Discharge Instructions* (27 percentage points increase)

- ◆ *Pneumonia Patients Assessed and Given Pneumonia Vaccination* (23 percentage point increase)
- ◆ *Pneumonia Patients Assessed and Given Influenza Vaccination* (21 percentage point increase)
- ◆ *Surgery Patients Whose Preventive Antibiotics Were Stopped at the Right Time* (22 percentage point increase)

In 2010, hospitals reported rates above 90 percent for all of the heart failure and pneumonia process measures, and all but one heart attack process measure. All SCIP process measures demonstrated favorable trends over time, with the magnitude ranging from 8 percentage points (*Surgery Patients Who Were Given The Right Kind Of Antibiotic*) to 22 percentage points (*Surgery Patients Whose Preventive Antibiotics Were Stopped at the Right Time*). In 2010, all hospitals reported 100 percent success for the SCIP measure *Safe Removal of Hair Prior to Surgery*. The risk-adjusted mortality and readmission measures exhibited little or no change. The relationship between the process measures and the outcome measures may be investigated in more detail in a future analysis. In general, HCAHPS results show small gains in all but one measure from 2007 to 2010.

In looking at levels of performance across five of the NQS priority domains, performance was most impressive in the *Best Practices for Healthy Living* domain, for which both immunization measures showed positive rate increases of more than 20 percentage points. Results in the *Effective Prevention and Treatment* and *Communication and Care Coordination* domains were somewhat mixed. With the exception of the mortality, most of the NQF-endorsed measures under these two domains showed positive trends: the increases varied from 6 percentage points to 36 percentage points. Although the mortality rate for pneumonia patients increased since 2007, the magnitude of decline in performance was less than one percentage point.

Most of the measures under the *Safety* domain are SCIP process measures that showed a substantial increase in rates. In 2010, all of the SCIP measures exhibited rates greater than 90 percent. This may suggest a high level of adherence by hospitals to follow surgical safety guidelines to ensure *Effective Prevention and Treatment of Illness*. However, further studies will have to be conducted to support this conclusion.

CMS has continued to evaluate and ensure measures in the Hospital IQR Program address high cost and high volume conditions. The measures included in this chapter address five of the six NQS priority domains. CMS is continually enhancing its portfolio of measures and, by fiscal year 2015, CMS is planning on adding measures to better address all NQS priorities.

Finally, as the inaugural study, the results presented within this chapter are considered descriptive and intended to provide a national context of the current trends in performance for a subset of hospital-based process, outcome, and survey measures. While trending information is presented to understand the general trending of measures, no statistical testing was conducted to examine different patient and hospital-level characteristics that may impact

quality, such as disparities. Future studies may include more in-depth statistical testing and analysis to evaluate the impact of publicly reported measures on the quality of hospital care. Additional studies may include analyses to detect potential disparities in care and evaluations of the relationship between process and outcome measures.

3. Hospital Outpatient Quality Reporting Program

Introduction

The Centers for Medicare & Medicaid Services (CMS) has longstanding initiatives for ensuring the provision of quality health care. CMS has implemented a number of programs aimed at improving the quality of care, one of which is the Hospital Outpatient Quality Reporting (Hospital OQR) Program. The Hospital OQR Program, modeled on the Hospital IQR Program, was mandated by the Tax Relief and Health Care Act of 2006 and is a pay-for-reporting program implemented by CMS for hospital outpatient services. By making quality-of-care data publicly available, CMS enables consumers to make more informed decisions about their health care and encourages providers to improve the quality of outpatient care. Outpatient care can refer to numerous types of health services provided to those who visit hospitals or other health care facilities (e.g., emergency department services, observation services, outpatient surgical services, lab tests, and medical imaging services such as X-ray, mammogram, computerized tomography (CT), and magnetic resonance imaging (MRI)).

The Hospital OQR Program uses a variety of methods to stimulate and support significant improvement in the quality of hospital outpatient care. It aims to refine and standardize hospital outpatient data collection, data transmission, and performance measures in order to construct one robust and prioritized outpatient quality measure set for hospitals. Hospitals paid under the outpatient prospective payment system (OPPS) that meet administrative, data collection and submission, validation, and reporting requirements are eligible to receive an annual payment update (APU) or financial incentive intended to encourage adoption of evidence-based care practices. OPPS hospitals not meeting these requirements are subject to a two percentage point reduction in their APU. The data submitted for the Hospital OQR Program are used by CMS to calculate hospital outpatient process measures which are posted on the Hospital Compare Web site along with other types of measures.

Hospital Compare is a Web-based interactive tool that allows consumers and their caregivers to access comparison information about hospitals. The Hospital Compare Web site is at <http://www.hospitalcompare.hhs.gov/>.¹

¹ Additional information is available at https://www.cms.gov/HospitalQualityInits/10_HospitalOutpatientQualityReportingProgram.asp#TopOfPage and at <http://qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=11912558793843>.

Reporting and Data Collection History

Hospitals began collecting data for the Hospital OQR Program in the second quarter of 2008, though these data were not reported until 2009. At that time, hospitals were required to submit data for seven chart-abstracted measures covering three topics: Acute Myocardial Infarction (AMI), Chest Pain (CP), and Surgical Care. In 2009, CMS began calculating four Outpatient Imaging Efficiency (OIE) measures using claims data from 2008 outpatient encounters.

Beginning in July 2010, the performance rates for these chart-abstracted and claims-based measures were posted on the Hospital Compare Web site. Hospital Compare was created through the joint efforts of CMS and the Hospital Quality Alliance (HQA). HQA, disbanded in December 2011 after reaching its goals, was a public-private collaboration established to promote reporting on hospital quality of care. HQA consisted of organizations that represented consumers, hospitals, doctors, nurses, employers, accrediting organizations, and Federal agencies.

In 2012, CMS will begin publicly reporting four additional measures. Of these four measures, three are OIE measures and one is a Web-based structural measure (*Receiving Lab Data Using Health Information Technology*).

Effective with January 2012 discharges, hospitals providing emergency department services and treating outpatients who have suffered a stroke or long-bone fractures will be required to submit data to CMS on an additional six Hospital OQR measures—four of which will be reported on Hospital Compare and used in the calendar year (CY) 2013 payment determination.

Measures Included in This Chapter

Based on the criteria described above, information and data for seven process measures and two outpatient imaging efficiency (OIE) measures are included in this chapter. CMS uses NQF-endorsed measures when feasible. However, when NQF-endorsed measures do not exist for a specified area or medical topic, CMS chooses to use measures that are not endorsed by the NQF. It is important to note that two of the four OIE measures being reported on Hospital Compare are not included in this chapter because they are not NQF-endorsed and, therefore, do not meet the criteria stated above. The NQF-endorsed measures identified below address care provided to adult patients in hospital outpatient settings across a diverse set of conditions:

◆ Five Heart Attack or Chest Pain process measures²

² Of the five heart attack/chest pain measures, four are currently reported on the Hospital Compare Web site. The measure that is not currently reported, “Median Time to Fibrinolysis”, essentially measures the same process of care standard as the measure, *Fibrinolytic Therapy Received within 30 Minutes of ED Arrival*. Therefore, this measure was removed from the Web site in April 2011.

- ◆ Two Surgery process measures
- ◆ Two OIE measures³

The process measures are chart-abstracted from all-payer data and not limited to Medicare beneficiaries. The chart-abstracted, process measures are refreshed on Hospital Compare on a quarterly basis, provided as a 12-month rolling score. CMS receives “raw data” from each reporting hospital, thereby allowing for calculation of performance scores rather than solely relying on self-reporting of aggregate scores.

The OIE measures are calculated from 100 percent of the paid fee-for-service Medicare claims data for a given calendar year, thereby eliminating the burden and expense of chart abstraction. The focus of the OIE measures is to meet the national priority of making care safer by reducing harm from inappropriate or unnecessary care. These measures are refreshed on Hospital Compare on an annual basis. For the CY 2010 payment determination, the OIE measures were calculated using 2008 claims data. The OIE measures are not risk adjusted; they are calculated as raw/observed rates after the exclusion and inclusion criteria are applied. For information about the OIE measures’ minimum case count requirements, go to <https://www.cms.gov/HospitalQualityInits/Downloads/HospitalOutpatientImagingEfficiencyMinimumCaseCounts.pdf>.

The process and OIE measures listed in Tables 3-1 through 3-3 are grouped by patient health conditions and diagnostic procedures, and show the NQS priority applicable to each measure. The Hospital OQR Program contains measures addressing two of the six NQS priority areas; however, most address the domain of *Effective Prevention and Treatment of Illness*.

It should be noted that most quality measures have multiple measure names. The measure names used in this chapter are based on the measure names located on the Hospital Compare Web site that is used for public reporting.

Heart Attack or Chest Pain and Surgery Measures

The outpatient process measures consist of five Heart Attack or Chest Pain measures and two Surgery measures that are listed in tables 3-1 and 3-2. Detailed measure specifications for the measures are available on the QualityNet Web site at <http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1196289981244>.

³ It is important to note that two other OIE measures were being reported on Hospital Compare as of December 2011 but these are not included in this chapter because they are not NQF-endorsed. In addition, of the seven process measures in this assessment, six are currently reported on the Hospital Compare Web site.

Table 3-1: Heart Attack or Chest Pain Process Measures

NQF #	Hospital Manual #	Measure Name	Measure Description	National Quality Strategy Priorities
0287	OP-1	Median Time to Fibrinolysis	Median time from emergency department arrival to administration of fibrinolytic therapy in ED patients with ST-segment elevation or left bundle branch block (LBBB) on the electrocardiogram (ECG) performed closest to ED arrival and prior to transfer	Effective Prevention and Treatment of Illness
0288	OP-2	Outpatients with Chest Pain or Possible Heart Attack Who Got Drugs to Break Up Blood Clots within 30 Minutes of Arrival	Emergency department acute myocardial infarction (AMI) patients with ST-segment elevation or LBBB on the ECG closest to arrival time receiving fibrinolytic therapy during the ED stay and having a time from ED arrival to fibrinolysis of 30 minutes or less	Effective Prevention and Treatment of Illness
0290	OP-3	Average Number of Minutes Before Outpatients with Chest Pain or Possible Heart Attack Who Needed Specialized Care Were Transferred to Another Hospital	Median time from emergency department arrival to time of transfer to another facility for acute coronary intervention	Effective Prevention and Treatment of Illness
0286	OP-4	Outpatients with Chest Pain or Possible Heart Attack Who Got Aspirin within 24 Hours of Arrival	Emergency department acute myocardial infarction (AMI) patients or chest pain patients (with <i>Probable Cardiac Chest Pain</i>) who received aspirin within 24 hours before ED arrival or prior to transfer	Effective Prevention and Treatment of Illness
0289	OP-5	Average Number of Minutes Before Outpatients with Chest Pain or Possible Heart Attack Got an ECG	Median time from emergency department arrival to ECG (performed in the ED prior to transfer) for acute myocardial infarction (AMI) or Chest Pain patients (with <i>Probable Cardiac Chest Pain</i>)	Effective Prevention and Treatment of Illness

Table 3-2: Surgery Process Measures

NQF #	Hospital Manual #	Measure Name	Measure Description	National Quality Strategy Priorities
0270	OP-6	Outpatients Having Surgery Who Got an Antibiotic at the Right Time – within One Hour Before Surgery	Surgical patients with prophylactic antibiotics initiated within one hour* prior to surgical incision. <i>*Patients who received vancomycin or a fluoroquinolone for prophylaxis should have the antibiotic initiated within two hours prior to surgical incision. Due to the longer infusion time required for vancomycin or a fluoroquinolone, it is acceptable to start these antibiotics within two hours prior to incision time.</i>	Safety
0268	OP-7	Outpatients Having Surgery Who Got the Right Kind of Antibiotic	Surgical patients who received prophylactic antibiotics consistent with current guidelines (specific to each type of surgical procedure).	Safety

Outpatient Imaging Efficiency Measures

The OIE measures are listed in Table 3-3. These measures are designed for use at the national, state, and facility level to track inappropriate use of a set of hospital outpatient imaging services for which evidence exists that overuse is particularly problematic. Detailed specifications for the measures are available at

<http://qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1228695266120>. Table 3-3 includes the two OIE measures addressed in this report.

Table 3-3: Outpatient Efficiency Imaging Measures

NQF #	Hospital Manual #	Measure Name	Measure Description	National Quality Strategy Priorities
0513	OP-11	Use of Contrast: Thorax CT	This measure calculates the percentage of thorax studies that are performed with and without contrast out of all thorax studies performed (those with contrast, those without contrast, and those with both). The measure is calculated based on 100 percent of the paid Medicare FFS claims in a given calendar year.	Safety

NQF #	Hospital Manual #	Measure Name	Measure Description	National Quality Strategy Priorities
0514	OP-8	MRI Lumbar Spine for Low Back Pain	This measure calculates the percentage of MRI (Magnetic Resonance Imaging) of the Lumbar Spine studies with a diagnosis of low back pain on the imaging claim and for which the patient did not have prior claims-based evidence of antecedent conservative therapy. The measure is calculated based on 100 percent of the paid Medicare FFS claims in a given calendar year.	Safety

Methods

All of the measure results included in this chapter were obtained from CMS Outpatient Hospital contractors, except for the data on outpatient facility counts. These facility counts were derived from the Hospital Compare Web site based on those facilities that submitted data for public reporting (see <http://www.hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>). There are hospitals that are not eligible for the OPPI who may voluntarily submit data for public reporting on Hospital Compare. The number of reporting facilities was limited to those outpatient hospitals whose results were publicly reported in 2009 and 2010 on the Hospital Compare Web site. Outpatient hospitals whose results were suppressed (regardless of the reason) were excluded from the counts.

The data for the seven process of care measures are based on chart-abstracted data submitted quarterly to CMS clinical data warehouse. These data are for all payers and are not limited to Medicare beneficiaries. For these measures, hospitals may sample a representative part of a population in order to estimate their performance without collecting data for their entire population. Using a statistically valid sample, a hospital can measure its performance in an effective and efficient manner. If the hospital chooses to do so, it may collect data for its entire population of cases.

The outpatient imaging efficiency measures are calculated annually based on paid Medicare fee-for-service claims for an entire calendar year. All results were aggregated to provide national level results. These data were subsequently plotted on a trend chart for discussion. Since only two years of data were available for the two OIE measures, these results are presented in bar charts.

Results

Please refer to Appendix A: Measure Highlights for the summarized results to all of the measures presented in this chapter.

Number of Reporting Facilities

Although the results are based on those outpatient hospitals whose results were publically reported, not all facilities reported results for each of the measures under review. Table 3-4 displays the minimum, maximum, and average number of facilities that reported results for any given measure during the measurement period. For example, the minimum number of outpatient hospitals reporting for any measure in 2009 was 1,245 facilities.

Table 3-4: Number of Reporting Facilities

Year	Minimum Number of Facilities Reporting Results Across All Measures	Maximum Number of Facilities Reporting Results Across All Measures	Average Number of Facilities Reporting Results Across All Measures
2009	1,245	3,496	2,659
2010	1,043	3,227	2,534

Source: Hospital Compare: <http://www.hospitalcompare.hhs.gov/staticpages/help/hospital-resources.aspx>. Last accessed on 1/10/12.

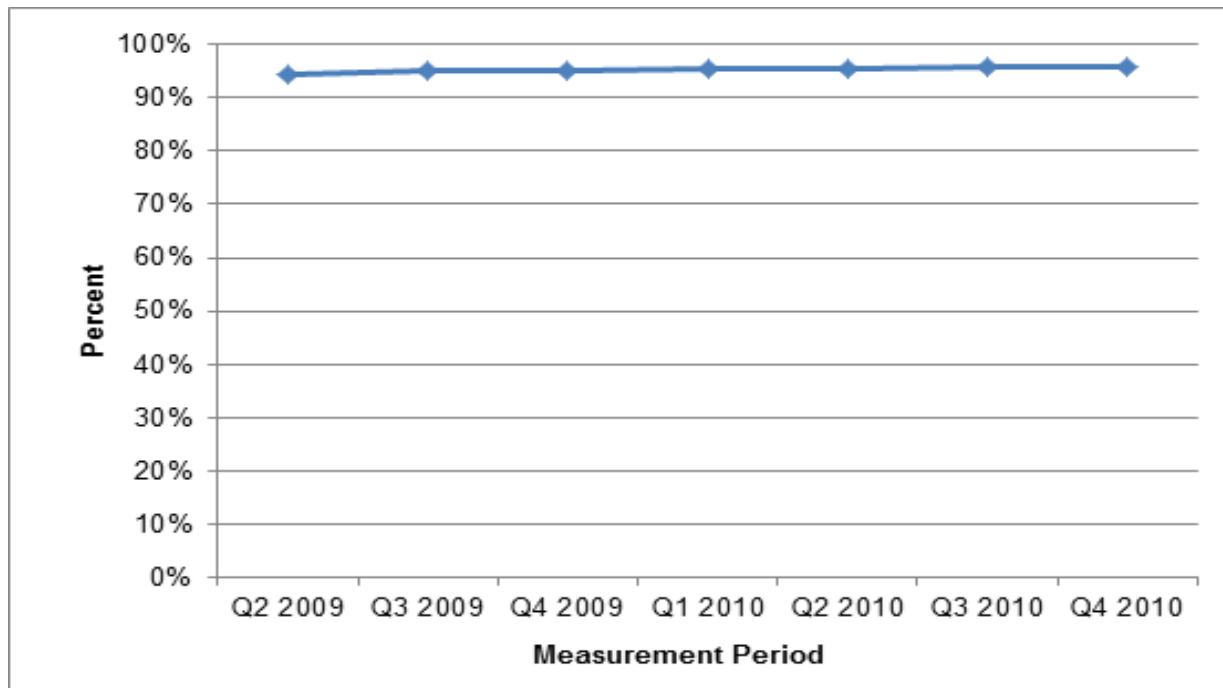
The number of facilities submitting results for the hospital outpatient measures presented in this chapter decreased between 2009 and 2010. On average, the number of facilities reporting dropped by 125 from 2009 to 2010. However, the decline in facilities is likely due to hospitals closing or merging their outpatient services departments versus a “real” decrease in the number of facilities reporting rates. Additionally, some outpatient hospitals were unable to report every measure due to their size and low number of eligible cases, or because they did not meet the requirements of the measure (e.g., absence of imaging equipment).

Performance Rates

Heart Attack or Chest Pain Process-of-Care Measures

Figures 3-1 through 3-4 present measures pertaining to acute myocardial infarction (heart attack) or chest pain.

Figure 3-1: Percentage of Patients Receiving Aspirin at Arrival, Q2 2009–Q4 2010 (NQF 0286)



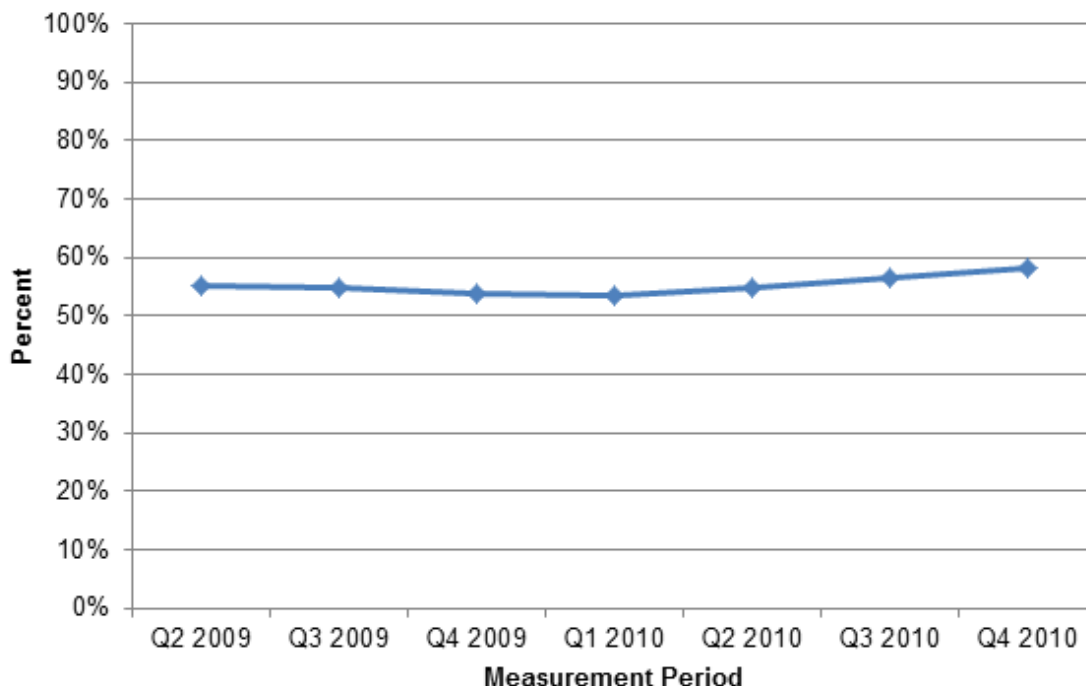
Measure	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010
NQF 0286 – Aspirin on Arrival	94.5%	95.0%	95.0%	95.4%	95.5%	95.6%	95.6%

Data Source: CMS Hospital Outpatient Contractor

Note: NQF 0286 – Outpatients with Chest Pain or Possible Heart Attack who got Aspirin within 24 hours of Arrival

Figure 3-1 shows relatively stable performance across all measurement periods. Illustrating a small increase, the percentage of outpatients with chest pain or possible heart attack who received aspirin within 24 hours of arrival at a treating facility increased by 1.1 percentage points from 94.5 percent in Q2 2009 to 95.6 percent in Q4 2010. For the population under study, approximately 24 of every 25 eligible outpatients received aspirin in a timely manner.

Figure 3-2: Percentage of Eligible Patients Receiving Fibrinolysis Within 30 Minutes, Q2 2009–Q4 2010 (NQF 0288)



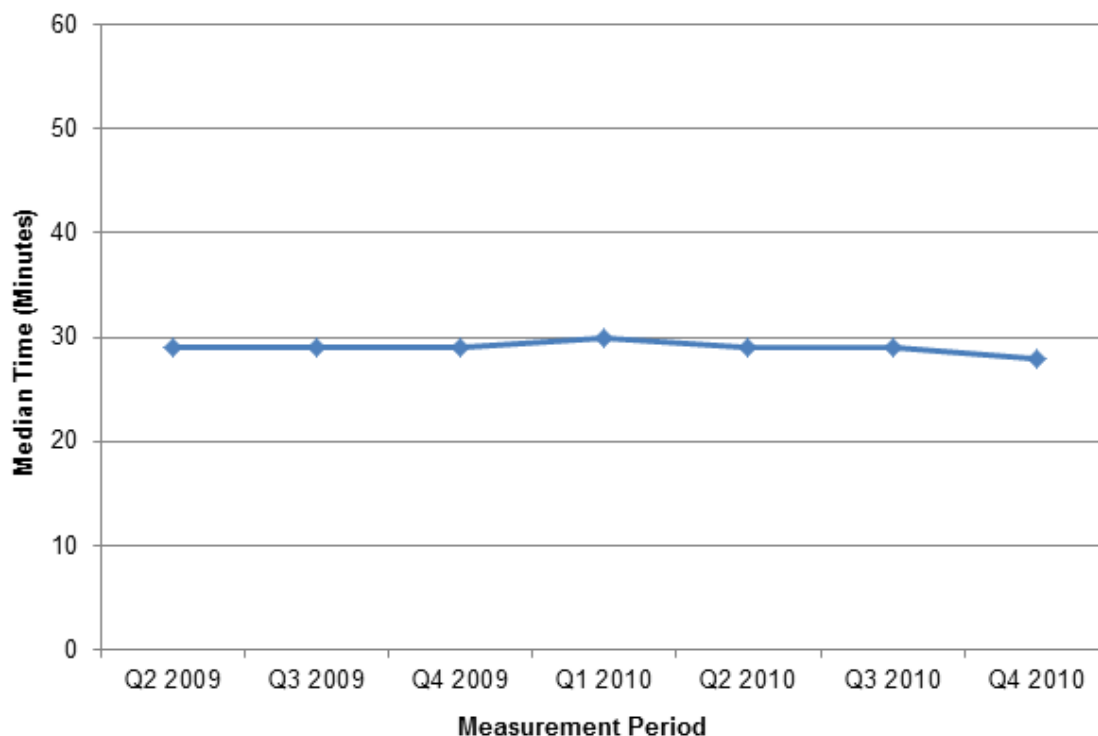
Measure	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010
NQF 0288 – Fibrinolytic Therapy	55.1%	54.7%	53.9%	53.5%	55.0%	56.7%	58.1%

Data Source: CMS Hospital Outpatient Contractor

Note: NQF 0288 – Fibrinolytic Therapy Received Within 30 Minutes of ED Arrival

Figure 3-2 shows that while there was some variation in the performance across the measurement periods, the results remained between 53.9 percent (Q4 2009) and 58.1 percent (Q4 2010). Overall, between Q2 2009 and Q4 2010, the percentage of eligible outpatients who received fibrinolytic therapy within 30 minutes of emergency department arrival increased from 55.1 percent to 58.1 percent, or 3.0 percentage points.

Figure 3-3: Median Time in Minutes to Fibrinolysis, Q2 2009–Q4 2010 (NQF 0287)



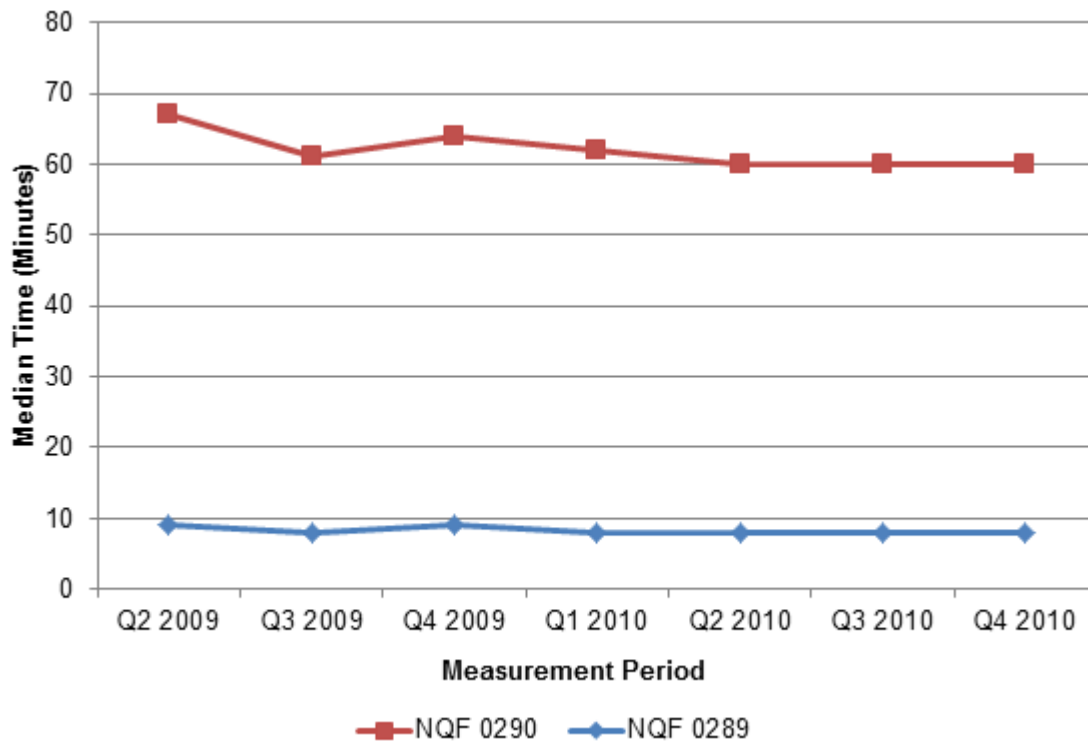
Measure	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010
NQF 0287: Time to Fibrinolysis	29	29	29	30	29	29	28

Data Source: CMS Hospital Outpatient Contractor

Note: NQF 0287 – Median Time to Fibrinolysis

Figure 3-3 shows that while there was some change between the quarters, on average the median time to fibrinolysis remained 29 minutes across all measurement periods. This finding means that 50 percent of fibrinolysis times as reported by participating facilities are below 29 minutes and half are above.

Figure 3-4: ECG and Transfer Median Times in Minutes, Q2 2009–Q4 2010



Measure	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010
NQF 0290: Transfer to another facility	67	61	64	62	60	60	60
NQF 0289: Time to ECG	9	8	9	8	8	8	8

Data Source: CMS Hospital Outpatient Contractor

Note: NQF 0289 – Median Time to ECG

NQF 0290 – Median Time to Transfer to another Facility for Acute Coronary Intervention

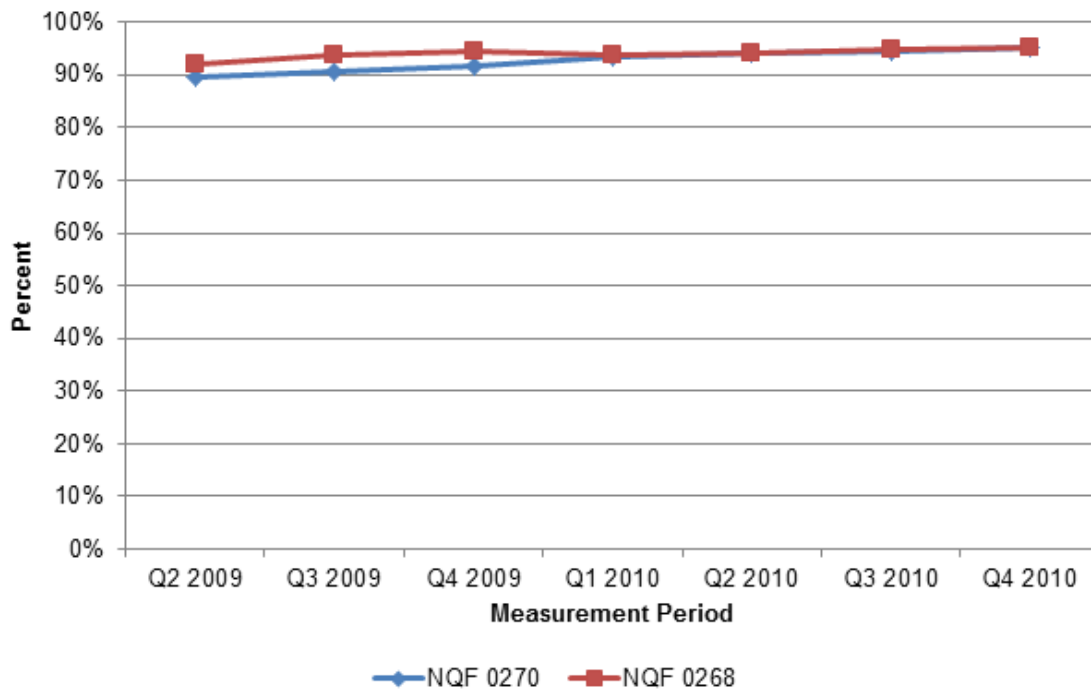
For both measures in Figure 3-4, lower times reflect better performance. The median time for eligible patients to receive an ECG decreased by 1 minute to 8 minutes in 2010. For being transferred to another facility for an acute coronary intervention (ACI), the median time dropped by 7 minutes from 2009 to 2010.

In general, most of the heart attack or chest pain process measures show little substantive change between Q2 2009 and Q4 2010. The highest rate increase among the process measures was associated with the percentage of patients receiving aspirin within 24 hours of arriving to the outpatient facility (NQF 0286); more than 95 percent of eligible patients received the recommended therapy in accordance with guidelines. The median time to receiving an ECG (NQF 0289) measure exhibited the largest positive rate change between the two years, dropping by a relative 10.4 percent.

Surgical Measures

Figure 3-5 presents measures pertaining to surgical care.

Figure 3-5: Percentage of Patients' Charts Showing Appropriate Timing and Selection of Prophylaxis Antibiotics, Q2 2009 – Q4 2010



Measure	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	Q3 2010	Q4 2010
NQF 0270 – Antibiotic Prophylaxis Timing	89.4%	90.6%	91.5%	93.4%	94.1%	94.5%	95.1%
NQF 0268 – Prophylactic Antibiotic Selection	91.9%	93.9%	94.4%	93.6%	94.2%	94.9%	95.3%

Data Source: CMS Hospital Outpatient Contractor

Note: NQF 0270 – Timing of Antibiotic Prophylaxis: Ordering Physician

NQF 0268 – Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin

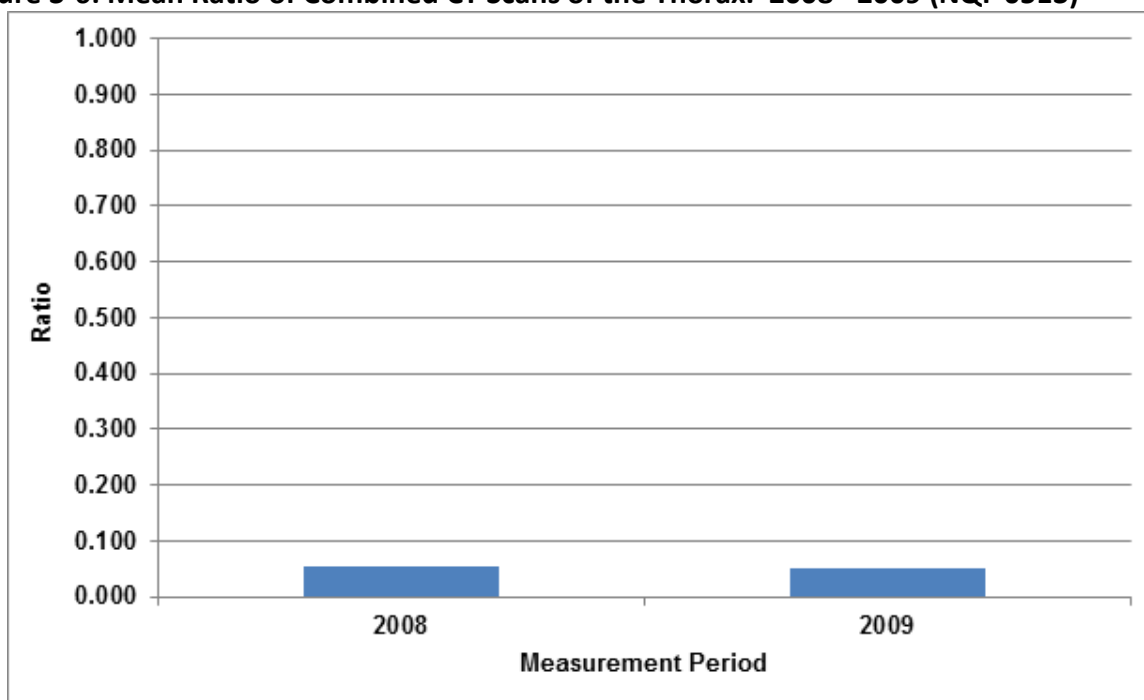
Overall, the two surgery process measures highlighted in Figure 3-5 exhibited rate increases. In Q4 2010, both measures exhibited rates greater than 90 percent. Moreover, the Q4 2010 rate for the timing of antibiotic prophylaxis measure (NQF 0270) (95.1 percent) increased by 5.7 percentage points while the rate for the selection of prophylactic antibiotic (NQF 0268) increased by 3.4 percentage points to 95.3 percent in Q4 2010.

Outpatient Imaging Efficiency Measures

Figure 3-6 displays the mean annual ratio for the use of CT scans of the thorax that were combination scans. This measure estimates the ratio of combined (with and without) Thorax CT studies to total thorax CT studies performed. Lower rates reflect more efficient imaging

performance. The goal of these measures is to promote the appropriate use of outpatient imaging services, by avoiding redundancy and unnecessary exposure to radiation, reducing the use of painful and wasteful follow-up procedures, and ensuring that patients get the right healthcare service the first time.⁴

Figure 3-6: Mean Ratio of Combined CT Scans of the Thorax. 2008– 2009 (NQF 0513)



Year	2008	2009
Ratio	0.054	0.052

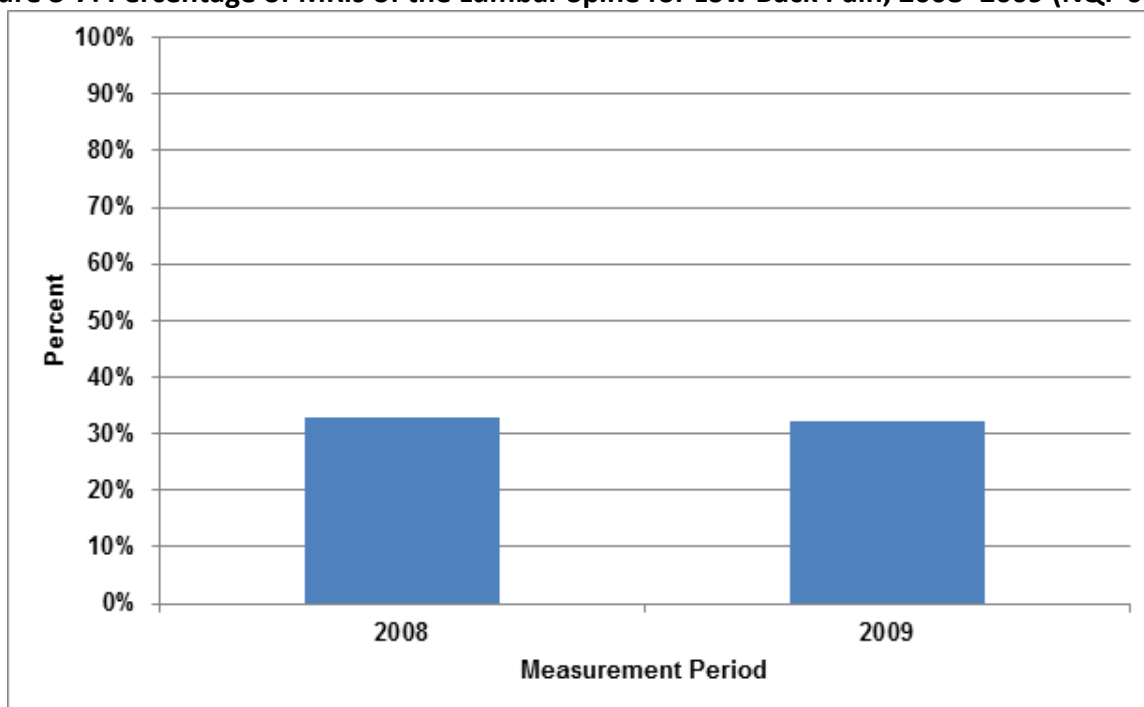
Data Source: Memorandum: Trend data for OP-8 and OP-11 for upcoming ACA 3014 report, The Lewin Group, October 6, 2011.

Although this measure calculates the percentage of CT scans, the results are reported as ranging from 0 to 1. A number very close to 1 indicates overuse of double scans when only a single scan is warranted. Figure 3-6 shows that the national mean ratio for this measure decreased slightly between 2008 (0.054) and 2009 (0.052). However, while few combination scans overall are being done, current results are higher than the desired.

Figure 3-7 illustrates the percentage of MRI of the lumbar spine for low back pain performed in the outpatient setting for which conservative therapy was not utilized prior to the MRI.

⁴ National Quality Forum. National Voluntary Consensus Standards for Imaging Efficiency: A Consensus Report - Final Report. 2011 Available at: http://www.qualityforum.org/projects/imaging_efficiency.aspx Last Accessed March 8, 2012.

Figure 3-7: Percentage of MRIs of the Lumbar Spine for Low Back Pain, 2008–2009 (NQF 0514)



Year	2008	2009
Percent	32.7%	32.2%

Data Source: Memorandum: Trend data for OP-8 and OP-11 for upcoming ACA 3014 report, The Lewin Group, October 6, 2011.

Figure 3-7 shows little change in the percentage of patients receiving an MRI for low back pain without first trying antecedent conservative therapy. Approximately one-third of patients with low back pain had an MRI of the lumbar spine before first attempting recommended treatment. There was a decline in the rate from 2008 to 2009 of 0.50 percentage points.

Overall, there was little or no change in the imaging measures. Although the CT imaging measure still reveals room for improvement, both measures reflect a desired trend in the data measured. Performance on these measures suggests that the majority of hospital outpatient facilities are working to ensure, for these two diagnostic imaging procedures, that overuse does not occur, waste is diminished, and that preventing unwarranted or excessive exposure to ionizing radiation and contrast agents protects patients' safety.

Limitations

When reviewing this chapter, several limitations should be considered when interpreting the results and impact of trends. First, since this review was limited to NQF-endorsed CMS measures that are publicly available and have nationally representative data, only a subset of hospital outpatient measures were analyzed. As such, the results found in this chapter may not

be sufficient to draw conclusive findings regarding the overall impact of CMS' complete set of hospital outpatient measures. The current study was also not designed to specifically evaluate the effects of ongoing hospital outpatient programs implemented by CMS.

Second, since the seven process-of-care measures are based on chart-abstracted data derived from hospital-specific samples, the national rates reported for these measures may not fully represent national performance. Further, each year's rates are not adjusted for facility-based variation in sample characteristics. Additionally, while the two medical imaging measures are based on claims data, the rates reported are not risk adjusted by patient-level or facility-level characteristics.

Third, since this report did not use any statistical test to evaluate whether the trends noted were real, caution should be applied when comparing results across measurement periods. Any noted increase in rates may or may not denote "real" improvement in performance. Additionally, this report did not incorporate a subgroup analysis to examine the extent to which results varied by facilities with certain characteristics.

Finally, the results for these measures were only recently made publicly available. As such, caution should be used when inferring the impact of the public reporting on trends in these data prior to 2010.

Conclusions and Next Steps

Overall, performance on the Hospital OQR Program measures suggested relatively consistent performance across the reporting periods. Changes noted between the initial and final measurement period was minimal. Specifically, the results for the heart attack and chest pain process measures indicated mixed performance across the measurement period. While the initiation of aspirin therapy and performance of a timely ECG was consistently performed, opportunities for improvement were noted for the transfer of patients to another facility for an acute coronary intervention and fibrinolytic therapy. Performance on the two surgical care measures was high, as of 2010, these two measures have achieved a rate of 95 percent. The results suggest a high level of adherence by hospitals to surgical safety guidelines. Additionally, this report did not incorporate a subgroup analysis to examine the extent to which results varied by facilities with certain characteristics. However, as noted earlier, caution should be used when interpreting these results due to confounding environmental and patient variables.

In looking at the results by National Quality Strategy priorities domains, performance was mixed for the two domains evaluated in the chapter (i.e., *Effective Prevention and Treatment of Illness* and *Safety*). Among the rate-based measures in the *Effective Prevention and Treatment of Illness* domain, the percentage of patients receiving an aspirin upon arrival was the greatest (95.6 percent). However, the percentage of patients receiving fibrinolysis within 30 minutes showed a greater percentage point increase—i.e., 3 percentage points versus 1.1 percentage

points. All of the time-based measures in this domain also showed some increase in performance (i.e., decrease in time) with the median time to transfer seeing the greatest decline (7 minutes).

Measures within the *Safety* domain included both surgical care measures and outpatient imaging efficiency measures. All of these measures also exhibited an increase in performance. In general, the *Safety* measures related to surgical care were higher than those related to imaging. By 2010, the surgical care results for the appropriate timing and selection of prophylactic antibiotics exceeded 95 percent.

As the Hospital OQR program continues to evolve, CMS continues to evaluate the selection of measures used to monitor overall performance. Although the measures presented in this report only represent a subset of the hospital outpatient performance measures, they suggest moderate-to-high performance across the *Effective Prevention and Treatment*, *Safety*, and *Affordable Care* NQS priority domains.

CMS continues to expand the number of measures in the Hospital OQR Program to address high cost and high volume conditions. By CY 2014 Payment Determination, CMS will add measures to better address the NQS priority domains.

4. Physician Quality Reporting System (PQRS)

Introduction

The Physician Quality Reporting System (PQRS) is a quality-reporting program that provides incentive payments and payment adjustments to identified eligible professionals who satisfactorily report data on quality measures for covered professional services. The Medicare Program within the Centers for Medicare & Medicaid Services (CMS) pays an incentive to professionals for satisfactorily reporting quality data in accordance with PQRS quality measure specifications. The intent of PQRS is to encourage professionals to adopt evidence-based and outcome-driven healthcare delivery practices. Although the program's incentives are not tied to performance, PQRS is part of an overall effort by CMS and Congress to transform health care into a value-based purchasing (VBP) system that rewards the value of care provided, rather than the quantity of services furnished. More information about PQRS is available at <https://www.cms.gov/PQRS/>.

Reporting and Data Collection History

The 2006 Tax Relief and Health Care Act (TRHCA) (P.L. 109-432) required the establishment of a physician quality reporting system, including an incentive payment for eligible professionals who satisfactorily report data on quality measures for covered professional services furnished to Medicare beneficiaries during the second half of 2007 (the 2007 reporting period). CMS named this program the Physician Quality Reporting Initiative (PQRI). The Medicare, Medicaid, and State Children's Health Insurance Program Extension Act of 2007 (MMSEA) (Pub. L. 110-275) and the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) (Pub. L. 110-275) further modified PQRI. In 2011, the program name was changed to the Physician Quality Reporting System (PQRS, or Physician Quality Reporting).

Physicians, other practitioners, and therapists whose services are paid under or based on the Medicare Physician Fee Schedule (PFS) are eligible for Physician Quality Reporting. Medicare provides feedback reports to eligible professionals who participated in PQRS each year. The report feedback is not dependent on receiving an incentive. The report includes reporting rates, performance on specific measures, and incentives received by individual eligible professionals. It also provides summary information on reporting success and incentives received at the practice level. The report also addresses information on other factors as well, such as reporting errors that may have had an impact on the eligibility to receive an incentive payment.

Measures Included in This Chapter

CMS uses NQF-endorsed measures when feasible. However, when NQF-endorsed measures do not exist for a specified area or medical topic, CMS chooses to use measures that are not

endorsed by the NQF. Of the 175 individual measures included in the 2010 PQRS program, 123 meet the inclusion criteria described above. The remaining 52 measures either did not have two years of data available or they were not NQF-endorsed.

PQRS allows for multiple methods of data submission. Individual measures submitted by eligible professionals via claims, registry, or EHR are included. The number of reporting options and the number of quality measures under PQRS have increased since its beginning in 2007. Performance information for the Measure Groups reporting option and the Group Practice Reporting Option (GPRO) are not included.

Eligible professionals who choose to participate may do so by reporting quality measures data through claims. They simply report the appropriate quality-data codes on professional-services claims. The professionals participating via this option are not required to enroll or formally declare intent to participate. Eligible professionals select and report on any measures applicable to their practices. In order to receive an incentive, the professional is required to successfully report on at least three measures. If there were not three measures appropriate for the professional's practice, an incentive could be obtained by reporting on only one or two measures. In this method of reporting, the professional identifies patients or visits that meet the criteria described in the measures denominator. The provider then determines whether or not the services required by the numerators were performed and if the services were not performed there must be a reason as to why they were not performed. This information is communicated to Medicare via the professional's Medicare Part B claims by the inclusion of a quality data code on the claim. Quality data codes are non-payable Healthcare Common Procedure Coding System (HCPCS) codes composed of specified CPT (Current Procedural Terminology) Category II codes and/or G-codes that describe the clinical action required by a measure's numerator.

The claims-based reporting option has been available since 2007. Beginning in 2008, other reporting options became available. Eligible professionals could report quality measures data to a qualified registry. In addition, beginning in 2010, eligible professionals could also participate via an electronic health record- (EHR-) based reporting mechanism.

In 2008, CMS began the Measure Group reporting option. Measure Groups include reporting on a group of clinically related measures identified by CMS, through claims-based and/or registry-based submissions. Information from individual health care providers who reported Measure Groups were not included in these results because these data were not available at the time of this report. In 2010, CMS created GPRO that allows reporting at the group-practice level. Group practices with at least 200 health care providers could participate in PQRS through GPRO. GPRO data are collected at the group-practice level; consequently, the results from group practices could not be validly combined with the results from the individual health care providers and are not included in the rates presented in this chapter. Additionally, GPRO results are not presented in this chapter because data were available for only one year.

Health care providers who participated in a CMS Office of Research, Development, and Information (ORDI) demonstration program are excluded from all PQRS analyses. These ORDI demonstration programs are other quality-related pilot programs within CMS, and the program requirements differ from PQRS.

PQRS measures that are included in this chapter address all six NQS priority domains; however, most address the *Effective Prevention and Treatment of Illness* domain. Of the 123 measures included in this chapter, 85 address *Effective Prevention and Treatment of Illnesses*, 15 address *Safety*, 7 address *Best Practices for Healthy Living*, 7 address *Communication and Care Coordination*, 5 address *Affordable Care*, and 2 address *Person and Family Centered Care*.

Methods

The data included in this chapter were obtained from the PQRS contractor responsible for reports and analytics.¹

Data used to calculate the results included in tables 4-1, 4-2, 4-3, and 4-4 of this chapter include Medicare Part B claims submitted by eligible professionals, registry submissions, and EHR data. Information from individual healthcare providers who reported individual measures using any of the three data submission methods were included in these results. The rates include measures submitted via claims-based individual methods in 2007 and submitted via claims-based and registry-based individual methods in 2008, 2009, and 2010. The 2010 rates also include data submitted through the EHR reporting option. In the event of an eligible professional participating in multiple methods, the following hierarchy was applied: (1) EHR, (2) claims-based, and (3) registry-based. PQRS performance on a measure was calculated as the number of times the eligible professional reported performing the recommended quality action divided by the number of instances they could have performed the recommended quality action (calculated as a percentage). Instances that did not apply (i.e., reported as exclusions) were not included in the calculation of performance. Information presented in this chapter includes eligible professionals regardless of whether they met the satisfactory reporting requirements to receive the incentive.

Results

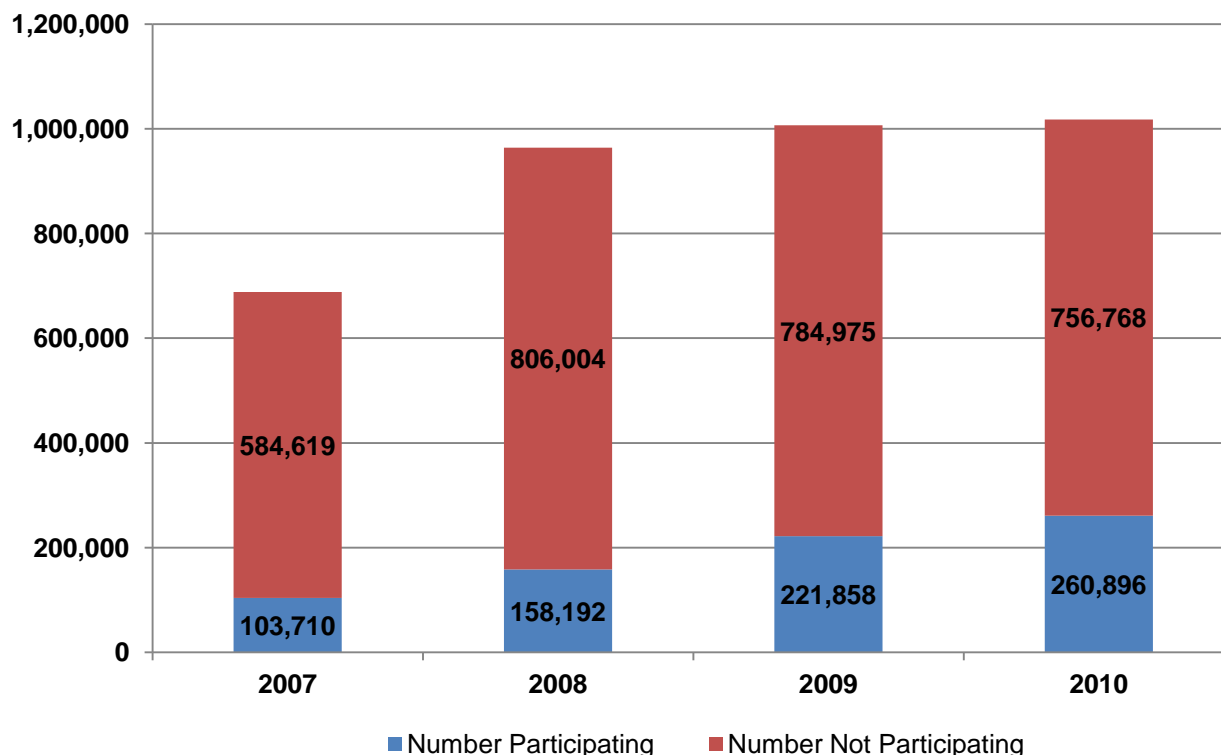
Please refer to Appendix A: Measure Highlights for the summarized results to all of the measures presented in this chapter.

Number of Reporting Eligible Professionals

Figure 4-1 shows both the number of professionals who were eligible to participate and the number who actually participated in PQRS.

¹ Draft 2010 Report: *Physician Quality Reporting System and Electronic Prescribing (eRx) Incentive Program*, 10/31/2011. Not yet published.

Figure 4-1: Number Eligible and Participating Eligible Professionals



	2007	2008	2009	2010
Eligible	688,329	964,196	1,006,833	1,017,664
Number Participating	103,710	158,192	221,858	260,896
Number Not Participating	584,619	806,004	784,975	756,768

Data Source: 2010 Draft—Physician Quality Reporting System and Electronic Prescribing (eRx) Incentive Program 10/31/2011

The number of professionals eligible to participate in PQRS increased from 688,329 in 2007 to 1,017,664 in 2010. The number of eligible professionals who actually participated in PQRS also increased each year from 15.1 percent in 2007 to 25.6 percent in 2010. To be included in these numbers, professionals needed to submit at least one valid quality data code.

The professionals eligible to participate in PQRS were primarily concentrated in certain specialties—such as family practice, internal medicine, cardiology, and ophthalmology. CMS has made every effort to include all specialties. CMS conducts outreach efforts and physician education to encourage participation. Additionally, the 2008 MIPPA legislation required CMS to allow (1) alternative reporting methods to make participation easier to use, and (2) methods of data collection other than the original claims-based method. The measures included in PQRS now include measures that are more meaningful to the eligible professionals, including specialists and non-physician professionals. CMS has requested,

through several venues, suggestions of measures to be included in PQRS to enable participation by all eligible professionals.

Performance Rates

PQRS performance rates only represent eligible professionals who reported the measures. Eligible professionals may choose which specific measures to report and, in some instances, the performance rates may include only a small number of eligible professionals reporting. Other factors should be considered when interpreting trends in the performance information. These factors include changes to participation methods and changes in the cohort of eligible professionals who participated. Changes in performance rates could be genuine, could represent changes in how the information was obtained (i.e., different reporting options), or could represent changes in the cohort from whom data were obtained (i.e., different eligible professionals). More detailed information about the participation, performance rates, and limitations can be found in the *2009 Physician Quality Reporting System and eRx Reporting Experience and Trends* report available at

<https://www.cms.gov/PQRS/2009/itemdetail.asp?filterType=none&filterByDID=-99&sortByDID=1&sortOrder=ascending&itemID=CMS1246584&intNumPerPage=10>.

Most participating professionals did not report the same measures consistently across the years measured (2007 thru 2010), but 56,106 of the eligible professionals did report the same measures for the four years.

Tables 4-1 and 4-2 display the measures with the largest percentage point change, positive or negative direction, between 2007 and 2010 among eligible professionals who reported the same measures for four years. The data presented in this chapter were obtained from the draft *2010 Physician Quality Reporting System and eRx Reporting Experience and Trends* report.

Table 4-1: Measures with the Largest Percentage Point Increase in Performance Among Eligible Professionals Who Reported the Same Measure for Four Years (2007–2010)

NQF #	PQRS #	Measure	2007	2010	Percentage Point Change 2007 – 2010
0243	35	Stroke and Stroke Rehabilitation: Screening for Dysphagia	46.5%	87.3%	40.8%
0089	19	Diabetic Retinopathy: Communication with the Physician Managing Ongoing Diabetes Care	69.9%	93.9%	23.9%
0102	52	Chronic Obstructive Pulmonary Disease (COPD): Bronchodilator Therapy	78.4%	99.3%	20.8%
0378	68	Myelodysplastic Syndrome (MDS): Documentation of Iron Stores in Patients Receiving Erythropoietin Therapy	77.9%	98.4%	20.5%
0637	45	Perioperative Care: Discontinuation of Prophylactic Antibiotics (Cardiac Procedures)	81.6%	99.6%	18.0%

Table 4-2: Measures with the Largest Percentage Point Decrease in Performance Rate Among Eligible Professionals Who Reported the Same Measure for Four Years (2007–2010)

NQF #	PQRS #	Measure	2007	2010	Percentage Point Change 2007 – 2010
0048	40	Osteoporosis: Management Following Fracture of Hip, Spine, or Distal Radius for Men and Women Aged 50 Years and Older	80.1%	61.8%	-18.3%
0046	39	Screening or Therapy for Osteoporosis for Women Aged 65 Years and Older	91.0%	79.5%	-11.6%
0070	7	Coronary Artery Disease (CAD): Beta-Blocker Therapy for CAD Patients with Prior Myocardial Infarction (MI)	96.4%	85.6%	-10.8%
0059	1	Diabetes Mellitus: Hemoglobin A1c Poor Control in Diabetes Mellitus (<i>lower is better</i>)	11.2%	16.6%	-5.4%
0244	36	Stroke and Stroke Rehabilitation: Consideration of Rehabilitation Services	80.0%	76.6%	-3.4%

Although tables 4-1 and 4-2 contain information from the same reporting individuals each year, the other differences—such as reporting options—may have an effect on the rates. The reasons for the differences in performance rates increasing or declining are not known at this time but may warrant future analysis.

Tables 4-3 and 4-4 below display a subset of the measures that had the most eligible professionals submitting data. . The percentages presented for 2007 through 2010 indicate the total percent of all eligible professionals who could submit a given measure.

Table 4-3: Measures Applicable to a Wide Array of Professionals with the Largest Number of Reporting Professionals

NQF #	PQRS #	Measure	2007	2008	2009	2010	Eligible Professionals Who Participated (2010)	% of Eligible Professionals Who Participated (2010)
0059	1	Diabetes Mellitus: Hemoglobin A1c Poor Control in Diabetes Mellitus	11.47%	11.31%	12.26%	21.94%	32,925	10.1%
0064	2	Diabetes Mellitus: Low Density Lipoprotein (LDL-C) Control in Diabetes Mellitus	59.81%	66.39%	67.04%	56.98%	30,823	9.4%
0028	114	Preventive Care and Screening: Inquiry Regarding Tobacco Use	N/A	64.36%	76.18%	79.35%	32,024	4.8%
0488	124	Health Information Technology (HIT): Adoption/Use of Electronic Health Records (EHR)	N/A	100.00%	99.15%	99.16%	52,488	6.9%

Table 4-3 contains measures that are applicable to a wide array of professionals. Although these measures have a relatively large number of professionals reporting, these numbers represent approximately 10 percent or fewer of those who were eligible to submit these measures.

Table 4-4: Measures with the Largest Number of Reporting Professionals From Applicable Specific Specialties

NQF #	PQRS #	Measure	2007	2008	2009	2010	Eligible Professionals Who Participated (2010)	% of Eligible Professionals Who Participated (2010)
0269	30	Perioperative Care: Timely Administration of Prophylactic Parenteral Antibiotics (Anesthesiology)	93.36%	94.17%	91.37%	91.99%	35,542	43.8%
0090	54	12-Lead Electrocardiogram (ECG) Performed for Non-Traumatic Chest Pain (Emergency Medicine)	93.46%	94.10%	94.62%	95.10%	39,683	57.0%
0093	55	12-Lead Electrocardiogram (ECG) Performed for Syncope (Emergency Medicine)	94.25%	95.66%	96.10%	96.39%	33,553	62.0%

NQF #	PQRS #	Measure	2007	2008	2009	2010	Eligible Professionals Who Participated (2010)	% of Eligible Professionals Who Participated (2010)
0232	56	Community-Acquired Pneumonia (CAP): Vital Signs (Emergency Medicine)	95.06%	93.95%	93.99%	95.02%	34,802	17.1%
0094	57	Community-Acquired Pneumonia (CAP): Assessment of Oxygen Saturation (Emergency Medicine)	88.71%	91.66%	92.71%	94.04%	39,059	19.2%
0095	58	Community-Acquired Pneumonia (CAP): Assessment of Mental Status (Emergency Medicine)	93.84%	94.67%	95.42%	96.48%	35,112	17.3%

Table 4-4 displays other measures that have the largest number of reporting professionals applicable to certain specialties, such as anesthesiology and emergency medicine. Sixty-five percent of eligible emergency medicine professionals participated in PQRS in 2010, and forty-seven percent of eligible anesthesiology professionals participated in PQRS. PQRS Measure #30 (NQF #0269), *Perioperative Care: Timely Administration of Prophylactic Parenteral Antibiotics*, is applicable to anesthesiology. The remaining five measures in Table 4-4 pertain to emergency medicine professionals.

Among eligible professionals who are MDs/DOs, the top five measures reported were PQRS measure #124 (NQF #0488), *Adoption/Use of EHR*; PQRS Measure #1 (NQF #0059), *Diabetes Mellitus: Hemoglobin A1c Poor Control*; PQRS measure #57 (NQF #0094), *Assessment of Oxygen Saturation for Community-Acquired Bacterial Pneumonia*; PQRS Measure #54 (NQF #0090), *ECG Performed for Non-Traumatic Chest Pain*; and PQRS measure #2 (NQF #0064), *Diabetes Mellitus: Low Density Lipoprotein Control*. Of all PQRS-reported measures, the most commonly reported measure was PQRS measure #124 (NQF #0488), *Adoption/Use of EHR*.²

Limitations

In reporting PQRS measures, the eligible professionals report the extent to which recommended quality actions were performed, not performed, or did not apply (i.e., exclusions) for applicable instances. The information provided by the professional is used to

² Draft 2010 Report: *Physician Quality Reporting System and Electronic Prescribing (eRx) Incentive Program*, 10/31/2011. Not yet published.

calculate performance rates on measures. These results rely on accurate and honest reporting. Multiple factors should be considered when interpreting trends for the performance information. For example, there have been many changes within PQRS across the program years. The participation methods have been updated and refined, and there have also been changes in the reporting criteria. Data collection methods have changed with the introduction of registry, EHR, and GPRO. Individual measures were also added, removed, or augmented. In many cases, the eligible professionals who participated each year have also changed. Consequently, changes in performance rates could be genuine, could represent changes in how the information was obtained, or could represent changes in the cohort from which the data were obtained (i.e., different eligible professionals). As a result, it is difficult to ascertain as to what extent any observed changes in performance rates were real or artifacts of the aforementioned changes. Evaluation of the quality of care provided by eligible professionals would require further research due to the limitations described above. Since its inception in 2007, CMS has continuously updated the PQRS program in response to lessons learned. As PQRS has matured over time, the frequency of changes to the program has and will continue to decrease—leading to an increase in the reliability of data, generalizability of the data, and general utility of the information used for evaluating the quality of care.

The data presented within this chapter are considered descriptive and intended to provide a national context of the current performance for a subset of measures included in PQRS. The information presented shows the performance for these measures as reported by eligible professionals participating in the program.

Conclusions and Next Steps

Although PQRS incentive payments are currently based on the eligible professionals meeting the reporting criteria, an overarching goal of the program is to improve patient outcomes and the quality of care delivered. Over time, PQRS has grown and will continue to expand to promote participation and reporting success. For example, PQRS has more measures available for different types of eligible professionals to report and more mechanisms for reporting (e.g., EHRs and GPRO). In addition, ACA mandated a number of changes to the reporting program that will shape future experience. There will be a reduction in the incentives from a maximum of 2 percent of an eligible professional's total estimated allowed charges for 2009 and 2010 to 0.5 percent of an eligible professional's total estimated allowed charges for 2012, 2013, and 2014. Starting in 2015, CMS will begin to impose negative payment adjustments for eligible professionals who do not satisfy reporting requirements in PQRS data. Overall, PQRS has continuously expanded to ensure participation and reporting success to prepare eligible professionals for the eventual payment adjustments associated with this important program and the movement towards a VBP system.

CMS continues to make the PQRS measure list more robust each year. Currently, all of the NQS priority domains are represented in the measure set. Additional measures may be added to ensure that eligible professionals have meaningful measures to report and that important

topics and domains of care are addressed. Changes to the program are implemented using the Federal Rulemaking Process.

Future analyses may include measures not included in this chapter and may explore some of the limitations identified. Data collected from claims, registry, and EHRs were combined in this chapter. Data on Measure Groups and GPRO were not included in this chapter, as they did not meet the inclusion described above for this initial report. Future studies may include more in-depth statistical testing and analyses to evaluate the differences in performance rates between reporting options and data collection methods. These more thorough investigations and evaluations may also include analyses to detect potential disparities in care.

5. Nursing Homes

Introduction

Quality health care is a high priority for the Centers for Medicare & Medicaid Services (CMS). The Nursing Home Quality Initiative (NHQI) was announced in November 2001 to assure quality health care for all Americans through accountability and public disclosure. NHQI is intended to empower consumers with quality-of-care information to ensure a more informed decision about their care and to improve the quality of care delivered by providers and clinicians. The main focus of NHQI is to provide consumers and providers with information on Minimum Data Set- (MDS-) based quality measures for all Medicare- and Medicaid-certified nursing homes. The MDS contains items that measure clinical findings, physical functioning, and cognitive and psycho-social characteristics of the resident.

Two innovative consumer-oriented tools, accessible through www.Medicare.gov, were developed and implemented to empower the public and improve the quality of care in nursing homes:¹

- ◆ **Nursing Home Compare** is a Web-based interactive tool that allows consumers and their caregivers to access comparison information about nursing homes. It contains information on every Medicare- and Medicaid-certified nursing home in the country—including number of beds; type of ownership; quality characteristics including, but not limited to, the percentage of residents with pressure sores and the percentage of residents with urinary incontinence; state health inspection summary information; staffing information regarding the number of registered nurses, licensed practical or vocational nurses, and nursing assistants; and a composite *Five Star* quality rating system. To view a direct link to the Nursing Home Compare Web page, please visit <http://www.medicare.gov/NHCompare>.
- ◆ **Nursing Home Checklist** provides a detailed checklist for rating different nursing homes visited based upon quality of life, quality of care, nutrition and hydration, and safety. The checklist also elaborates on how to use the information from Nursing Home Compare when visiting a nursing home. To view the printable PDF copy of the *Nursing Home Checklist*, please visit <http://www.medicare.gov/nursing/checklist.pdf>.

Reporting and Data Collection History

The MDS 2.0 was developed in 1990 as part of the Nursing Home Reform Law of 1987 (OBRA '87). The MDS is federally mandated and is a standardized tool used to assess residents in Medicare- and Medicaid-certified nursing homes. The MDS is completed on all residents

¹ This information was obtained from <http://www.medicare.gov/nursing/overview.asp>, last accessed December 7, 2011.

admitted to a nursing home regardless of payer source. The nursing home electronically transmits MDS information to each respective state's MDS database. MDS assessments are required for each resident on admission to the nursing facility, and periodically thereafter, within specific guidelines and time frames. These periodic assessments provide a comprehensive assessment of each resident across a spectrum of clinical areas. The information from the assessments will assist nursing home staff to identify and improve or maintain the resident's highest practical well-being.

CMS adopted a set of nursing home quality measures in 2002 and launched NHQI to "provide consumers with an additional source of information about the quality of nursing home care by providing a set of MDS-based quality measures on Medicare's Nursing Home Compare Web site."²

The NHQI was initially launched as a demonstration pilot project in six states (Colorado, Florida, Maryland, Ohio, Rhode Island, and Washington). Quality information on all nursing homes in these states was published on Nursing Home Compare. As part of the initiative, Quality Improvement Organizations (QIOs) were given the responsibility to promote awareness and use of publicly reported nursing home quality measures to provide quality improvement assistance to nursing homes in their state to achieve better nursing home performance. Nursing home quality performance data were first posted on Nursing Home Compare in 2003.³ In 2004, the National Quality Forum (NQF) endorsed the initial core set of performance measures for chronic- and post-acute care nursing facilities used in Nursing Home Compare. In October 2006, the influenza and pneumococcal immunization measures for the chronic- and post-acute care populations were added to Nursing Home Compare.

CMS made improvements to the Nursing Home Compare Web site in order to make the site more useful to consumers. A *Five Star* quality rating for each nursing home was added to the site in 2008. Each nursing home receives an overall star rating ranging from one star, which represents much below average, to five stars, which represents much above average in comparison with other nursing home facilities. Nursing Home Compare also includes a *Five Star* rating for each of the three quality domains comprising *Health Inspection*; *10 Publically Reported Quality Measures*; and *Staffing Hours per Resident/Day*.⁴

² Huynh P, Osborn R. "Nursing Home Quality Initiatives." *Health Policy Monitor*, February 2004. Available at: <http://www.hpm.org/survey/us/c2/2>, last accessed December 9, 2011.

³ Kissam SD, Gifford P, Parks G, et al. 2003. "Approaches to quality improvement in nursing homes: Lessons learned from the six-state pilot of CMS' Nursing Home Quality Initiative." *BMC Geriatrics* 3(1):2. Available at <http://www.biomedcentral.com/1471-2318/3/2>. Last accessed December 8, 2011.

⁴ Centers for Medicare & Medicaid Services. http://www.cms.gov/CertificationandCompliance/13_FSQRS.asp. Last accessed 1/12/2012.

NQF-endorsed MDS 2.0-based measures are also included in the *MDS Quality Measures/Quality Indicators* (QM/QI) report, which is available for download through the Certification and Survey Provider Enhanced Report System (CASPER) Web site. The QM/QI report presents information on 34 measures/indicators of quality of care (including subcategories). The report provides summaries at the facility, state, and national level regarding the average percentage of nursing home residents who trigger one or more of the 34 quality measures/indicators.⁵ The QM/QI report summaries are not definitive measures of quality of care, but are useful "flags" indicating potential quality areas needing further review and monitoring. The data are used by state survey agencies at the nursing home level to target areas for investigation during the survey process. The QM/QI reports are also shared with the facilities; each facility receives its own QM/QI results, as well as a state and national average results. The report is a useful tool to target care areas for quality improvement for the facility and to compare its performance to state and federal results.

Provider and consumer concerns with regard to the performance of MDS 2.0 occurred due to changes in nursing home care, resident characteristics, and advances in resident assessment methods that triggered the need to update MDS 2.0. In response to these concerns, CMS developed and nationally tested MDS Version 3.0. Introduced in October 2010, MDS 3.0 improves the identification of resident needs, enhances resident-focused care planning, and facilitates communication among providers. A new set of MDS 3.0 quality measures were developed that were based on the MDS 2.0 quality measures. Seventeen MDS 3.0 quality measures were NQF-endorsed in March 2010, and they will be posted on Nursing Home Compare in 2012.⁶

Measures Included in this Chapter

All the MDS 2.0 quality measures meet the inclusion criteria described above. These consist of 14 NQF-endorsed chronic or long-stay measures, 5 NQF-endorsed post-acute or short-stay measures, and a nurse staffing measure. MDS measures address a broad range of physical, psychological, and psycho-social care areas.

- ◆ Chronic-care or long-stay residents typically enter a nursing home because they are no longer able to care for themselves at home. These residents tend to remain in the nursing home anywhere from several months to several years.
- ◆ Post-acute care or short-stay residents are those admitted to a nursing home with a typical stay of less than 30 days. These admissions typically follow an acute care hospitalization and involve high-intensity rehabilitation or clinically complex care.

⁵ This information was obtained from https://www.cms.gov/MDSPubQlandResRep/02_qmreport.asp, last accessed on December 8, 2011.

⁶ This information was obtained from https://www.cms.gov/NursingHomeQualityInits/10_NHQIQualityMeasures.asp#TopOfPage, last accessed 12/09/2011.

- ◆ In partnership with the Centers for Disease Control and Prevention (CDC), CMS included two NQF-endorsed influenza and pneumococcal vaccination measures derived from MDS 2.0 data. In 2006, these measures were used for national public reporting as part of NHQI. Vaccination rates for these two vaccination quality measures are reported separately for chronic care and post-acute care.
- ◆ Nursing home staffing measures are derived from Online Survey and Certification Reporting System (OSCAR). These data are reported by each nursing home to its state survey agency. CMS obtains nursing home staffing data from the states and publishes this information on Nursing Home Compare. The resident census is based on the count of total residents from CMS form CMS-672 (Resident Census and Conditions of Residents). This measure has four parts:⁷
 1. Registered Nurse (RN) hours per resident per day
 2. Licensed Practical Nurse/Licensed Vocational Nurse (LPN/LVN) hours per resident per day
 3. Certified Nursing Assistant (CNA) hours per resident per day
 4. Total number of nursing (RN and LPN/LVN combined) staff hours per resident per day

The nursing home staffing measure was endorsed by NQF as a single measure (NQF 0190), however, this chapter includes the results of the four component measures as they are publicly reported.

Reporting for each quarter is based upon the most recent six-months of data for post-acute care measures and the most recent quarter for the chronic care measures. The only exception to this is NQF #0432 *Influenza Vaccination* (chronic care and post-acute care). Data are aggregated annually for the most recent “flu season,” which is October 1 through March 31. The value reported on Nursing Home Compare is always the percentage for the most recently completed flu season.

Facility-level rates for five quality measures (mobility, catheter, long-stay pain, delirium, and post-acute pressure ulcer) displayed on Nursing Home Compare are risk-adjusted using resident-level covariates. Detailed information regarding the risk-adjustment methodology can be found in the *National Nursing Home Quality Measures User’s Manual* available at: <https://www.cms.gov/NursingHomeQuality/Initiatives/Downloads/NHQMUsersManual.pdf>.

The quality measures included in this chapter are listed in tables 5-1, 5-2, and 5-3 below. They are grouped by the categories used on Nursing Home Compare. The names used by Nursing

⁷ Data obtained from Design for Nursing Home Compare Five-Star Quality Rating System: Technical Users’ Guide. July 2010. <https://www.cms.gov/certificationandcompliance/downloads/usersguide.pdf> . Last accessed: December 7, 2011.

Home Compare and NQF are shown for each measure. These Table categories also illustrate the NQS priority applicable to each measure. The nursing home quality measures address three of the six NQS priority domains; however, most address *Effective Prevention and Treatment of Illness*. The measure descriptions are not included for the measures in tables 5-1 thru 5-3, as the descriptions are the same for NQF and Nursing Home Compare.

It should also be noted that most quality measures have multiple measure names. The measure names used in this chapter are based on the measure names located on the Nursing Home Compare Web site which is used for public reporting.

Table 5-1 Quality Measures for Long-Stay Residents (Chronic Care)

NQF#	Nursing Home Compare Measure Name	NQF Measure Name	National Quality Strategy Priority
0432	Percent of Long-Stay Residents Given Influenza Vaccination During the Flu Season	Influenza Vaccination of Nursing Home / Skilled Nursing Facility Residents	Best Practices for Healthy Living
0433	Percent of Long-Stay Residents Who Were Assessed and Given Pneumococcal Vaccination	Pneumococcal Vaccination of Nursing Home / Skilled Nursing Facility Residents	Best Practices for Healthy Living
0182	Percent of Long-Stay Residents Whose Need for Help with Daily Activities Has Increased	Residents Whose Need for More Help with Daily Activities Has Increased	Effective Prevention and Treatment of Illness
0192	Percent of Long-Stay Residents Who Have Moderate to Severe Pain	Residents Who Experience Moderate to Severe Pain During the 7-Day Assessment Period (risk-adjusted)	Effective Prevention and Treatment of Illness
0198	Percent of High-Risk Long-Stay Residents Who Have Pressure Sores	High-Risk Residents with Pressure Ulcers	Safety
0199	Percent of Low-Risk Long-Stay Residents Who Have Pressure Sores	Average-Risk Residents with Pressure Ulcers	Safety
0193	Percent of Long-Stay Residents Who Were Physically Restrained	Residents Who Were Physically Restrained Daily During the 7-Day Assessment Period	Safety
0197	Percent of Long-Stay Residents Who Are More Depressed or Anxious	Residents with Worsening of a Depressed or Anxious Mood.	Effective Prevention and Treatment of Illness

NQF#	Nursing Home Compare Measure Name	NQF Measure Name	National Quality Strategy Priority
0183	Percent of Low-Risk Long-Stay Residents Who Lose Control of Their Bowel or Bladder	Low-Risk Residents Who Frequently Lose Control of Their Bowel or Bladder	Effective Prevention and Treatment of Illness
0184	Percent of Long-Stay Residents Who Have/Had a Catheter Inserted and Left in Their Bladder	Residents Who Have a Catheter in the Bladder at Any Time During the 14-Day Assessment Period (risk adjusted)	Effective Prevention and Treatment of Illness
0194	Percent of Long-Stay Residents Who Spent Most of Their Time in Bed or in a Chair	Residents Who Spent Most of Their Time in Bed or in a Chair in Their Room During the 7-Day Assessment Period	Effective Prevention and Treatment of Illness
0195	Percent of Long-Stay Residents Whose Ability to Move About In and Around Their Room Got Worse	Residents with a Decline in Their Ability to Move About in Their Room and the Adjacent Corridor	Effective Prevention and Treatment of Illness
0196	Percent of Long-Stay Residents Who Had a Urinary Tract Infection	Residents with a Urinary Tract Infection	Safety
0191	Percent of Long-Stay Residents Who Lose Too Much Weight	Residents Who Lose Too Much Weight	Effective Prevention and Treatment of Illness

Table 5-2 Quality Measures for Short Stay Residents (Post-Acute Care)

NQF#	Nursing Home Compare Measure Name	NQF Measure Name	National Quality Strategy Priority
0432	Percent of Short-Stay Residents Given Influenza Vaccination During the Flu Season	Influenza Vaccination of Nursing Home / Skilled Nursing Facility Residents	Best Practices for Healthy Living
0433	Percent of Short-Stay Residents Who Were Assessed and Given Pneumococcal Vaccination	Pneumococcal Vaccination of Nursing Home/ Skilled Nursing Facility Residents	Best Practices for Healthy Living
0185	Percent of Short-Stay Residents Who Have Delirium	Recently Hospitalized Residents with Symptoms of Delirium (risk-adjusted)	Effective Prevention and Treatment of Illness
0186	Percent of Short-Stay Residents Who Had Moderate to Severe Pain	Recently Hospitalized Residents Who Experienced Moderate to Severe Pain at Any Time During the 7-Day Assessment Period	Effective Prevention and Treatment of Illness
0187	Percent of Short-Stay Residents Who Have Pressure Sores	Recently Hospitalized Residents with Pressure Ulcers (risk adjusted)	Safety

Table 5-3 Nursing Home Staffing Measures

NQF#	Nursing Home Compare Measure Name	NQF Measure Name	National Quality Strategy Priority
0190	<p>Nursing Home Staffing</p> <ul style="list-style-type: none"> • Total Number of Licensed Nurse Staff Hours per Resident per Day • RN Hours per Resident per Day • LPN/LVN Hours per Resident per Day • CNA Hours per Resident per Day 	Nurse Staffing Hours—4 parts	Safety

Methods

Data for this chapter were obtained from the CMS Survey and Certification Group. The following data were selected for this report:

- ◆ All MDS 2.0 records from Quarter 1 (Q1) 2006 through Quarter 3 (Q3) 2010
- ◆ OSCAR staffing records reported on Nursing Home Compare by nursing home facilities from 2006 through 2010

The quality measures contained in this report were calculated by selecting two samples of MDS 2.0 assessments: chronic care and post-acute care. The chronic care quality measures were calculated on any resident with a full or quarterly MDS in the target quarter. The post-acute quality measures were calculated on any resident with a 14-day Prospective Payment System (PPS) MDS assessment.

MDS 2.0 information was transmitted electronically by nursing homes to the MDS database in each respective state. MDS information from the state databases is captured into the national MDS database at CMS.

Based on MDS 2.0 data from Q1 2006 to Q3 2010 and Nursing Home Compare data on nurse staffing hours from Contract Year (CY) 2006 to CY 2010, the national observed rates for 20 nursing home quality measures are presented in this trend analysis.

National rates for all quality measures were calculated by dividing the total number of resident assessments that met the numerator criteria by the total number of residents meeting the denominator criteria. Facility-level rates for five quality measures (mobility, catheter, long-stay pain, delirium, and post-acute pressure ulcer) displayed on Nursing Home Compare are risk-adjusted using resident-level covariates. The rates in this chapter for these measures were calculated by aggregating raw facility-level data to generate national performance rates. As

such, the data presented are not risk-adjusted. All listed changes in rates or values are computed using the rounded values displayed under the figures.

Staffing hours per resident per day (average number of staff hours worked divided by the total number of residents) were calculated by averaging the rates for each nursing home.

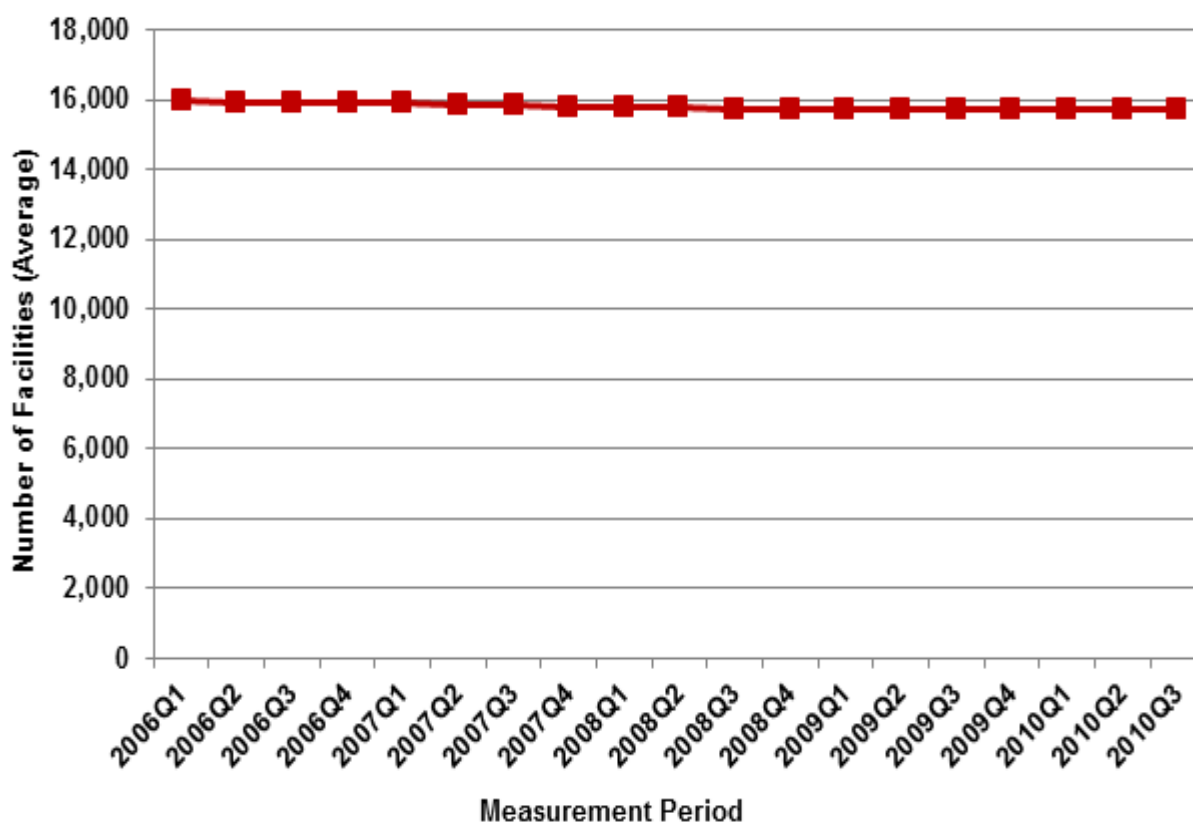
Results

Please refer to Appendix A: Measure Highlights for the summarized results to all of the measures presented in this chapter.

Number of Reporting Facilities

Figure 5-1: Average Number of Reporting Facilities, Q1 CY 2006 – Q3 CY 2010

Data Source: CMS Survey and Certification Group



	2006Q1	2006Q2	2006Q3	2006Q4	2007Q1	2007Q2	2007Q3	2007Q4	2008Q1	2008Q2
Facilities	15,938	15,923	15,904	15,890	15,880	15,857	15,837	15,796	15,781	15,763

	2008Q3	2008Q4	2009Q1	2009Q2	2009Q3	2009Q4	2010Q1	2010Q2	2010Q3
Facilities	15,726	15,724	15,713	15,703	15,708	15,704	15,694	15,687	15,697

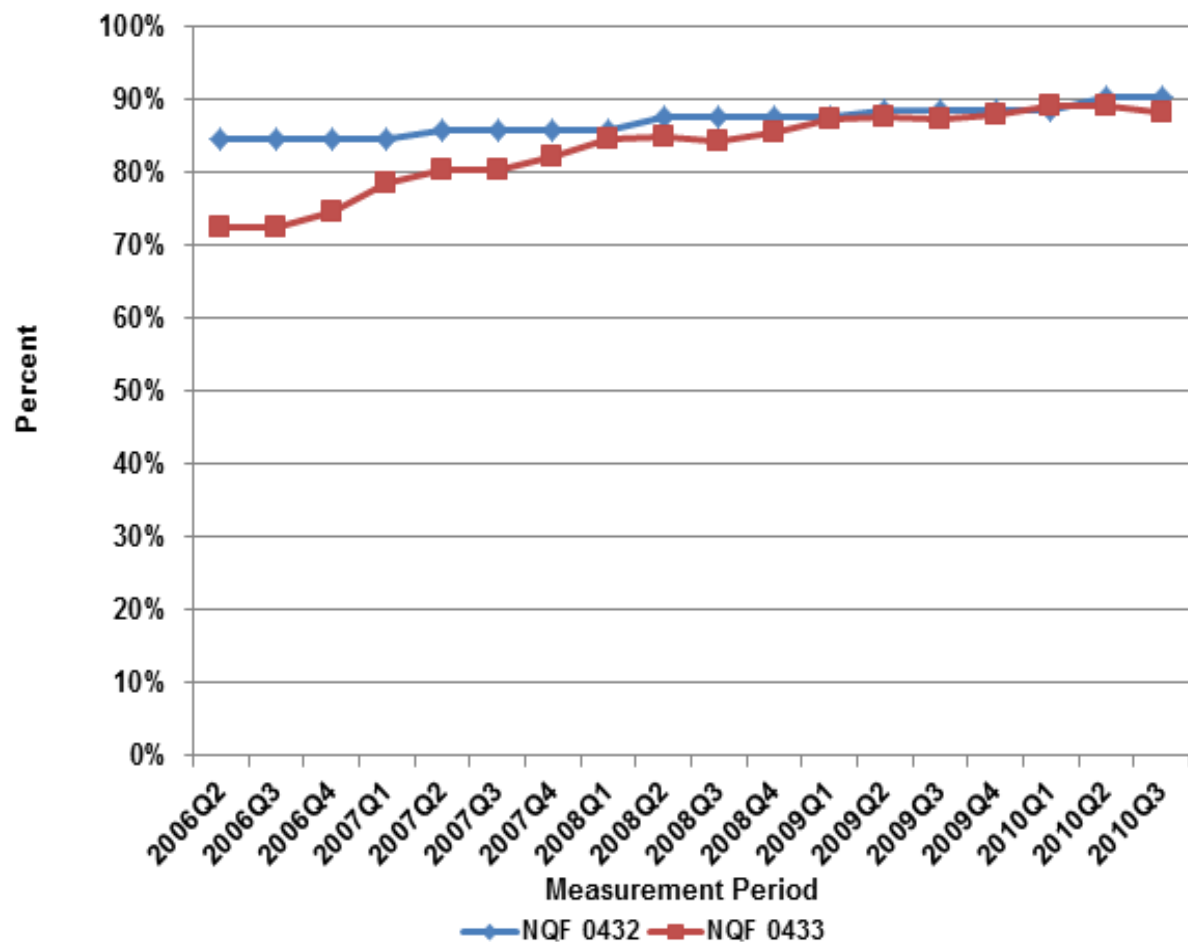
Figure 5-1 shows that the average number of reporting facilities declined by 241 facilities between Q1 CY 2006 and Q3 CY 2010. This reduction in the average number of facilities represents a 1.5 percent decrease since the beginning of the measurement period. The noted decrease may be due, in part, to a general decline in hospital-based facilities and the increasing availability of alternative care settings (e.g., assisted living facilities, home- and community-based waiver programs, etc.).

Performance Rates

Chronic Care Residents

Chronic care residents typically enter a nursing home because they are no longer able to care for themselves at home. These residents tend to remain in the nursing home anywhere from several months to several years. The following five figures (5-2 through 5-6) display the national rates for the 14 quality measures associated with this population.

Figure 5-2: Vaccination Rates for Chronic-Care Residents



Measure	2006 Q2	2006 Q3	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2
NQF 0432—Influenza	84.5%	84.5%	84.5%	84.5%	86.0%	86.0%	85.9%	85.9%	87.6%
NQF 0433—Pneumococcal	72.7%	72.6%	74.6%	78.7%	80.3%	80.5%	82.3%	84.6%	85.0%

Measure	2008 Q3	2008 Q4	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3
NQF 0432—Influenza	87.6%	87.6%	87.6%	88.7%	88.7%	88.7%	88.7%	90.4%	90.4%
NQF 0433—Pneumococcal	84.5%	85.5%	87.4%	87.8%	87.3%	88.1%	89.2%	89.1%	88.2%

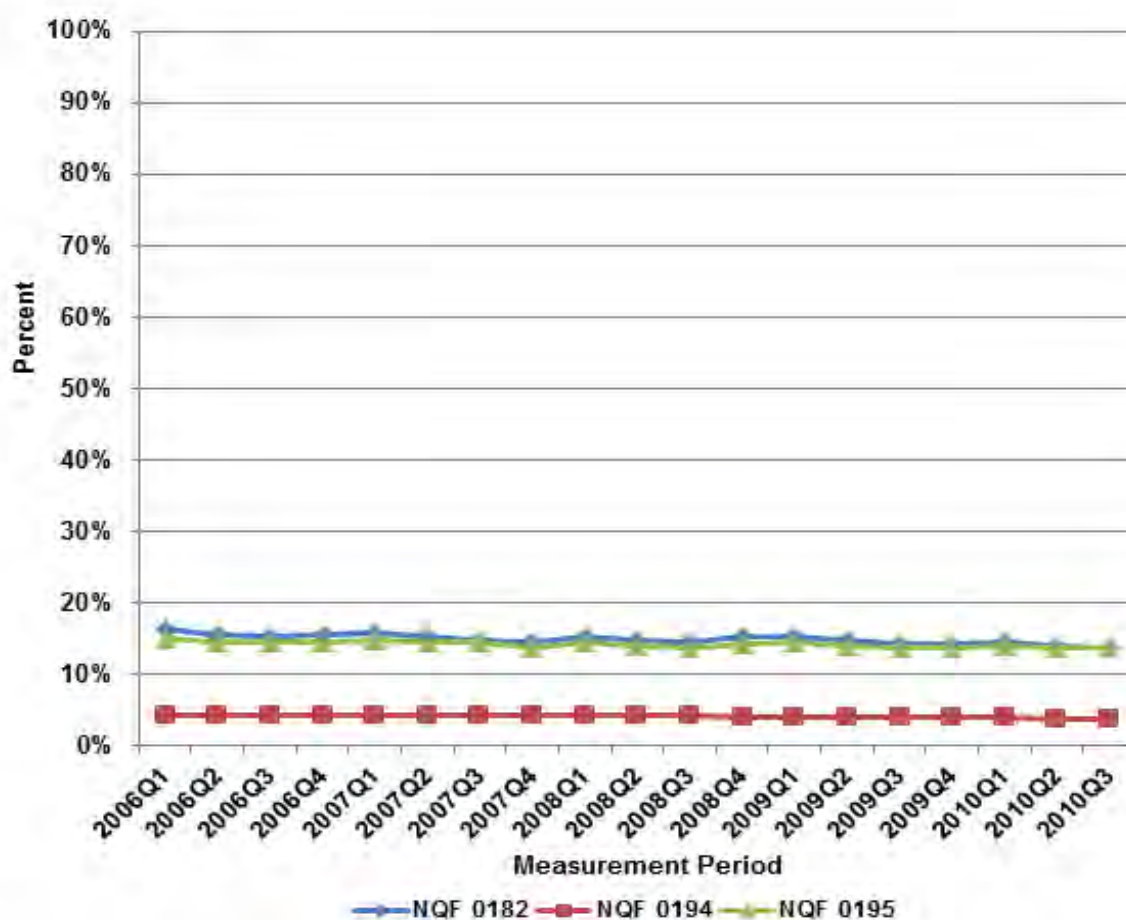
Data Source: CMS Survey and Certification Group

Note: NQF 0432—Influenza Vaccination of Nursing Home/ Skilled Nursing Facility Residents (Influenza)
NQF 0433—Pneumococcal Vaccination of Nursing Home/Skilled Nursing Facility Residents (Pneumococcal)

Figure 5-2 shows that the national rates for both influenza and pneumococcal vaccinations have increased steadily over time. At the end of the third quarter of 2010, nursing homes were

showing approximately 90 percent vaccination rates for both quality measures. Over the four and a half years of reported information, the rate of influenza vaccination for chronic care nursing home residents increased 5.9 percentage points, from 84.5 percent to 90.4 percent. During this same time period, the national rate of pneumococcal vaccination for the same population increased 15.5 percentage points, from 72.7 percent to 88.2 percent. The increases observed on the pneumococcal vaccination rate were dramatically larger compared with the influenza vaccination rate. Due to flu seasonality, a comparison of increases is best evaluated looking at similar quarters for different years.

Figure 5-3: Needs Increased Help with Daily Activities, Spending Most of the Time in Bed or Chair, and Decline in Ability to Move About for Chronic-Care Residents



Measure	2006 Q1	2006 Q2	2006 Q3	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2
NQF 0182 - Activities	16.4%	15.5%	15.5%	15.6%	15.9%	15.3%	14.9%	14.5%	15.4%	14.7%
NQF 0194 - Bedfast	4.3%	4.3%	4.3%	4.3%	4.4%	4.3%	4.2%	4.2%	4.3%	4.2%
NQF 0195 - Mobility	15.1%	14.5%	14.4%	14.6%	14.9%	14.5%	14.4%	13.8%	14.6%	14.1%

Measure	2008 Q3	2008 Q4	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3
NQF 0182 - Activities	14.5%	15.4%	15.3%	14.7%	14.2%	14.2%	14.6%	14.1%	13.9%
NQF 0194 - Bedfast	4.2%	4.2%	4.1%	4.0%	4.0%	4.0%	4.0%	3.9%	3.9%
NQF 0195 - Mobility	13.9%	14.3%	14.6%	14.1%	13.8%	13.8%	14.0%	13.8%	13.7%

Data Source: CMS Survey and Certification Group

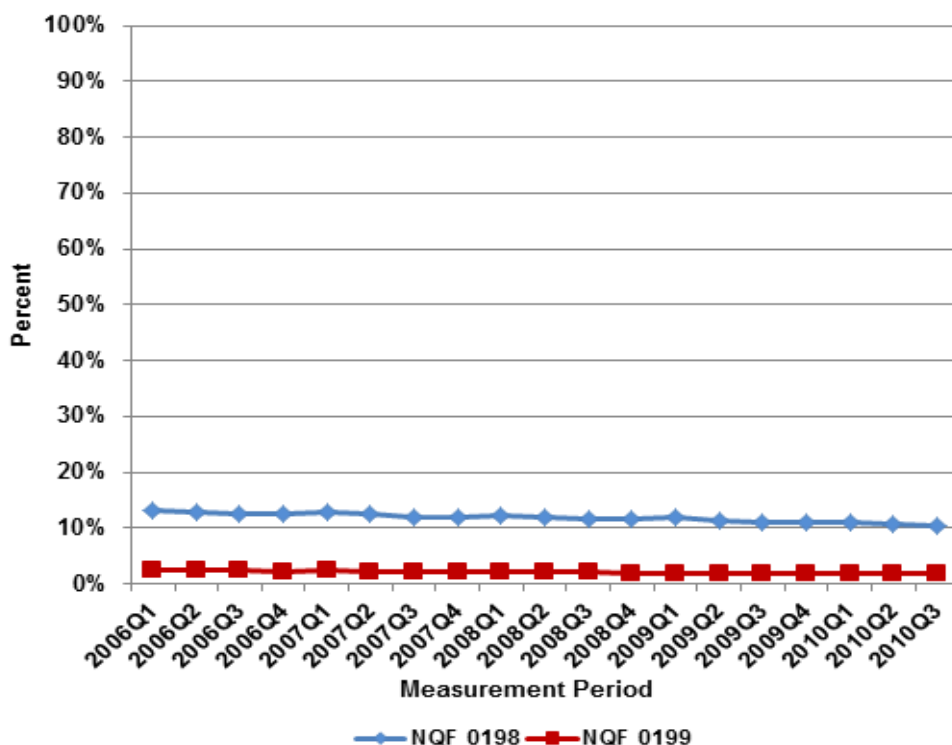
Note: NQF 0182—Residents Whose Need for Help with Daily Activities Has Increased (Activities)

NQF 0194—Residents Who Spent Most of Their Time in Bed or in a Chair In Their Room (Bedfast)

NQF 0195—Residents Whose Ability to Move About Their Room got Worse (Mobility)

With decreasing rates representing improvement for these three functional quality measures, Figure 5-3 shows a slight positive trend for all three quality measures from Q1 2006 through Q3 2010. When comparing Q1 2006 to Q3 2010, one observes a 2.5 percentage point decrease in *Residents Whose Need for More Help with Daily Activities Has Increased* (16.4 percent and 13.9 percent, respectively). This was the largest percentage point decrease across these three functional-status quality measures. The percentage of *Residents Spending Most of Their Time in a Bed or Chair in Their Room* decreased to 3.9 percent (decrease of 0.4 percentage points) for the same period. For *Residents with a Decline in Their Ability to Move About Their Room and the Adjacent Corridor*, there was a decrease of 1.4 percentage points (15.1 percent and 13.7 percent, respectively) for the same period.

Figure 5-4: Residents with Pressure Sores—Chronic-Care Residents (High- and Low-Risk)



Measure	2006 Q1	2006 Q2	2006 Q3	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2
NQF 0198—High-Risk	13.1%	12.8%	12.5%	12.5%	12.8%	12.4%	11.9%	11.9%	12.4%	12.1%
NQF 0199—Low-Risk	2.4%	2.4%	2.3%	2.2%	2.3%	2.3%	2.1%	2.1%	2.1%	2.1%

Measure	2008 Q3	2008 Q4	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3
NQF 0198—High-Risk	11.6%	11.5%	11.8%	11.4%	10.9%	10.9%	11.1%	10.8%	10.3%
NQF 0199—Low-Risk	2.0%	2.0%	1.9%	1.9%	1.8%	1.8%	1.8%	1.8%	1.8%

Data Source: CMS Survey and Certification Group

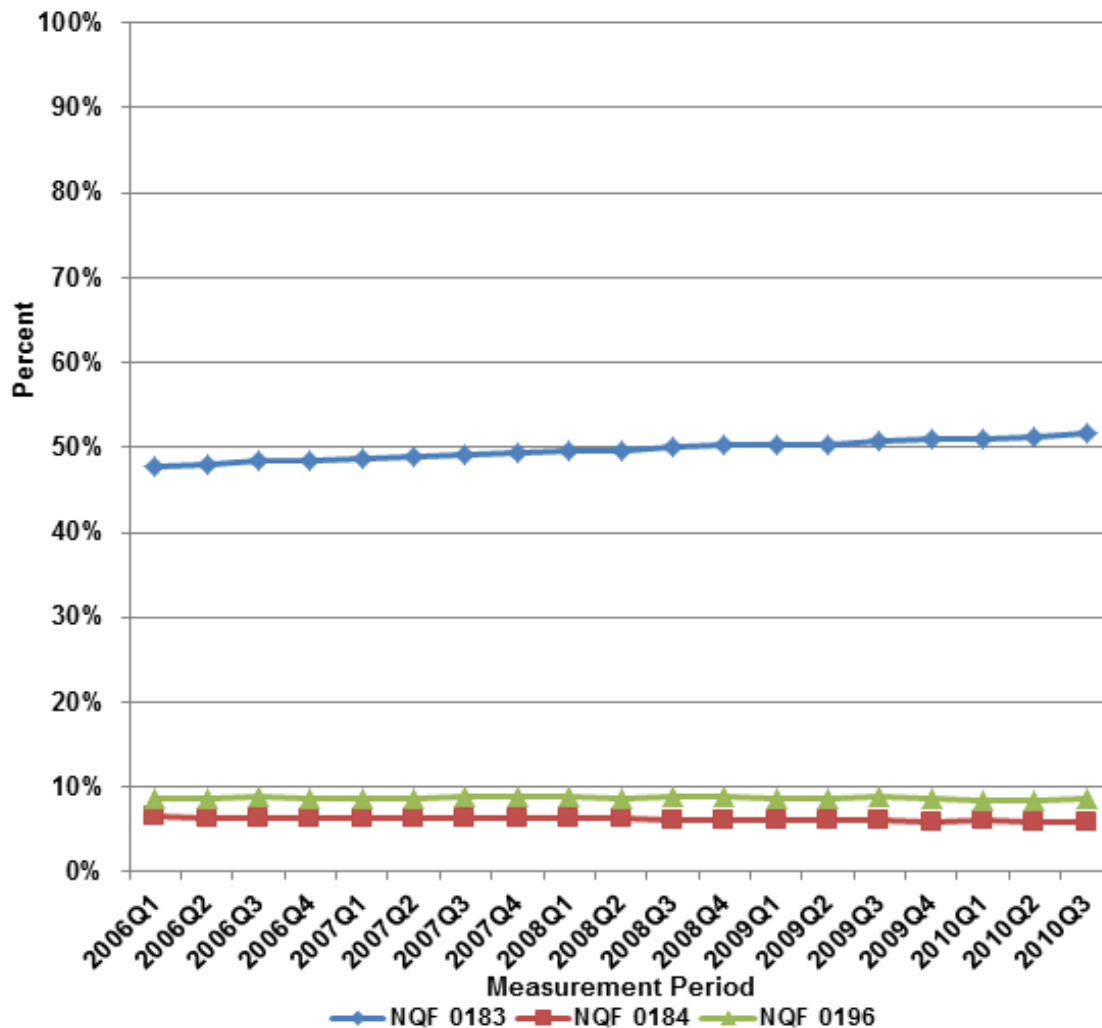
Note: NQF 0198—High-Risk Residents Who Have Pressure Sores (High-Risk)

NQF 0199—Low-Risk Residents Who Have Pressure Sores (Low-Risk)

Figure 5-4 illustrates a decline in the percentage of both high- and low-risk residents with pressure ulcers. These declines represent a positive trend. The observed trends support the expectation that low-risk residents would have a much lower prevalence of pressure ulcers, and so the amount of improvement possible would be much lower. The percentage of *High-Risk Residents with Pressure Sores* decreased 2.8 percentage points from Quarter 1 2006 to Quarter

3 2010. For *Low-Risk Residents Who Have Pressure Sores*, the rates decreased 0.6 percentage points for this same time period ending at 1.8 percent in Quarter 3 2010.

Figure 5-5: Bowel and Bladder Management Among Chronic-Care Residents



Measure	2006 Q1	2006 Q2	2006 Q3	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2
NQF 0183—Incontinence	47.8%	47.9%	48.4%	48.6%	48.7%	48.8%	49.3%	49.4%	49.6%	49.7%
NQF 0184—Catheter	6.5%	6.4%	6.3%	6.3%	6.4%	6.4%	6.3%	6.2%	6.4%	6.3%
NQF 0196—UTI	8.5%	8.6%	8.8%	8.7%	8.6%	8.7%	8.9%	8.8%	8.8%	8.7%

Measure	2008 Q3	2008 Q4	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3
NQF 0183—Incontinence	50.1%	50.2%	50.3%	50.4%	50.7%	50.9%	51.0%	51.2%	51.7%
NQF 0184—Catheter	6.2%	6.1%	6.2%	6.1%	6.0%	6.0%	6.0%	5.9%	5.9%
NQF 0196—UTI	8.9%	8.9%	8.7%	8.8%	8.8%	8.6%	8.5%	8.5%	8.6%

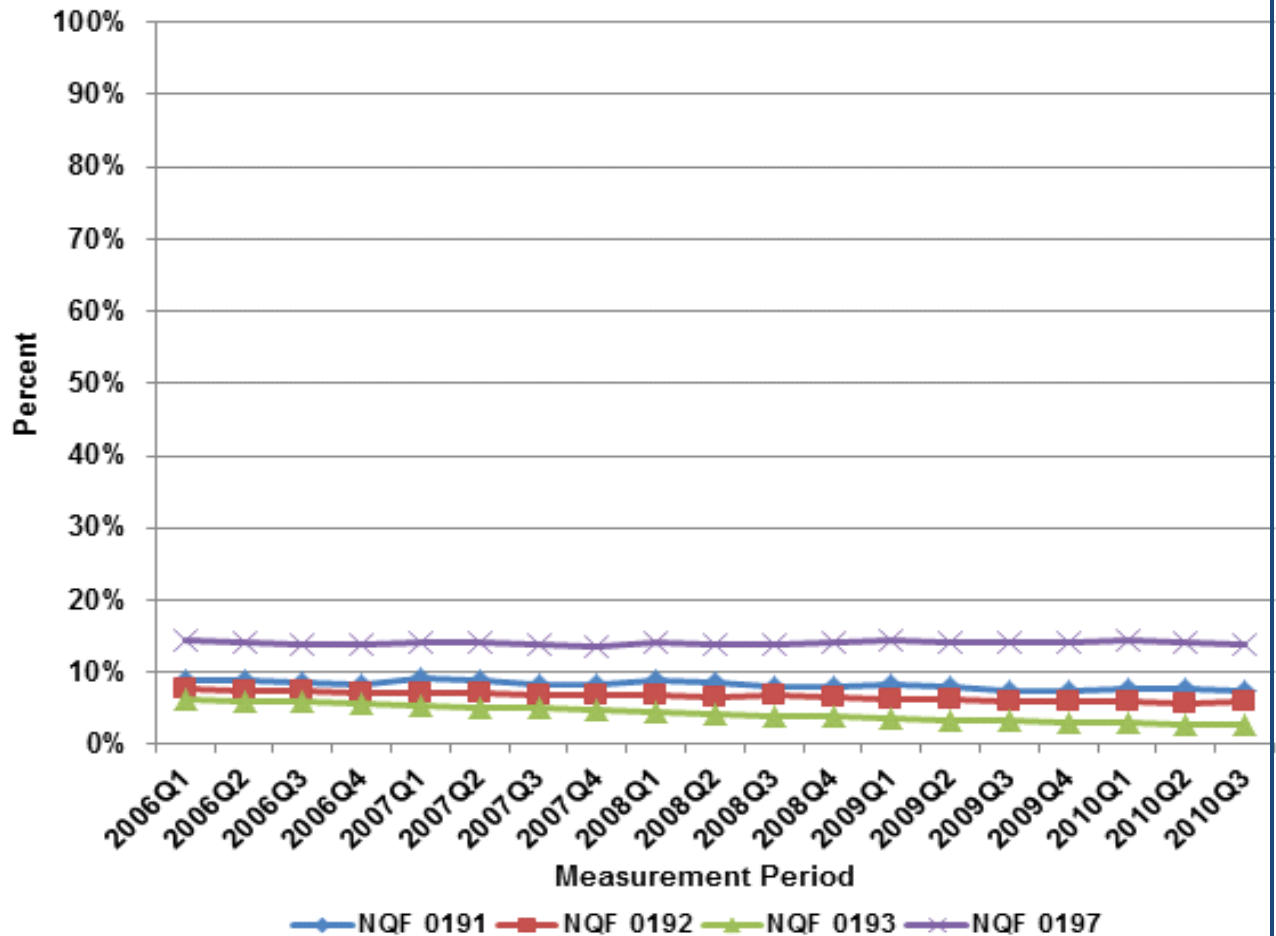
Data Source: CMS Survey and Certification Group

Note: NQF 0183—Low-Risk Residents Who Frequently Lose Control of Their Bowel or Bladder (Incontinence)

NQF 0184—Residents Who Have/Had a Catheter inserted and left in their Bladder (Catheter)
NQF 0196—Residents Who had a Urinary Tract Infection (UTI)

Figure 5-5 displays the national rates for three continence-related quality measures. From Q1 2006 to Q3 2010, there was a steady increase in the national rate for *Low-Risk Residents Who Frequently Lose Control of Their Bowel or Bladder*. Between Q1 2006 and Q3 2010, this rate increased 3.9 percentage points. For *Residents Who Have/Had a Catheter Inserted and Left in Their Bladder*, the rates showed minimal quarter-to-quarter variability of no more than 0.2 percentage points. However, the measure exhibited a decline from 6.5 percent in Q1 2006 to 5.9 percent in Q3 2010. Similar quarter-to-quarter variability was also noted for the measure *Residents With a Urinary Tract Infection*. This measure exhibited fluctuations in rate no more than 0.2 percentage points, while the rate showed an overall increase of 0.1 percentage points from 8.5 percent in Q1 2006 to 8.6 percent in Q3 2010. Trend lines associated with loss of bowel or bladder control (i.e., increase) and bladder catheters (i.e., decrease) trend in different directions. These findings suggest a potential relationship between these two incontinence quality measures that may warrant a more in-depth analysis in the future.

Figure 5-6: Pain, Depression, Restraints, and Weight Loss - Chronic Care Residents



Measure	2006 Q1	2006 Q2	2006 Q3	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2
NQF 0191—Weight Loss	9.0%	8.8%	8.5%	8.4%	9.1%	8.8%	8.4%	8.2%	9.0%	8.7%
NQF 0192—Pain	7.7%	7.5%	7.6%	7.3%	7.1%	7.0%	7.0%	6.8%	6.8%	6.7%
NQF 0193—Restraints	6.2%	6.1%	6.0%	5.8%	5.5%	5.2%	5.0%	4.8%	4.5%	4.2%
NQF 0197—Depressed	14.5%	14.0%	14.0%	13.9%	14.2%	14.1%	14.0%	13.5%	14.0%	13.9%

Measure	2008 Q3	2008 Q4	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3
NQF 0191—Weight Loss	8.0%	7.9%	8.4%	7.9%	7.5%	7.5%	7.8%	7.7%	7.4%
NQF 0192—Pain	6.7%	6.6%	6.3%	6.2%	6.1%	5.9%	5.9%	5.8%	5.9%
NQF 0193—Restraints	4.0%	3.9%	3.6%	3.4%	3.3%	3.1%	2.9%	2.8%	2.7%
NQF 0197—Depressed	13.9%	14.1%	14.5%	14.3%	14.1%	14.0%	14.4%	14.3%	13.9%

Data Source: CMS Survey and Certification Group

Note: NQF 0191—Residents Who Lose Too Much Weight (Weight Loss)
NQF 0192—Residents Who Have Moderate to Severe Pain (Pain)
NQF 0193—Residents Who Were Physically Restrained (Restraints)
NQF 0197—Residents Who Are More Depressed or Anxious (Depressed)

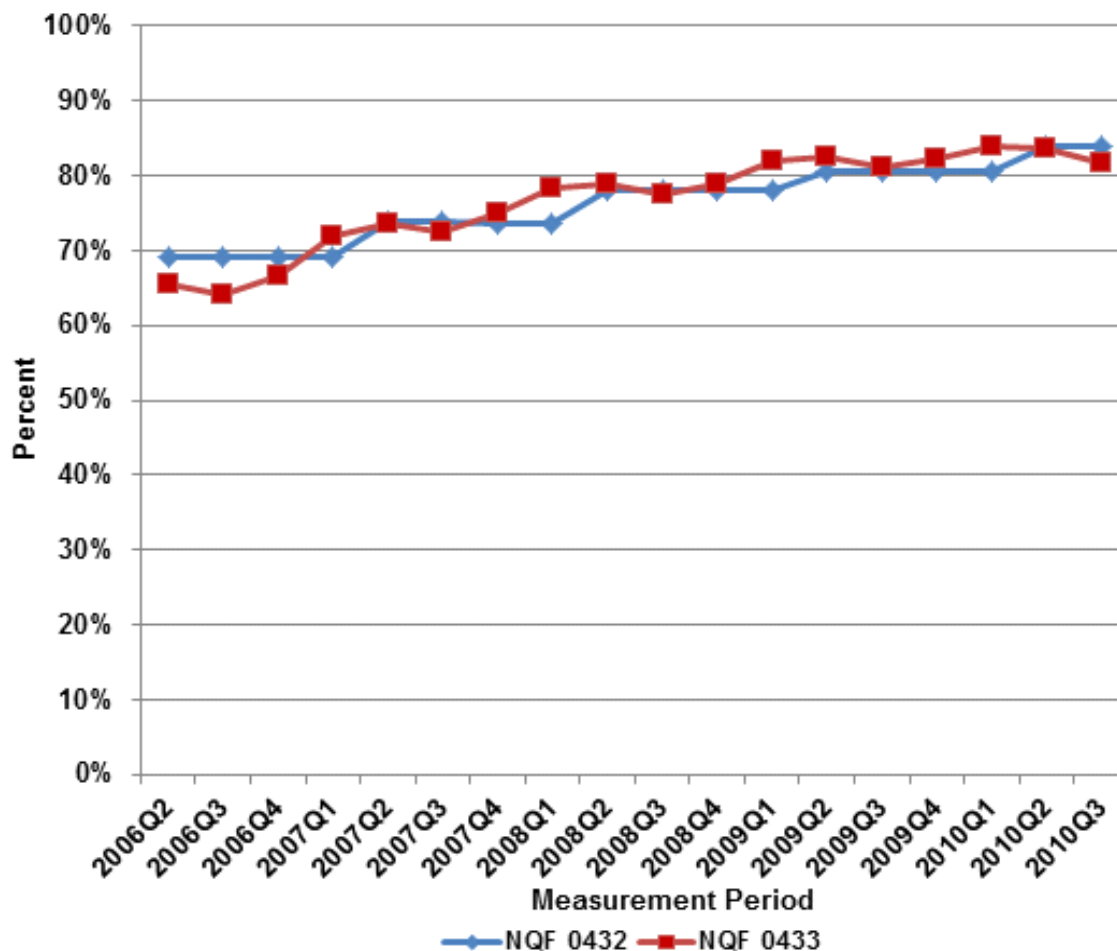
Similar to many of the other nursing home measures, the rates for all four of the measures presented in Figure 5-6 are indicative of better care when the rates are lower. Between Q1 2006 and Q3 2010, all these measures demonstrated a decrease (positive trend) in the national rates. The percentage of *Residents Who Lose Too Much Weight*, decreased by 1.6 percentage points from 9 percent in Q1 2006 to 7.4 percent in Q3 2010. The percentage of *Residents Who Experienced Moderate to Severe Pain* decreased by 1.8 percentage points from 7.7 percent in Q1 2006 to 5.9 percent in Q3 2010. The percentage of *Residents Who Were Physically Restrained* decreased by 3.5 percentage points from 6.2 percent in Q1 2006 to 2.7 percent in Q3 2010. Lastly, the percentage of *Residents with Worsening Depression or Anxious Moods* decreased by 0.6 percentage points from 14.5 percent in Q1 2006 to 13.9 percent in Q3 2010.

From quarter to quarter, the rates for all these measures do not fluctuate beyond one percentage point. For *Residents Losing Too Much Weight*, the variability was 0.8 percentage points, followed by *Residents With Worsening Depression or Anxious Mood* at 0.5 percent. The smallest rate fluctuation of 0.3 percent was found in both the physical restraint and pain measures. In terms of relative change in the rates, the *Residents Who Were Physically Restrained* measure shows the largest decrease in the rate that is desirable and may suggest improvement in the performance of this measure.

Post-Acute Residents

Post-acute care residents are those who are admitted to a nursing home and typically stay less than 30 days. These admissions typically follow an acute care hospitalization and involve high-intensity rehabilitation or clinically complex care. Figures 5-7 and 5-8 display performance for the five quality measures for this population.

Figure 5-7: Vaccination Rates for Post-Acute Care Residents



Measure	2006 Q2	2006 Q3	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2
NQF 0432—Influenza	69.2%	69.2%	69.2%	69.1%	73.8%	73.8%	73.7%	73.7%	78.1%
NQF 0433—Pneumococcal	65.4%	64.0%	66.7%	71.9%	73.6%	72.6%	74.9%	78.3%	78.8%

Measure	2008 Q3	2008 Q4	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3
NQF 0432—Influenza	78.1%	78.0%	78.0%	80.5%	80.5%	80.5%	80.5%	84.0%	84.0%
NQF 0433—Pneumococcal	77.4%	78.9%	82.0%	82.6%	81.3%	82.3%	84.0%	83.7%	81.7%

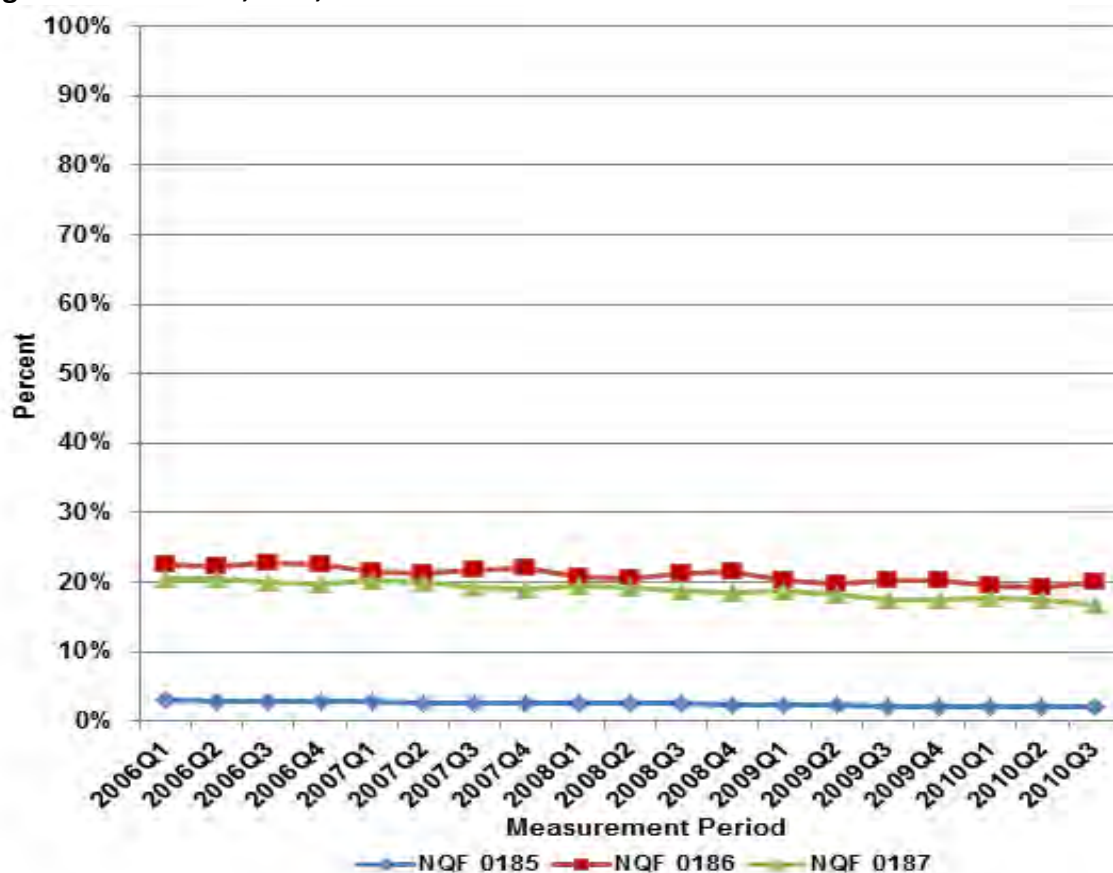
Data Source: CMS Survey and Certification Group

Note: NQF 0432—Influenza Vaccination of Nursing Home/ Skilled Nursing Facility Residents (Influenza)

NQF 0433—Pneumococcal Vaccination of Nursing Home/Skilled Nursing Facility Residents (Pneumococcal)

For vaccinations, higher rates reflect better performance. Between Q2 2006 and Q3 2010, the national rate associated with influenza vaccination and pneumococcal vaccination for post-acute residents increased 14.8 percentage points and 16.3 percentage points, respectively. In Q3 2010, four out of five acute care residents had received influenza and pneumococcal vaccine.

Figure 5-8: Delirium, Pain, and Pressure Ulcers—Post-Acute Care Residents



Measure	2006 Q1	2006 Q2	2006 Q3	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2
NQF 0185—Delirium	3.0%	3.0%	2.9%	2.8%	2.8%	2.7%	2.6%	2.6%	2.6%	2.5%
NQF 0186—Severe Pain	22.6%	22.2%	22.7%	22.6%	21.6%	21.4%	21.8%	21.9%	20.8%	20.5%
NQF 0187—Pressure Ulcer	20.5%	20.4%	19.9%	19.9%	20.2%	20.0%	19.3%	19.1%	19.5%	19.4%

Measure	2008 Q3	2008 Q4	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3
NQF 0185—Delirium	2.5%	2.5%	2.4%	2.3%	2.2%	2.2%	2.1%	2.1%	2.1%
NQF 0186—Severe Pain	21.4%	21.6%	20.4%	19.9%	20.3%	20.4%	19.6%	19.3%	19.9%
NQF 0187—Pressure Ulcer	18.7%	18.4%	18.7%	18.4%	17.6%	17.4%	17.6%	17.4%	16.8%

Data Source: CMS Survey and Certification Group

Note: NQF 0185—Recently Hospitalized Residents With Symptoms Of Delirium

NQF 0186—Recently Hospitalized Residents Who Experienced Moderate to Severe Pain at Any time
During The 7-Day Assessment Period
NQF 0187—Recently Hospitalized Residents With Pressure Ulcers

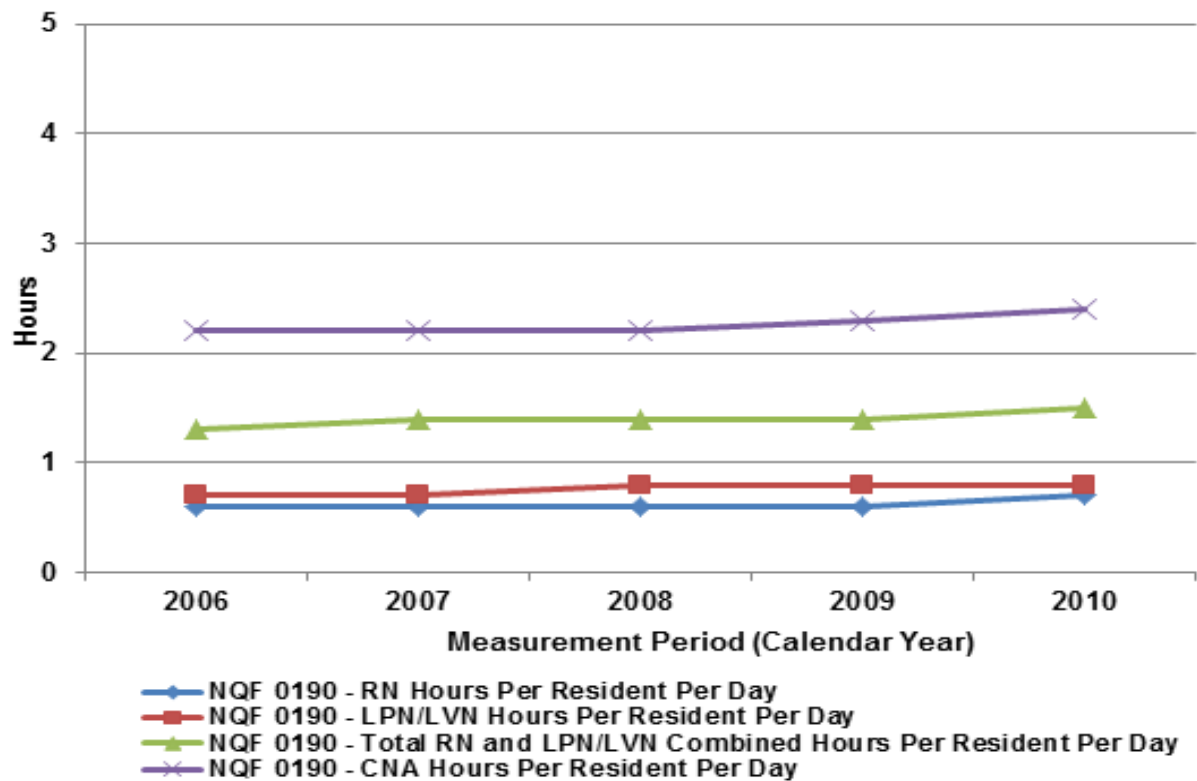
Figure 5-8 displays national rates for post-acute residents with delirium, pain, or pressure ulcers. These three measures represent some of the negative outcomes among patients who are admitted to a nursing home following an acute care hospitalization and typically stay less than 30 days. For all of these measures, lower rates represent better performance.

In general, Figure 5-8 shows a decline in the rates of post-acute residents who had delirium, pain, or pressure ulcers. The Q3 2010 rate of 2.1 percent for *Residents with Symptoms of Delirium* was 0.9 percentage points lower than the Q1 2006 rate of 3.0 percent. For *Residents Who Experienced Moderate to Severe Pain*, the Q3 2010 rate of 19.9 percent was 2.7 percentage points lower than the Q1 2006 rate of 22.6 percent. Similarly, the percentage of *Post-Acute Residents with Pressure Ulcers* declined from 20.5 percent in Q1 2006 to 16.8 percent in Q3 2010, representing a decline of 3.7 percentage points. Quarter-to-quarter variability was greatest for the *Residents Experiencing Moderate to Severe Pain* measure, for which the greatest change in rate was 1.2 percentage points. The smallest change in variability quarter-to-quarter was for the *Residents with Symptoms of Delirium* measure, which was 0.2 percentage points.

Nursing Home Staffing

Figure 5-9 displays the national rates for the four parts of the nursing home staffing measure reported on Nursing Home Compare.

Figure 5-9: Nursing Home Staffing



Measure	2006	2007	2008	2009	2010
NQF 0190—RN Hours Per Resident Per Day Rate	0.6	0.6	0.6	0.6	0.7
NQF 0190—LPN/LVN Hours Per Resident Per Day Rate	0.7	0.7	0.8	0.8	0.8
NQF 0190—Total RN and LPN/LVN Combined Hours Per Resident Per Day Rate	1.3	1.4	1.4	1.4	1.5
NQF 0190—CNA Hours Per Resident Per Day Rate	2.2	2.2	2.2	2.3	2.4

Data Source: CMS Survey and Certification Group

These four nursing home staffing measures were derived using data from OSCAR. Figure 5-9 shows *RN and LPN/LVN Time per Resident per Day* each increased by six minutes between 2006 and 2010, totaling 12 minutes per resident per day for both categories combined. During that same time period, the amount of time spent by CNAs increased by 12 minutes per resident per day for the single category. Further, the *CNA Hours Spent per Resident per Day* in 2010 was 1.6 times *Total RN and LPN/LVN Combined Hours per Resident per Day* (i.e., 2.4 hours versus 1.5 hours, of which 0.7 was RN hours and 0.8 was LPN/LVN hours). In 2010, the data suggests that not only was more CNA direct care time delivered to residents, but RN and LPNs/LVNs direct care time per resident per day also increased.

Limitations

When reviewing the results presented in this chapter, several limitations should be considered when interpreting the impact of trends. First, the current analyses were not designed specifically to evaluate the effects of nursing home programs on the reported measures, nor are the results able to highlight disparities among key subgroups within the general beneficiary population.

Although the rates reported in this section are national rates and accurately portrayed the prevalence of processes or outcomes in a particular quarter or year, the analyses in this chapter did not use any statistical method to risk-adjust the rates across the five-year measurement period. Since there was a net decline in the number of reporting nursing facilities from 2006 to 2010, the change in patient case mix—or facility-level characteristics such as changing in staffing resources or improvement strategies in each measurement year—may confound the upward or downward trend observed in this section. Therefore, caution should be used when interpreting the reported upward or downward trend across different measurement periods as an improvement or decline in performance.

Finally, the staffing rates are based on information reported by the nursing homes. They represent staffing levels for a two-week period prior to the time of the state inspection. CMS checks the data for unusual reporting issues, such as obvious data entry error, and asks states to follow up with nursing homes in those cases. However, currently there is no system to fully verify the accuracy of the staffing data that nursing homes report. Because of this limitation, one should be cautious when interpreting the data.

Conclusions and Next Steps

Overall, the nursing home measures included in this chapter showed consistent positive trends in the measurement period. Moderate variation in rates across quarters was noted, with the largest observed in pneumococcal vaccinations for post-acute care residents.

Of the 14 quality measures for chronic care residents, 12 quality measures illustrated improvement in national performance from 2006 to 2010. Two quality measures (*Residents with Worsening of a Depressed or Anxious Mood* and *Low-Risk Residents with Pressure Ulcers*) showed an improvement of less than one percentage point. It is generally expected that low-risk residents would have a much lower prevalence of pressure ulcers, so the amount of improvement possible would be much lower. These data support this expectation. The lower baseline of the low-risk pressure ulcer quality measure results tend to suggest a greater improvement (29.0 percent) compared with the high-risk pressure ulcer quality measure (22.9 percent).

Among long-term residents, both the influenza and pneumococcal vaccination quality measure rates increased by more than 10 percentage points, such that by 2010 nearly nine out of ten chronic care residents received influenza and pneumococcal vaccines.

Two quality measures did not suggest improvement in national performance. The first plateaued in 2006 (8.8 percent to 9.0 percent for the *Residents with a Urinary Tract Infection* quality measure) and the rate for the second (*Low-Risk Residents Who Frequently Lose Control of Their Bowel or Bladder*) moved in an unfavorable direction by four percentage points. The trends in these measures may present national quality initiative opportunities for nursing homes.

All five post-acute care quality measures showed favorable trends in national rates since 2006, with three demonstrating improvement of more than five percentage points. Nationally, nursing homes have demonstrated notable improvement in reducing the percentage of *Post-Acute Residents with Pressure Ulcers* (from 17.9 percent in 2006 to 11.6 percent in 2010). Although the immunization rates are lower in the post-acute population, the trends for both pneumococcal and influenza immunization rates show gains similar to the quality measure rates for these immunizations in the chronic care population. The percentage of post-acute care residents receiving influenza and pneumococcal vaccines during flu season increased over 10 percentage points between 2006 and 2010.

Between 2006 and 2010, nursing homes also increased direct care nursing time per resident per day for RNs, LPN/LVNs, and CNAs.

Nursing homes are currently collecting data using the MDS 3.0 instrument. Some of the quality measures that have been developed for MDS 3.0 are relatively unchanged from quality measures based on MDS 2.0 measures, while other quality measures changed significantly. Four MDS 2.0 measures—*Low Risk Pressure Ulcers*, *Spending Time in Bed or Chair*, *Moving About the Room*, and *Delirium*—were retired. Two new MDS 3.0 quality measures were developed: *Short-Stay Pain Regimen* and *Long-Stay Fall with Major Injury* (the latter addressing an important resident safety issue). Ten MDS 2.0 chronic-care quality measures have equivalent MDS 3.0 long-stay quality measures: two immunization quality measures, activities of daily living, pain, high-risk pressure ulcers, restraints, bowel/bladder incontinence, urinary catheter, urinary tract infection, and weight loss. The MDS 2.0 quality measure *Residents Who Are More Anxious or Depressed* has changed significantly; the comparable MDS 3.0 quality measure is now *Percent of Residents Who have Depressive Symptoms* (long stay). In addition, the MDS 2.0 pressure ulcer quality measure and pain quality measures (both post-acute and chronic) have had significant changes. The two immunization quality measures are the only two measures for short-stay residents that remain equivalent to the MDS 2.0 measures.

Future analyses may include examining the impact of performance-based incentives for nursing homes, as CMS has implemented a value-based purchasing demonstration for nursing homes in three states (New York, Wisconsin, and Arizona). In addition to the MDS-based quality measures, the demonstration includes other quality measure domains—such as staffing, appropriate hospitalizations, and inspection survey deficiencies. This three-year demonstration began in 2009. CMS has not completed the evaluation of participants' performance during the

first year of the demonstration.⁸ The effect of the *Nursing Home Five Star* rating system may also be explored in future assessments. Other future studies may examine the relationship between the positive trends of the quality measures observed in this report and quality of life of residents.

⁸ https://www.cms.gov/NursingHomeQualityInits/10_NHQIQualityMeasures.asp#TopOfPage. Last accessed December 10, 2011.

6. Home Health

Introduction

Home health care is defined as care provided by skilled professionals to patients in their homes under the direction of a physician. The skilled services that can be provided in a home setting include physical therapy, skilled nursing care, speech therapy, occupational therapy, medical social services, and home health aide.¹ In 2003, the Centers for Medicare & Medicaid Services (CMS) implemented the Home Health Quality Initiative (HHQI), with the goal of improving quality of home health care provided to all patients. HHQI is a four-prong effort that consists of the following:

- ◆ Regulation and enforcement activities conducted by state survey agencies and CMS to assure compliance with federal standards for quality and patient safety
- ◆ Improved consumer information on the quality of care provided by home health agencies (HHAs) through publication of quality measures on the CMS Web site
- ◆ Continuous community-based quality improvement programs for HHAs by Quality Improvement Organizations (QIOs)
- ◆ Collaboration and partnership between federal and state agencies, consumer advocates, and other stakeholders to leverage knowledge and resources and impact care²

More information about HHQI can be found at <https://www.cms.gov/HomeHealthQualityInits/>. In alignment with its quality initiatives, in August 2003, the U.S. Department of Health and Human Services (HHS) and CMS launched the Home Health Compare (HHC) Web site to publicly display a set of quality measures for individual HHAs. Information on HHC helps consumers make informed decisions while selecting their HHA and also stimulates the HHAs to improve the care delivered to Medicare beneficiaries. HHC can be a resource for HHAs to review the performance of other agencies in their area and also help them identify opportunities for improvement. More information about HHC can be found at <http://www.medicare.gov/HomeHealthCompare>.

Reporting and Data Collection History

Since 1999, CMS has required all Medicare- and Medicaid-certified HHAs to collect and report quality data on all adult non-maternity patients whose skilled care is reimbursed by Medicare and Medicaid. The data collection tool used to collect and report performance data by HHAs is called the Outcome and Assessment Information Set (OASIS). OASIS is a set of core data items

¹ Centers for Medicare & Medicaid Services Web site available at <http://www.medicare.gov/HomeHealthCompare/search.aspx?dest=NAV%7cHome%7cAbout%7cWhatIs>, last accessed on 12/12/2011.

² This information was obtained from a Primaris 2003 HHQI report, available at <http://www.primaris.org/sites/default/files/resources/Home%20Health%20Quality%20Initiative/124%20-%20HHQI-1%20Intro.pdf>, last accessed on 12/12/2011.

that are used as part of a comprehensive assessment for measuring patient outcomes and quality of home care provided by HHAs. OASIS data are collected at various points during an episode of care. These data are collected at the start of care, resumption of care, 60-day follow-ups, and at transfer and discharge. These data are submitted on a quarterly basis to the state repositories and stored in the Quality Improvement Evaluation System (QIES) database along with quality data from other state survey agencies.³

Even though OASIS data have been collected by HHAs since 1999, public reporting of these quality data began in August 2003 with the launch of HHC, as mentioned above. The home health quality measures displayed on HHC from August 2003 to July 2011 were based on the OASIS-B1 instrument. The Outcome Based Quality Improvement (OBQI) measures initially listed on HHC were a combination of utilization measures (e.g., *Patients Who Had to Be Admitted to the Hospital*) and end-result outcome measures (e.g., *Patients Who Get Better at Bathing*). The measures posted on HHC have undergone several changes since 2003. In July 2005, three new OBQI measures were added and four measures were dropped. Similarly, in August 2008 HHC began to display a third set of OBQI measures. There were two significant changes that occurred with the August 2008 display. First, all OBQI measures were presented as risk-adjusted values. Second, a new type of measure referred to as a Potentially Avoidable Event measure (i.e., *Emergent Care for Deteriorating Wound Status*) was displayed for the first time but was not risk adjusted.⁴

CMS retired OASIS-B1 and implemented a new OASIS-C data collection instrument in January 2010. With this, several more changes occurred within HHC. First, in March 2010 the rates of some of the OBQI measures that were first reported in August 2008 and updated in March 2010 were “frozen” until July 2011. Second, in October 2010 a new set of process measures that were not risk adjusted were displayed for the first time. Third, in July 2011 a new set of OBQI measures and one other Potentially Avoidable Event measure based on OASIS-C data were displayed on HHC.

All the outcome measures reported on HHC are risk adjusted, along with non-risk-adjusted national and state outcome measure averages. Risk adjustment is based on statistical prediction models that are estimated based on a national sample of HHA patients in order to predict individual patient outcomes based on patient health status and other attributes at admission to home health care. More information on statistical methods used to post the data on HHC can be found at <http://www.medicare.gov/HomeHealthCompare/Data/Measures/StatisticalMethods.aspx>. CMS

³ This information was obtained from the CMS Web site at <http://www.medicare.gov/HomeHealthCompare/Data/Measures/DataUpdates.aspx>, last accessed on 12/12/2011.

⁴ This information was obtained from the report “A Trend Analysis of Selected, Continuing Publicly-Reported Home Health Compare Measures,” dated October 2011 and prepared by a CMS contractor.

also produces OBQI reports for individual HHAs using OASIS data. HHAs can access these private reports via the CMS Certification and Survey Provider Enhanced Reporting (CASPER) system. In the OBQI report, the observed agency outcome rate is compared with a risk-adjusted national outcome rate that differs for each agency. For HHC, the risk-adjusted agency rate is compared with national and state outcome rates for the performance period.⁵

OASIS and QIES data used to develop the statistics displayed on HHC are routinely updated with a delay of approximately two to three months to ensure CMS has received virtually all of the data from the agencies for a reporting period. OASIS data used to calculate the quality measures are updated quarterly and represent 12 months of rolling data. Data for all episodes of care that end within that 12-month period are included, regardless of when the episode of care began.

Measures Included in This Chapter

Based on OASIS-B1 data, CMS adopted a set of 30 home health quality measures in 2006. This number rose to 41 measures in 2009.⁶ Out of these 41 measures, only 10 measures were both NQF-endorsed, and publicly reported. This chapter presents a trend analysis on 9 of these 10 measures calculated from OASIS-B1 data from 2006 through 2009. One NQF-endorsed measure, *Emergent Care for Wounds*, has been excluded in this chapter because this measure was first posted on HHC in August 2008 and there are insufficient data to determine a trend for this measure. Trends for 2010 have not been included in this chapter because OASIS-C was implemented in 2010 and there are some differences in OASIS-C items, instructions, or measure specifications for most of these measures. Therefore, comparisons with OASIS-B1 data cannot be made, and reporting the trends on these measures for 2010 alongside 2006–2009 data would not be appropriate.

The nine outcome measures presented in this chapter are listed in Tables 6-1 through 6-3 and are divided into the following measure types:

- ◆ **Health care Utilization Measures:** Three of the nine outcome measures are health care utilization measures. These measures describe the percentage of time a person receives services from other health care resources either while he/she is receiving home health care or after his/her home health care has just been completed.

⁵ This information is obtained from an presentation by David F. Hittle, PhD, Center for Health Services Research, University of Colorado Health Sciences Center on OASIS, available at www.ahqa.org/pub/uploads/Hittle.ppt, last accessed on 12/14/2011.

⁶ This information is obtained from archived reports on the CMS Web site, available at https://www.cms.gov/OASIS/09a_hhareports.asp#TopOfPage, last accessed on 1/10/2012.

- ◆ Improvement Measures: Six of the nine outcome measures belong to this measure type. These measures describe the improvement in a certain patient outcome over the episode of care. Improvement measures can further be categorized into:
 - Functional Status Improvement Measures: These describe improvement in patients' ability to perform activities of daily living (e.g., *Patients Who Get Better at Bathing*).
 - Clinical Status Improvement Measures: These describe improvement in patients' clinical status (e.g., *Patients Whose Breathing Improved*).⁷

Seven of the nine measures are currently listed on HHC, while the remaining two are now discontinued on HHC. Those discontinued measures are:

- ◆ *Patients Receiving Home Health Care Who Need Urgent, Unplanned Medical Care*: This measure was NQF-endorsed for display on HHC based on the 2006 – 2009 OASIS-B1 data. *Patients Who Are Able to Live in the Community at Discharge*: This measure was first posted on HHC in 2005.

The measures included in this chapter are listed in tables 6-1 through 6-3 below, are grouped by measure types described above, and show the NQS priority applicable to each measure. It should also be noted that most quality measures have multiple measure names. The measure names used in this chapter are based on the measure names located on HHC, which is used for public reporting.

Table 6-1: Healthcare Utilization Measures

NQF#	Measure Name	Measure Description	National Quality Strategy Priority
0171	Patients Who Had to Be Admitted to the Hospital	Patients for whom the response on OASIS item M0855 Inpatient Facility Admission is 1-Hospital	Effective Prevention and Treatment of Illness
0172	Patients Who Are Able to Live in the Community at Discharge	Patients for whom the value of M0100 Reason for Assessment for the episode of care end point assessment is equal to 9—Discharge from Agency, and the response to M0870 Discharge Disposition is 1-Patient remained in the community	Effective Prevention and Treatment of Illness
0173	Patients Receiving Home Healthcare Who Need Urgent, Unplanned Medical Care	Patients for whom the response on OASIS item	Effective Prevention and Treatment of Illness

⁷ This information is obtained from table2-1 of the document found on the CMS Web site, available at <https://www.cms.gov/HomeHealthQualityInits/Downloads/HHQIOBQIManual.pdf>, last accessed on 12/30/2011.

NQF#	Measure Name	Measure Description	National Quality Strategy Priority
		M0830 Emergent Care is 1– Hospital emergency room, 2– Doctor's office emergency visit/house call, or 3– Outpatient department/clinic emergency	

Table 6-2: Functional Status Improvement Measures

NQF#	Measure Name	Measure Description	National Quality Strategy Priority
0167	Patients Who Get Better at Walking or Moving Around	Patients for whom the value of OASIS item M0700 Ambulation/Locomotion (a scale ranging from 0 to 5) at discharge from home health care is lower numerically (indicating less impairment) than the value of the same item at the start of or resumption of care	Effective Prevention and Treatment of Illness
0174	Patients Who Get Better at Bathing	Patients for whom the value of OASIS item M0670 Bathing (a scale ranging from 0 to 5) at discharge from home health care is lower numerically (indicating less impairment) than the value of the same item at the start of or resumption of care	Effective Prevention and Treatment of Illness
0176	Patients Who Get Better at Taking Their Drugs Correctly By Mouth	Patients for whom the value of OASIS item M0780 Management of Oral Medications (a scale ranging from 0 to 2) at discharge from home health care is lower numerically (indicating less impairment) than the value of the same item at the start of or resumption of care	Effective Prevention and Treatment of Illness
0175	Patients Who Get Better at Getting In and Out of Bed	Patients for whom the value of OASIS item M0690 Transferring (a scale ranging from 0 to 5) at discharge from home health care is lower numerically (indicating less impairment) than the value of the same item at the start of or resumption of care	Effective Prevention and Treatment of Illness

Table 6-3: Clinical Status Improvement Measures

NQF#	Measure Name	Measure Description	National Quality Strategy Priority
0177	Patients Who Have Less Pain When Moving Around	Patients for whom the value of OASIS item M0420 Frequency of Pain (a scale ranging from 0 to 3) at discharge from home health care is lower numerically (indicating less impairment) than the value of the same item at the start of or resumption of care	Effective Prevention and Treatment of Illness
0179	Patients Whose Breathing Improved	Patients for whom the value of OASIS item M0490 Short of Breath (a scale ranging from 0 to 4) at discharge from home health care is lower numerically (indicating less impairment) than the value of the same item at the start of or resumption of care	Effective Prevention and Treatment of Illness

Methods

The data for this chapter were provided by the CMS Home Health measures contractor. The contractor downloaded annual values of national observed rates, total episodes of care, and HHA identifiers for each of the nine OBQI home health measures for the period 2006–2009 from the CMS QIES Workbench OASIS-B1 resource. Data related to HHA identifiers were aggregated, and counts by measure by year were established for these nine OBQI measures.

In this chapter, national observed rates are reported for each measure on a yearly basis. The national observed rate is defined as the number of episodes of care in which the outcome was achieved per 100 eligible episodes of care. The rates, episodes counts, and number of agencies reporting are non-overlapping values. That is, no episodes of care from which these parameters are calculated for one year are included in the calculations for the preceding or following year. Changes in the national rate for an OBQI measure from one year to the next reflects the progress or lack of progress nationwide in how HHA patients have improved or not improved on each measure. The rates presented in this chapter are raw data obtained from the CMS QIES Workbench OASIS-B1 resource and are not risk adjusted.

All measures are based on an episode of care; that is, the period of time from start or resumption of care until the patient is transferred to an in-patient facility, dies, or is discharged to the community, regardless of the length of time between these two events.

Results

Please refer to Appendix A: Measure Highlights for the summarized results to all of the Home Health measures presented in this chapter.

Number of Reporting HHAs and Eligible Episodes of Care

All OBQI measures included in the chapter are collected from reporting HHAs with eligible episodes of care. Tables 6-4 and 6-5 display the minimum, maximum, and average number of reporting HHAs and the eligible episodes of care across those measures evaluated in this chapter from 2006 to 2009.

Table 6-4: Minimum, Maximum, and Average Number of Reporting HHAs

Year	Minimum Number of HHAs Reporting Across All Measures	Maximum Number of HHAs Reporting Across All Measures	Average Number of HHAs Reporting Results Across All Measures
2006	8,496	8,694	8,578
2007	8,931	9,083	8,999
2008	9,238	9,445	9,341
2009	9,941	10,171	10,049

Table 6-5: Minimum, Maximum, and Average Number of Eligible Episodes of Care

Year	Minimum Number of Eligible Episodes of Care Across All Measures	Maximum Number of Eligible Episodes of Care Across All Measures	Average Number of Eligible Episodes of Care Across All Measures
2006	1,576,024	3,995,665	3,700,679
2007	1,702,664	4,156,375	3,899,012
2008	1,802,182	4,301,827	4,055,271
2009	1,982,552	4,568,039	4,333,311

Table 6-4 and 6-5 shows there has been a consistent increase in the number of HHAs reporting eligible episodes of care for these measures and the number of eligible episodes of care that were used to compute the national observed rate. This increase corresponds to the general increase in home health services provided nationally during the time period from 2006 to 2009.⁸

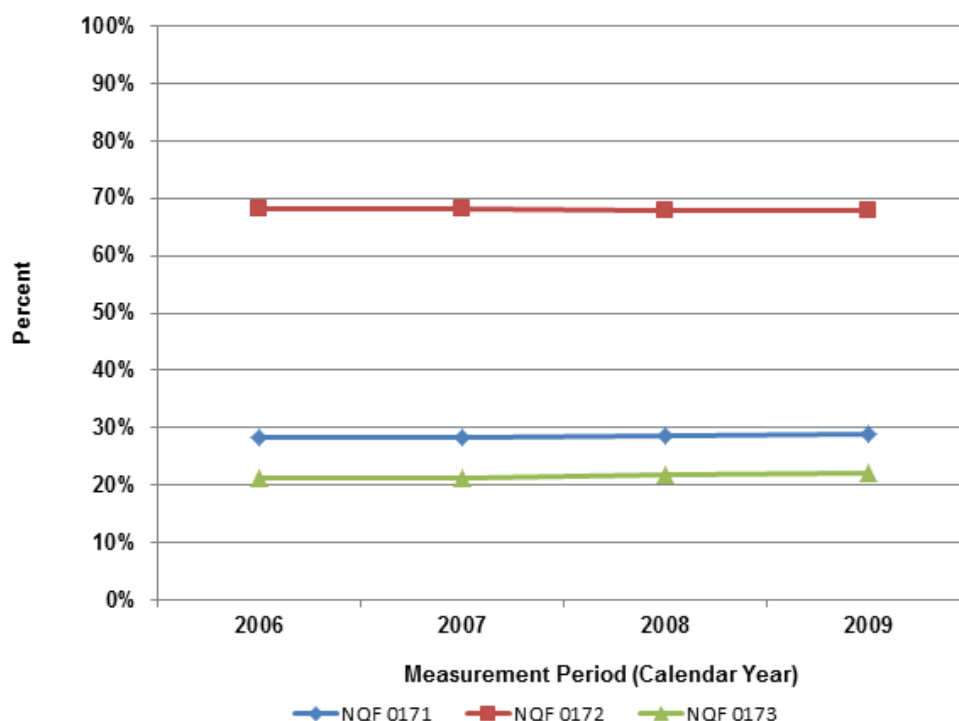
⁸ This information is obtained from p. 4 of the document found on the CMS Web site, available at <https://www.cms.gov/HomeHealthQualityInits/Downloads/HHQIOBQIManual.pdf>, last accessed on 12/30/2011.

Performance Rates

Health Care Utilization Measures

Health care utilization measures describe the percentage of time a person receives services from other health care resources, either while receiving home health care or after home health care has just completed.

Figure 6-1: Health care Utilization Measures, 2006 – 2009



Measure	2006	2007	2008	2009
NQF 0171 – Had to Be Admitted to Hospital	28.3%	28.2%	28.6%	28.8%
NQF 0172 – Able to Live in Community at Discharge	68.2%	68.3%	67.9%	67.8%
NQF 0173 – Who Need Urgent, Unplanned Medical Care	21.2%	21.2%	21.7%	22.0%

Data Source: OASIS-B1

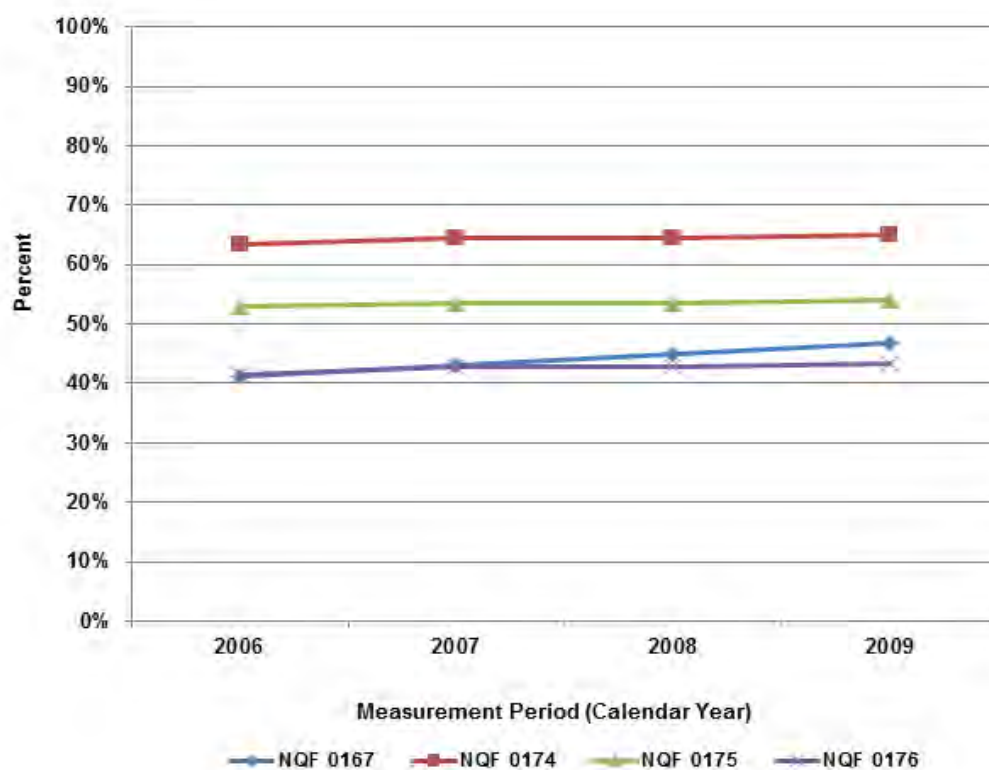
Figure 6-1 displays the yearly national observed rates for three health care utilization measures. For all the measures, the year-to-year changes were no more than one percentage point minimal. Between 2006 and 2009, there was a slight increase in the rates for *Patients Who Had to Be Admitted to Hospital* (0.5 percentage points) and for *Patients Who Needed Urgent, Unplanned Medical Care* (0.8 percentage points) and a decrease in rates for the *Patients Who Were Able to Live in Community at Discharge* measure (0.4 percentage points), all three of

which are declines in outcome. In 2009, nearly 3 out of 10 patients receiving home health care were admitted to an acute care hospital, while about 1 in 5 home health care patients required an urgent or unplanned medical intervention. Further, just over two-thirds of the patients remained at home following discharge from receiving home health services.

Functional Status Improvement Measures

This set of measures describes patients' ability to perform activities of daily living.⁹ An increase in the rate of these measures suggests an improvement in the patient outcomes.

Figure 6-2 – Selected Activities of Daily Living, CY 2006 – CY 2009



Measure	2006	2007	2008	2009
NQF 0167 – Better at Walking or Moving Around	41.1%	43.2%	44.9%	46.9%
NQF 0174 – Better at Bathing	63.5%	64.5%	64.5%	65.0%
NQF 0175 – Better at Getting In and Out of Bed	53.0%	53.4%	53.5%	54.1%
NQF 0176 – Better at Taking Their Drugs Correctly by Mouth	41.6%	42.8%	42.8%	43.3%

Data Source: OASIS-B1

Note: NQF 0167 – Patients Who Get Better at Walking or Moving Around
NQF 0174 – Patients Who Get Better at Bathing.

⁹ International Encyclopedia of Rehabilitation. Available at <http://cirrie.buffalo.edu/encyclopedia/en/article/37/>. Accessed on 12/27/11.

NQF 0175 – *Patients Who Get Better at Getting In and Out Of Bed*

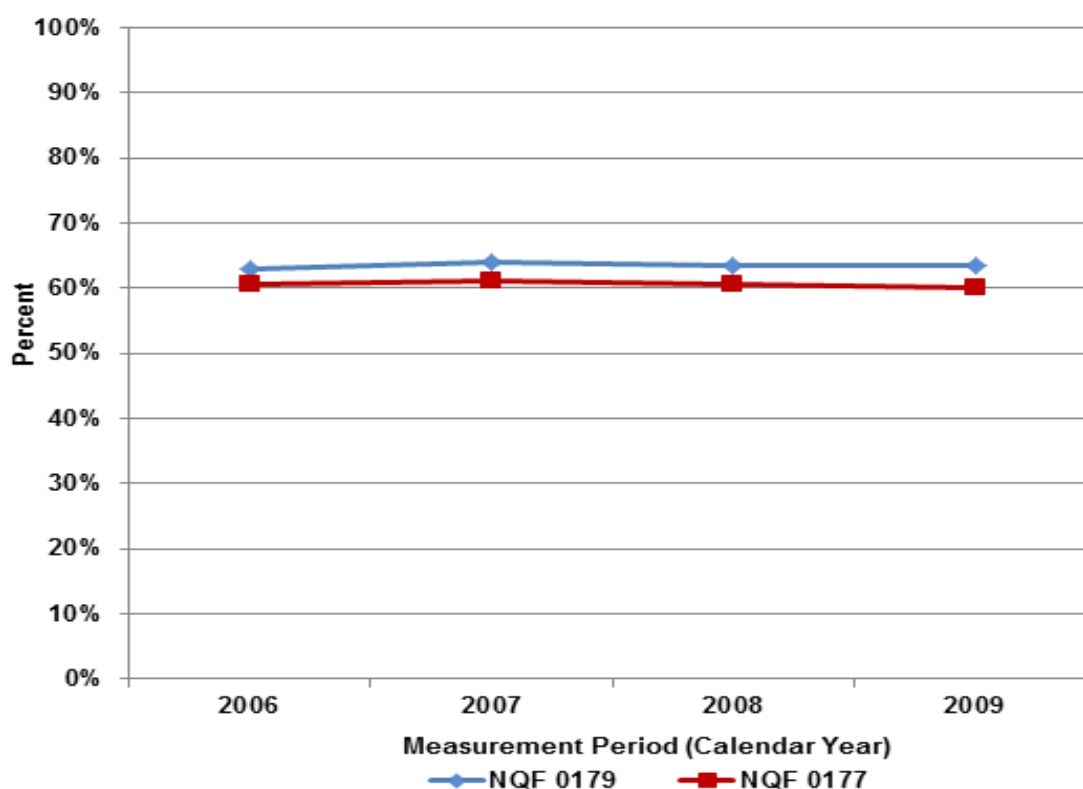
NQF 0176 – *Patients Who Get Better at Taking Their Drugs Correctly by Mouth*

For the four measures shown in Figure 6-2, higher rates are better. All measures displayed a gradual increase in rates across the four measurement periods. Among the four measures, *Patients Who Get Better at Walking or Moving Around* demonstrated the greatest positive increase, 5.8 percentage points from 41.1 percent in 2006 to 46.9 percent in 2009. The other three measures also demonstrated positive changes in rates of 1.1 percentage points for *Patients Who Get Better at Getting In and Out of Bed*, 1.5 percentage points for *Patients Who Get Better at Bathing*, and 1.7 percentage points for *Patients Who Get Better at Taking Their Drugs Correctly by Mouth*.

Clinical Status Improvement Measures

This set of measures describes patients' clinical status. An increase in the rate of these measures suggests an improvement in patient outcomes.

Figure 6-3: Improvement in Selected Clinical Status Improvement Measures CY 2006 – CY 2009



Measure	2006	2007	2008	2009
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Measure	2006	2007	2008	2009
NQF 0179 – Breathing Improved	60.7%	61.1%	60.5%	60.1%
NQF 0177 – Less Pain Moving Around	63.0%	63.9%	63.5%	63.6%

Data Source: OASIS-B1

Note: NQF 0177 – Patients Who Have Less Pain When Moving Around

NQF 0179 – *Patients Whose Breathing Improved*

For both measures in Figure 6-3, higher rates are better. The four-year trends for the two measures in Figure 6-3 appear to be moving in opposite directions. The rate for the *Patients Whose Breathing Improved* measure showed an initial increase of 0.4 percentage points from 2006 to 2007, but exhibited a total decline of 1 percentage point from 2007 to 2009. Although the rates for the *Patients Who Have Less Pain When Moving Around* measure also had an initial increase between 2006 and 2007 from 63.0 percent to 63.9 percent, the rates have declined since 2007. By 2009, the rate stopped declining and stayed at 63.6 percent. Comparing the 2006 and 2009 rates for the two measures, the *Patients Whose Breathing Improved* measure exhibited a rate decline of 0.6 percentage points, and the *Patients Who Have Less Pain When Moving Around* measure had a rate increase of 0.6 percentage points.

Limitations

When reviewing this section, several limitations should be considered when interpreting trends. First, since this review was limited to NQF-endorsed measures used in Medicare programs that are publicly available, only a subset of home health measures were analyzed. As such, the results found in this chapter may not be sufficient to draw conclusive findings regarding the overall impact of CMS' complete set of home health measures. The current study was also not designed to specifically evaluate the effects of ongoing home health programs implemented by the CMS.

Additionally, the national observed rates trended in this chapter were based on raw data obtained from the CMS QIES workbench and accurately portray the prevalence of processes or outcomes in a particular year; no statistical methods were performed to evaluate the significance of changes in results across years. As such, caution should be used when interpreting the reported upward or downward trend across different measurement years as an improvement or decline in performance.

Finally, since this chapter focuses on national observed rates, no statistical analysis was done to examine whether there were variations in the rates by HHAs. Subgroup analyses examining how different organizational characteristics impact performance on given measures may provide insights on how to further improve the quality of home health care.

Conclusions and Next Steps

The results reported in this chapter suggest mixed performance and progress in the quality of home health care. Three measures (*Patients Who Get Better at Walking or Moving Around*,

Patients Who Get Better at Taking Their Drugs Correctly by Mouth, and *Patients Who Get Better at Bathing*) showed comparatively consistent positive trends from 2006 to 2009, both on a year-to-year basis and across all four years in the analysis period. The *Patients Who Have Less Pain When Moving Around* measure showed mixed results but a generally positive trend during this time period. Both *Patients Who Had to Go to the Hospital* and *Patients Whose Breathing Improved* showed an overall declining trend from 2006 to 2009.

All nine OASIS-B1 measures included in this chapter address the *Effective Prevention and Treatment of Illness* NQS priority domain. In its ongoing efforts to improve quality of health care, CMS adopted the OASIS-C instrument that includes many new outcome and process of care measures that were not in OASIS-B1. The new set of OASIS-C measures address a wider domain of NQS priorities and includes additional domains such as *Safety, Communication and Care Coordination, Person and Family Centered Care*, and *Best Practices for Healthy Living*.

Future trending of measures that have substantive specification changes from the baseline OASIS-B1 assessment instrument to the OASIS-C instrument may be difficult. However, future analyses might include explorations of these differences and their impact on providers' quality performance. In the future, the new OASIS-C measures will provide additional insight into how often HHAs give recommended care or treatments shown to impact patients' health outcomes. This new set of publicly reported process measures promote the adoption of best practices of care in fall prevention, pressure ulcer prevention, medication management, timely initiation of care, and other key areas—such as vaccination and depression assessment. While adjustments will be necessary to account for differences in the data collection instruments, future projects may evaluate correlation and interaction of these process measures on home health outcomes. For example, new process measures surrounding medication management could evaluate relationships between appropriate medication management and falls resulting in injury and subsequent hospitalization.

In an effort to address the *Person and Family Centered Care* NQS priority, CMS also implemented the NQF-endorsed Home Health Consumer Assessment of Healthcare Providers Survey (HHCAHPS) in October 2009 with agencies participating on a voluntary basis. As with other CAHPS surveys, HHCAHPS is a standardized survey for gathering data from patients and consumers about their experiences with their home health providers. HHAs were mandated to report HHCAHPS for the Home Health Annual Payment Update (APU) beginning in the third quarter of calendar year 2010. Sampling of patients and survey is conducted on a monthly basis, with a quarterly submission cycle to CMS. CMS expects to begin publicly reporting results from the HHCAHPS Survey on HHC in early 2012.

Given these new directions, CMS intends to conduct more in-depth evaluation of the impact of these changes in the quality measures used for public reporting on patient outcomes and quality of home health care in the near future.

7. End-Stage Renal Disease (ESRD)

Introduction

The Centers for Medicare & Medicaid Services (CMS) End-Stage Renal Disease (ESRD) program is the only disease-specific program that entitles people of all ages to Medicare coverage on the basis of their diagnosis. The ESRD Quality Initiative consists of several different components and promotes strategies to improve the quality of care provided to patients with renal failure. The ESRD Quality Initiative aims to standardize dialysis care measures and support providers' quality improvement efforts, provide quality information to patients to help them make health care decisions, ensure compliance with conditions of coverage, and promote collaboration between patients, providers, and stakeholders. For more information about this initiative, please go to http://www.cms.gov/esrdqualityimproveinit/01_overview.asp.

Reporting and Data Collection History

ESRD quality measures are essential parts of the ESRD Quality Initiative. The Balanced Budget Act (BBA) of 1997 required the Secretary of the U.S. Department of Health and Human Services (HHS) to implement a system to measure and report the quality of renal dialysis services provided through the Medicare program. In 1998, Medicare developed the ESRD Clinical Performance Measures (CPMs) based on the National Kidney Foundation's Kidney Disease Quality Initiative Clinical Practice Guidelines. The CPMs report on the quality of services in the areas of adequacy of hemodialysis and peritoneal dialysis, anemia management, mineral metabolism, and vascular access. The CPMs' data were collected on a national random sample of adult in-center hemodialysis patients, all in-center hemodialysis patients younger than 18 years old, and a national random sample of adult peritoneal dialysis patients. These data were not collected in numbers sufficient enough for calculating dialysis facility-specific rates.

In order to facilitate more efficient and more comprehensive data collection, Medicare worked with the ESRD communities to develop an integrated ESRD information system called Consolidated Renal Operations in a Web-enabled Network (CROWNWeb). CROWNWeb is a Web-based data collection system that allows authorized users to securely submit patient-based data to Medicare. This tool was designed to meet Section 494.180 (h) of the updated *Conditions for Coverage for ESRD Dialysis Facilities*, published April 15, 2008. This section requires all Medicare-certified dialysis facilities in the United States to submit administrative and clinical data electronically rather than use paper-based data collection methods. CROWNWeb will help Medicare receive more complete and accurate data about dialysis patients and provide a way to expedite information reporting for each patient.

The CPMs are now collected through CROWNWeb in test status. The first phase of CROWNWeb was initiated in February 2009, with eight Medicare-certified dialysis facilities participating. Phase II began in July 2009, with just under 200 facilities reporting. Lessons learned from the first two phases will help CMS fine-tune the data submission requirements that will be utilized

when the system is fully implemented. Phase II is planned to end in late 2011, and Phase III is planned to begin in early 2012. More information about CROWNWeb is available at <http://www.projectcrownweb.org>.

In 1999, to meet the BBA directive, Medicare engaged in an extensive public process to select the first set of dialysis facility-specific measures to be publicly reported. The process resulted in the creation of the Dialysis Facility Compare (DFC) Web site: The DFC Web site allows consumers and patients to review and compare all Medicare-approved dialysis facilities and choose one that best meets their individual needs. The DFC Web site, implemented in January 2001, currently contains dialysis facility service and quality information on over 5,600 Medicare-approved dialysis facilities in the United States. The data on DFC include information about nine facility characteristics and three quality measures. DFC is available at <http://www.medicare.gov/dialysis>.

Medicare also implemented the ESRD Quality Incentive Program (QIP) as mandated by the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) Section 153(c). This is a Medicare value-based purchasing program that links provider or facility payments to performance based on outcomes as assessed through specific quality measures. The three measures adopted for the first year (2012) of the QIP are: *Percentage of Medicare Patients with an Average Hemoglobin Less Than 10.0 g/dL*, *Percentage of Medicare Patients with an Average Hemoglobin of Greater Than 12.0 g/dL*, and *Percentage of Medicare Patients with an Average Urea Reduction Ratio (URR) Greater Than or Equal to 65 Percent*. These measures were selected for the initial year of the QIP based on evidence available at the time that demonstrated they are important indicators of patient outcomes because poor management of anemia and inadequate dialysis can lead to avoidable hospitalizations, decreased quality of life, and death. For the second year of the QIP, 2013, one measure has been removed based on new FDA guidance: *Percentage of Medicare Patients with an Average Hemoglobin of Less than 10.0 g/dL*. For the third year of the QIP, 2014, measures of vascular access will be included. These QIP measures may be included in the future impact assessment reports. More information can be found at <http://www.dialysisreports.org> and <https://www.cms.gov/ESRDQualityImproveInit>.

Measure Included in This Chapter

To meet the inclusion criteria described above for this initial report, this chapter will focus primarily on DFC measures. While there are CPM measures that are NQF-endorsed, these measures are currently being collected via CROWNWeb—which is still in the testing stage. It is difficult to determine whether the data for these measures represent national trends in dialysis facility performance due to various issues—including, but not limited to, the non-representativeness of the sample, the voluntary nature of the data submission, and other data-collection issues. Therefore, CPM measures will not be included in this chapter.

CMS primarily uses NQF-endorsed measures whenever feasible. However, when NQF-endorsed measures do not exist for a specified area or medical topic, CMS chooses to use measures that

are not endorsed by the NQF. On the DFC Web site, the three quality measures included are the patient survival measure, how well a facility dialyzes its patients (dialysis adequacy), and how well a facility manages its patients' anemia (anemia management). The last two measures are not NQF-endorsed while the first measure, patient survival, is NQF-endorsed and will therefore meet the criteria for reporting listed above. Only trended data for the patient survival measure are presented in this chapter. The DFC Web site can be found at

<http://www.medicare.gov/Dialysis>

It should also be noted that most quality measures have multiple measure names. The measure names used in this chapter are based on the measure names located on the CMS Web site which is used for public reporting.

The survival measure, *Dialysis Facility Risk-adjusted Standardized Mortality Ratio Level (SMR)*, is an outcome measure based on four years of Medicare administrative-data. The data primarily come from two CMS sources: Standard Information Management Systems (SIMS) and the Renal Management Information System (REMIS).

SIMS data come from the ESRD Networks. There are 18 ESRD Networks that are responsible for each U.S. state, territory, and the District of Columbia. The ESRD Networks work with consumers, ESRD facilities, and other providers of ESRD services to improve care delivery systems to ensure ESRD patients receive the care they need when they need it. Monthly, the ESRD Networks verify, update, and send data to Medicare via SIMS. Information sent includes the facility names, addresses, telephone numbers, and people covered by Medicare who have ESRD.

REMIS is a Medicare database that includes the following data about dialysis facilities and patients:

- ◆ Demographic (i.e., age, race, sex, etc.), medical claims, payment, and entitlement data about people covered by Medicare who have ESRD
- ◆ Certification and other information for Medicare-approved ESRD providers
- ◆ Aggregate ESRD patient information

These data are validated and supplemented with other administrative data, including Medicare-claims (to ensure appropriate attribution of patients to facilities) and the Social Security Death Master File (to ensure full ascertainment of patient outcomes).

SMR is a ratio of the total number of observed deaths to the total number of expected deaths within a facility. The total expected deaths is the number of deaths expected given a facility's mix of patient characteristics. A ratio of 1.0 indicates that the number of observed deaths is equal to the number of expected deaths. A ratio below 1.0 indicates that there are fewer

deaths than expected, and a ratio above 1.0 indicates that there are more deaths than expected. The expected number of deaths is calculated using Cox regression, stratified by facility and adjusted for patient age, race, ethnicity, sex, diabetes, duration of ESRD, nursing home status, patient comorbidities at incidence, and body mass index (BMI) at incidence. The publicly reported SMR is also adjusted for calendar year, which adjusts for overall changes in death rates over time. For the purposes of the publicly reported SMR, there was use of one model to calculate a SMR for each dialysis facility across four years. “Year” was used as an adjustment in the model so that each facility’s expected death rate (denominator of the SMR) accounted for annual trends, as the expectation was that facility death rates would follow national trends. However, this set the national SMR to 1.0 each year by definition. In order to evaluate the annual national trend in SMR, for the purpose of this chapter, the year was removed from the adjustments so that the effect could be explicitly presented.

Patients who may have received only temporary dialysis therapy are excluded. Patients are only entered into the calculations once they have received dialysis for at least 90 days. Patients are assigned to a facility only after they have been on dialysis there for at least 60 days. Therefore, patients who die during this initial 60 days are excluded. For more information about the SMR methodology, go to <http://www.dialysisreports.org/pdf/esrd/public/SMRdocumentaion.pdf>.

The NQS priority area the SMR measure addresses is the *Effective Prevention and Treatment of Illness*. Table 7-1 below provides information about the survival measure, including the NQF #, Measure Name, Measure Description, and the NQS priority.

Table 7-1: ESRD Measure

NQF #	Measure Name	Measure Description	National Quality Strategy Priority
0369	Dialysis Facility Risk-Adjusted Standardized Mortality Ratio Level	Risk-adjusted standardized mortality ratio for dialysis facility patients	Effective Prevention and Treatment of Illness

Methods

The only measure included in this chapter is the survival measure, *Dialysis Facility Risk-adjusted Standardized Mortality Ratio Level*. It is an outcome measure based on four years of Medicare administrative data. As noted above, the data primarily came from the SIMS and the REMIS. These data are validated and supplemented with other administrative data, including Medicare claims (to ensure appropriate attribution of patients to facilities) and the Social Security Death Master File (to ensure full ascertainment of patient outcomes).

The Medicare ESRD measure contractor submitted national risk-adjusted SMR results for inclusion in this chapter.¹ The data were plotted on a trend chart for review and discussion.

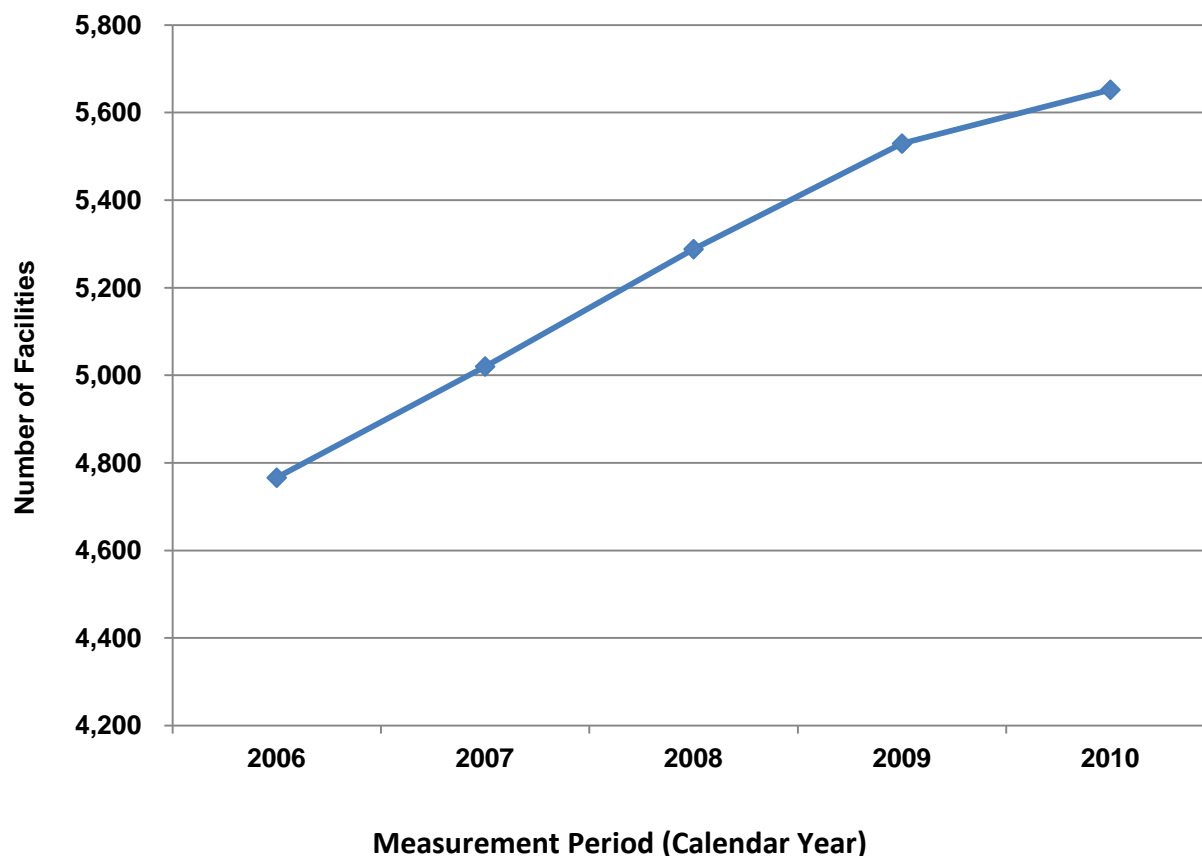
¹ “ESRD Quality Measure Trends” prepared by Arbor Research and UM-KECC, Oct. 14, 2011.

Information submitted also included measure descriptions, the number of facilities, and facility-level results.

Results

Number of Facilities Included in the SMR Measure

Figure 7-1: Number of Facilities Included in the SMR Measure, CY 2006–CY 2010



Measure	2006	2007	2008	2009	2010
Number of Facilities	4,766	5,020	5,288	5,529	5,652

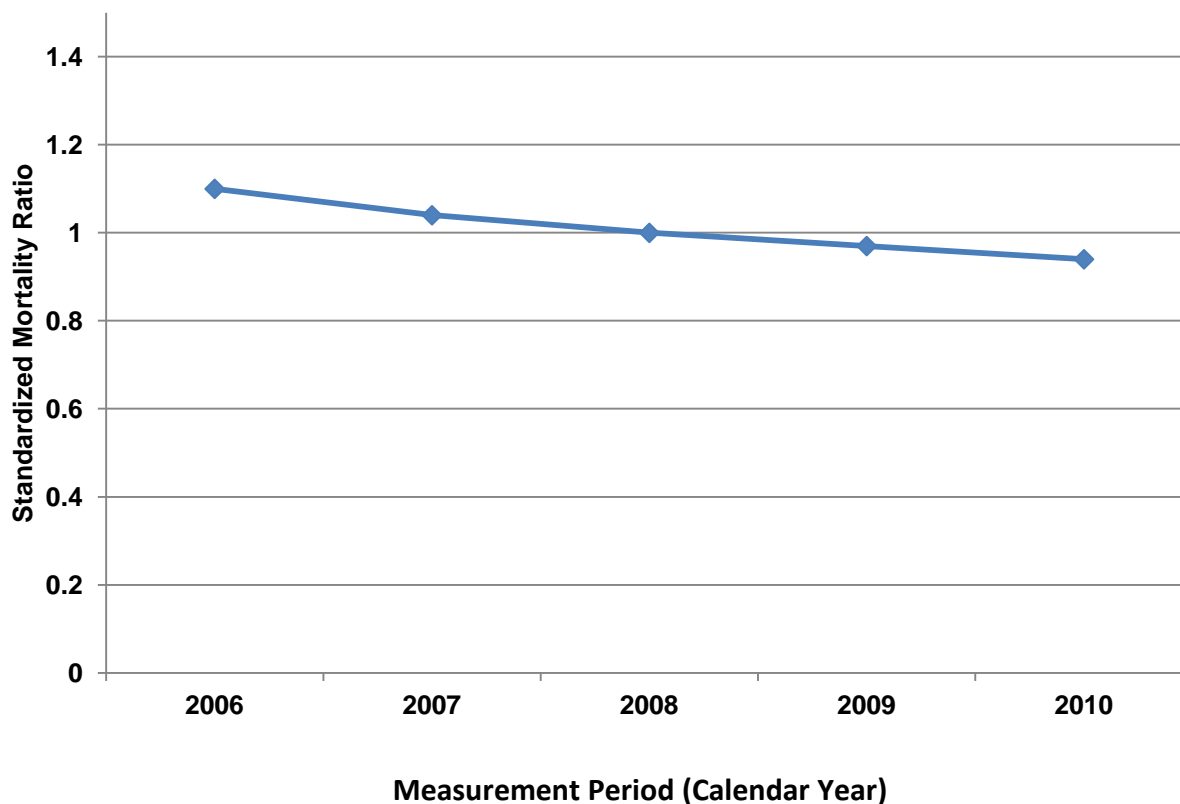
Data Source: CMS ESRD measure contractor, received on 10/14/2011.

Since 2006, the number of Medicare-approved dialysis facilities submitting claims included in the calculation of the SMR has been steadily increasing. Figure 7-1 shows that the number of dialysis facilities exceeded 5,600 facilities in 2010, representing an increase of 886 facilities (18.6%) since 2006 (N = 4,766).

Performance Rates

Figure 7-2: Dialysis Facility-Level Risk-Adjusted Standardized Mortality Ratio

CY 2006 – CY 2010 (NQF 0369)



Measure	2006	2007	2008	2009	2010
Ratio	1.10	1.04	1.00	0.97	0.94

Data Source: CMS ESRD measure contractor. Received on 10/14/2011.

Figure 7-2 shows the dialysis facility-level SMR by year. The SMRs presented are relative to the overall SMR calculated using the entire five years of data (SMR for all years combined = 1.0). The national SMR in 2006 was 1.10 compared with the national SMR of 0.94 in 2010. This represents an overall decrease from a 10 percent higher risk of death to a 6 percent lower risk of death from 2006 to 2010.

Limitations

When reviewing the results presented in this chapter, several limitations should be considered when interpreting the results and impact of trends. First, since this review was limited to NQF-endorsed Medicare measures that are publicly available and have nationally representative data, only the one ESRD SMR measure was analyzed. As such, the results are not sufficient to

draw conclusive findings regarding the overall impact of the Medicare complete set of ESRD measures. The current study was also not designed to specifically evaluate the effects of ongoing ESRD programs implemented by Medicare.

Second, it should be noted that this measure only covers patients at Medicare certified facilities and not all ESRD facilities. Additionally, patients who were never assigned to a facility, patients who died within 60 days, and patients who received dialysis for fewer than 90 days were excluded from this measure. As such, the SMR results are based on a subset of patients, and it is uncertain whether the program only benefits those who stayed in the dialysis facilities for a longer period of time. A comparison of the outcomes for patients included and excluded from the measure may provide a more balanced picture when evaluating the impact of the program.

Third, while the reported trend may suggest improvement in the performance of this measure, this chapter did not use statistical models to examine whether the downward trend was real or significant. As a result, caution should be used when interpreting the changes in rates as improvement or a decline in performance.

Fourth, while the results were adjusted for important patient characteristics (i.e., age, race, ethnicity, sex, diabetes, duration of ESRD, nursing home status, comorbidities at incidence, and body mass index [BMI] at incidence), this chapter did not conduct statistical analyses on whether the SMR varies by dialysis facilities with certain characteristics. Since the number of reporting facilities grew 18.6 percent from 2006 to 2010, changes in the mix of patients, equipment, and procedures represent important characteristics for evaluation and subsequent subgroup analyses. Additionally, subgroup analyses might also provide insights on examining disparities of care or identifying best practices for the ESRD program.

Conclusions and Next Steps

As new quality measures are developed for dialysis facilities, CMS will continue to enhance the ESRD measure set to address the gaps in NQS priorities. At present, SMR is the only measure included in this chapter. SMR addresses the *Effective Prevention and Treatment of Illness* priority of the NQS. In future impact analysis reports, other ESRD measures will be included and will address the other NQS priorities. When CROWNWeb is nationally implemented, its data will provide a way to monitor the performance of Medicare-certified dialysis facilities on local and national levels. Since CROWNWeb provides more comprehensive clinical data, more measures can be developed based on clinical practice guidelines. When the full national release of CROWNWeb occurs, the CPM sample will consist of 100 percent of Medicare chronic dialysis patients entered into the system. This is a significant increase since, historically, CPM report

data have been based on a sample representing 5 percent to 8 percent of the total Medicare ESRD patient population.²

Overall, there appears to be a downward trend of the facility-level risk of death for dialysis patients. However, the interpretation of this result should take into consideration the limitations noted above. In the future, CMS intends to conduct more in-depth analyses that will build on this chapter. In addition to evaluating a more comprehensive set of measures associated with the ESRD program, CMS also anticipates conducting more detailed analyses such as presenting the SMR stratified by patient characteristics and facility practices patterns that may relate to mortality. This process would allow a finer-grained assessment of both patient and facility characteristics and their impact on outcomes, while highlighting cost-effective quality improvement efforts. These more thorough investigations and evaluations might include subgroup analyses to detect potential disparities in care, explore other potential issues that may impact the mortality trend, and potentially compare the mortality trend for dialysis facility patients with the national mortality rates for ESRD patients in general. With the implementation of the ESRD QIP in 2012, future evaluation will also include analysis of the impact of incentives on the performance rates of the dialysis facilities.

² Delva, O.: CROWNWeb's ESRD Clinical Performance Measures Data to be in Place by Mid-2011. *ASN Kidney News*: 9, January 2011.

8. Medicare Part C

Introduction

The Balanced Budget Act of 1997 (BBA) established Part C of the Medicare program, known then as the Medicare+Choice (M+C) program, effective January 1999. As part of the M+C program, the BBA authorized the Centers for Medicare & Medicaid Services (CMS) to contract with public or private organizations to offer a variety of health plan options for Medicare beneficiaries, including coordinated care plans (such as health maintenance organizations [HMOs], provider-sponsored associations [PSOs], and preferred provider organizations [PPOs]), Medicare Medical Savings Account (MSA) plans, private-fee-for-service (PFFS) plans, and Religious Fraternal Benefit (RFB) plans. These health plans provide all Medicare Part A and Part B benefits, and most offer additional benefits beyond those covered under the original Medicare program.

The M+C program was renamed the Medicare Advantage (MA) Program under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA), which was enacted in December 2003. The MMA updated and improved the choice of plans for beneficiaries under Part C and changed the way benefits are established and payments are made. Under MMA, beneficiaries may choose from additional plan options, including regional PPO (RPPO) plans and special needs plans (SNPs). The MMA further established the Medicare prescription drug benefit (Part D) program and amended the Part C program to allow MA plans to offer prescription drug coverage.

Other Medicare health plans include Section 1876 cost contracts and Section 1833 health care prepayment plans (HCPP plans). Cost contracts are paid based on the reasonable costs incurred by delivering Medicare-covered services to plan members. Enrollees in these plans may use the cost plan's network of providers or receive their health care services through original Medicare. Section 1833 HCPPs are generally employer- or union-sponsored managed care plans that provide for Medicare Part B benefits on a prepayment basis. Medicare only reimburses HCPP plans for Part B services and, just as with Section 1876 cost plans, payment is based on reasonable costs.

Medicare beneficiaries can find and compare the Medicare health plans' rules and costs in their area of residence on the Medicare Plan Finder Web site. The Medicare Plan Finder Web site also has information on quality to help consumers compare plans and make a decision regarding the Plan in which to enroll. Information about the Medicare Plan Finder Web site and how to compare plans can be found at <https://www.medicare.gov/find-a-plan/questions/home.aspx>.

Reporting and Data Collection History

CMS is committed to measuring and reporting quality information for MA Plans (MA) contracts. The Healthcare Effectiveness Data and Information Set (HEDIS) is a tool used by more than 90

percent of America's health plans to measure performance on important dimensions of care and service. Altogether, HEDIS consists of 75 measures across 8 domains of care. Because so many plans collect HEDIS data, and because the measures are so specifically defined, HEDIS makes it possible to compare the performance of health plans to other health plans on an “apples-to-apples” basis.¹ The Medicare Consumer Assessment of Healthcare Providers and Systems (CAHPS®) 4.0 survey, which measures members' experiences with their care in areas such as communications, customer service, and getting needed care quickly.² CAHPS® surveys are a set of surveys sponsored by CMS that collect information to fulfill a requirement of Congress (under the Balanced Budget Act of 1997 and Medicare Modernization Act of 2003). The surveys provide information to Medicare beneficiaries on the quality of health services provided through MA and original Medicare. Consumer evaluations of health care, such as those collected through the Medicare CAHPS® surveys, measure important aspects of a patient's experience that cannot be assessed by other means.

The first HEDIS data received by CMS (then Health Care Financing Administration, or HCFA) were HEDIS 1997 data, which contained information on contract year 1996. In January 1999, comparative HEDIS and CAHPS information was publicly reported on the Web.

Measures Included in This Report

The National Committee for Quality Assurance (NCQA) develops and maintains HEDIS measures. NCQA collects Medicare HEDIS data on behalf of CMS. There are 30 measures that are NQF-endorsed and included in the Results section of this chapter. Some NQF measures include multiple components. These components are reported separately in the Results section. These measures meet the inclusion criteria described above and are included in this chapter. CMS uses NQF-endorsed measures when feasible; however, when NQF-endorsed measures do not exist for a specified area or medical topic, CMS may choose to use measures that are not endorsed by the NQF. While most HEDIS measures are NQF-endorsed, some HEDIS measures used in the Part C program are not endorsed and, therefore, do not meet the criteria for inclusion in this analysis. HEDIS is collected from administrative data and medical records. Administrative data are electronic records of services, including insurance claims and registration systems from hospitals, clinics, medical offices, pharmacies, and labs. Some measures are collected from a combination of administrative data and medical record review. This combination approach to data collection is called the hybrid method. Tables 8-1, 8-2, and 8-3 show the NQF-endorsed Part C measures that are included in this chapter.

The two surveys used to collect quality information about the plans are CAHPS and HOS. The Medicare CAHPS surveys produce comparable data on the patients' experience of care that allows for objective and meaningful comparisons between MA contracts on domains that are

¹ National Committee for Quality Assurance, “What is HEDIS?”

² Ibid.

important to consumers. These survey data are publicly reported by contract. During the period included in this chapter, the CAHPS survey was conducted by CMS. The CAHPS survey was endorsed as a single measure (NQF 0006), however, this chapter includes the results for items included in the five component measures as they are publicly reported. The HOS is a patient-reported outcomes measure used in MA plans. The HOS also includes some HEDIS clinical quality measures that are included in this chapter. The HOS was conducted by NCQA-approved external survey organizations.

Quality performance information is reported on the Medicare Plan Finder Web site. CMS rates plans on a one-to-five star scale, with five stars representing the highest quality. Star ratings are assigned by measures, by category, and by an overall summary rating that summarizes all category measures into a single rating. The overall summary score of the plan's performance is intended to assist people with Medicare to compare plans based on cost, coverage, quality, and performance ratings. For more information on the Medicare Plan Finder Web site, please go to <https://www.medicare.gov/find-a-plan/questions/home.aspx>.

For plans covering health services, the overall score for quality of those services covers different topics in five categories:

- ◆ *Staying healthy*: Includes how often members got various screening tests, vaccines, and other check-ups that help them stay healthy
- ◆ *Managing chronic (long-term) conditions*: Includes how often members with different conditions received certain tests and treatments that help them manage their condition
- ◆ *Ratings of health plan responsiveness and care*: Includes ratings of member satisfaction with the plan
- ◆ *Member complaints, problems getting services, and choosing to leave the plan*: Includes how often members filed complaints against the plan and how often members choose to leave the plan; also includes how often Medicare found problems with the plan
- ◆ *Health plan customer service*: Includes how well the plan handles calls and makes decisions about member appeals for health coverage

NQF-endorsed measures that are used in the star ratings are included in this report. Results are collected and reported at the MA-contract level. They are reported for the entire Medicare population covered under the contract, even though the contract can cover a wide geographic area and can include multiple benefit packages. A provision in ACA calls for plans that receive four or five stars to get a quality bonus. CMS has implemented a demonstration beginning in 2012, in which plans receiving three or more stars receive scaled bonuses. The demonstration is from 2012 to 2014, and then ACA provisions will be implemented.

The measures in tables 8-1, 8-2, and 8-3 are grouped by the Medicare Plan Finder Star Rating category and show the NQS priority applicable to each measure. It should also be noted that most quality measures have multiple measure names. The measure names used in this chapter

are based on the measure names located on the Medicare Plan Finder Web site that is used for public reporting.

Table 8-1: Staying Healthy: Screenings, Tests, and Vaccines

NQF #	Measure Name	Description	National Quality Strategy Priority
0031	Breast Cancer Screening (HEDIS)	Percent of female plan members aged 40–69 who had a mammogram during the past 2 years	Best Practices for Healthy Living
0034	Colorectal Cancer Screening (HEDIS)	Percent of plan members aged 50–75 who had appropriate screening for colon cancer	Best Practices for Healthy Living
0075	Cholesterol Screening for Patients with Heart Disease (HEDIS)	The percentage of members 18–75 years of age with heart disease who have had a test for LDL cholesterol within the past year	Effective Prevention and Treatment of Illnesses
0064	Cholesterol Screening for Patients with Diabetes (HEDIS)	Percentage of adult patients with diabetes aged 18–75 years who have had a test for LDL cholesterol within the past year	Effective Prevention and Treatment of Illnesses
0040	Annual Flu Vaccine (CAHPS)	Percent of plan members who got a vaccine (flu shot) prior to flu season	Best Practices for Healthy Living
0043	Pneumonia Vaccine (CAHPS)	Percent of plan members who ever got a vaccine (shot) to prevent pneumonia	Best Practices for Healthy Living
0029	Monitoring Physical Activity (HOS)	Percent of senior plan members who discussed exercise with their doctor and were advised to start, increase, or maintain their physical activity during the year	Best Practices for Healthy Living

Table 8-2: Managing Chronic (Long-Term) Conditions

NQF #	Measure Name	Description	National Quality Strategy Priority
0553	Yearly Review of All Medications and Supplements Being Taken (collected by SNP only) (HEDIS)	Percent of plan members whose doctor or clinical pharmacist has reviewed a list of everything they take (prescription and non-prescription drugs, vitamins, herbal remedies, other supplements) at least once a year	Communication and Care Coordination
0053	Osteoporosis Management (HOS)	Percent of female plan members who broke a bone and got screening or treatment for osteoporosis within 6 months	Effective Prevention and Treatment of Illnesses
0055	Eye Exam to Check for Damage from Diabetes (HEDIS)	Percentage of adult patients with diabetes aged 18–75 years who had an eye exam (retinal) performed	Effective Prevention and Treatment of Illnesses

NQF #	Measure Name	Description	National Quality Strategy Priority
0062	Kidney Function Testing for Members with Diabetes (HEDIS)	Percentage of adult patients with diabetes aged 18–75 years who had a kidney function test during the year	Effective Prevention and Treatment of Illnesses
0059	Plan Members with Diabetes Whose Blood Sugar Is Under Control (HEDIS)	Percentage of adult patients with diabetes aged 18–75 years with most recent A1c level greater than 9.0% (poor control)	Effective Prevention and Treatment of Illnesses
0064	Plan Members with Diabetes Whose Cholesterol Is Under Control (HEDIS)	Percentage of adult patients with diabetes aged 18–75 years with most recent (LDL-C) most recent LDL-C test result during the measurement year was < 100 mg/dL	Effective Prevention and Treatment of Illnesses
0018	Controlling Blood Pressure (HEDIS)	Percentage of patients aged 18 and over with a diagnosis of hypertension with last BP < 140/90 mm Hg	Effective Prevention and Treatment of Illnesses
0054	Rheumatoid Arthritis Management (HEDIS)	Percentage of patients 18 years and older, diagnosed with rheumatoid arthritis, who have had at least one ambulatory prescription dispensed for a disease modifying antirheumatic drug (DMARD)	Effective Prevention and Treatment of Illnesses
0030	Improving Bladder Control (HOS)	Percent of plan members with a urine leakage problem who discussed the problem with their doctor and got treatment for it within 6 months	Effective Prevention and Treatment of Illnesses
0035	Reducing the Risk of Falling (HOS)	Percent of plan members with a problem falling, walking, or balancing who discussed it with their doctor and got treatment for it during the year	Safety

Table 8-3: Ratings of Plan Responsiveness and Care

NQF #	Measure Name	Description	National Quality Strategy Priority
0006	Ease of Getting Needed Care and Seeing Specialists (CAHPS)	Percent of best possible score the plan earned on how easy it is to get needed care, including care from specialists	Person and Family Centered Care
0006	Getting Appointments and Care Quickly (CAHPS)	Percent of best possible score the plan earned on how quickly members get appointments and care	Person and Family Centered Care
0006	Customer Service (CAHPS)	Percent of best possible score the plan earned on how easy it is to get information and help when needed	Person and Family Centered Care

NQF #	Measure Name	Description	National Quality Strategy Priority
0006	Overall Rating of Health Care Quality (CAHPS)	Response to the Question: Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 6 months?	Person and Family Centered Care
0006	Members' Overall Rating of Health Plan (CAHPS)	Percent of best possible score the plan earned from plan members who rated the overall plan	Person and Family Centered Care

Methods

The performance rates included in this chapter were obtained from the CMS Medicare Drug Benefit and C & D Data Group. All Medicare plans that reported HEDIS—i.e., HMO, local PPO, regional PPO, 1876 Cost, PFFS, PSO (state license), and Continuing Care Retirement Community—are included in this chapter. These data were aggregated to obtain national rates for all plans. The data presented in the graphs and tables of this chapter contain performance rates from 2006 through 2010 and were plotted on a trend chart for review and discussion.

Unless indicated, the clinical quality measures included in this chapter were collected via administrative data or the hybrid method (administrative data supplemented by chart review).

Three of the measures included in this chapter were collected via HOS: *Improving Bladder Control*, *Physical Activity in Older Adults*, and *Monitoring Physical Activity*. A random sample of Medicare beneficiaries is drawn from each participating MA plan and surveyed every spring. Two years later, these same respondents are surveyed again. The measures are then calculated from combined data collected during the baseline and follow-up period for each reporting year.

The results presented in the “Ratings of Plan Responsiveness and Care” section of this report represent the average response rating received on each CAHPS measure. For survey items associated with the *Getting Care Quickly*, *Ease of Getting Needed Care*, *Seeing Specialists*, and *Customer Service* domains, Medicare beneficiaries were asked to respond to statements based on the following response categories: “Never,” “Sometimes,” “Usually,” and “Always.” To derive the average rating, each discrete response was assigned a numeric value—i.e., Never = 1, Sometimes = 2, Usually = 3, and Always = 4. For survey items associated with the beneficiaries’ overall rating of care and health care quality, satisfaction was evaluated on a 10-point scale. Again, all responses were averaged to derive the final rate.

In addition to the *Ratings of Plan Responsiveness and Care* measures, the two immunization measures, *Annual Flu Vaccine* and *Pneumonia Vaccine*, were also collected through questions on the CAHPS survey. Beneficiaries responding to these survey items answered whether they have received the flu or pneumonia vaccines.

Results

Please refer to Appendix A: Measure Highlights for the summarized results to all of the measures presented in this chapter.

Number of Reporting Contracts

The number of Medicare Part C contracts that reported HEDIS rates has been increasing from 2006 through 2010. Not all contracts were able to report every measure due to their size and low number of eligible cases. Additionally, some measures are applicable to certain plan types only. Table 8-4 displays the minimum, maximum, and average number of contracts reporting results across all measures by measurement period.

Table 8-4: Minimum, Maximum, and Average Number of Contracts Reporting HEDIS Rates

Year	Minimum Number of Contracts Reporting Results Across All Measures	Maximum Number of Contracts Reporting Results Across All Measures	Average Number of Contracts Reporting Results Across All Measures
2006	138	283	226
2007	183	333	279
2008	203	383	291
2009	203	419	344
2010	230	465	389

Data Source: CMS Medicare Drug Benefit and C & D Data Group

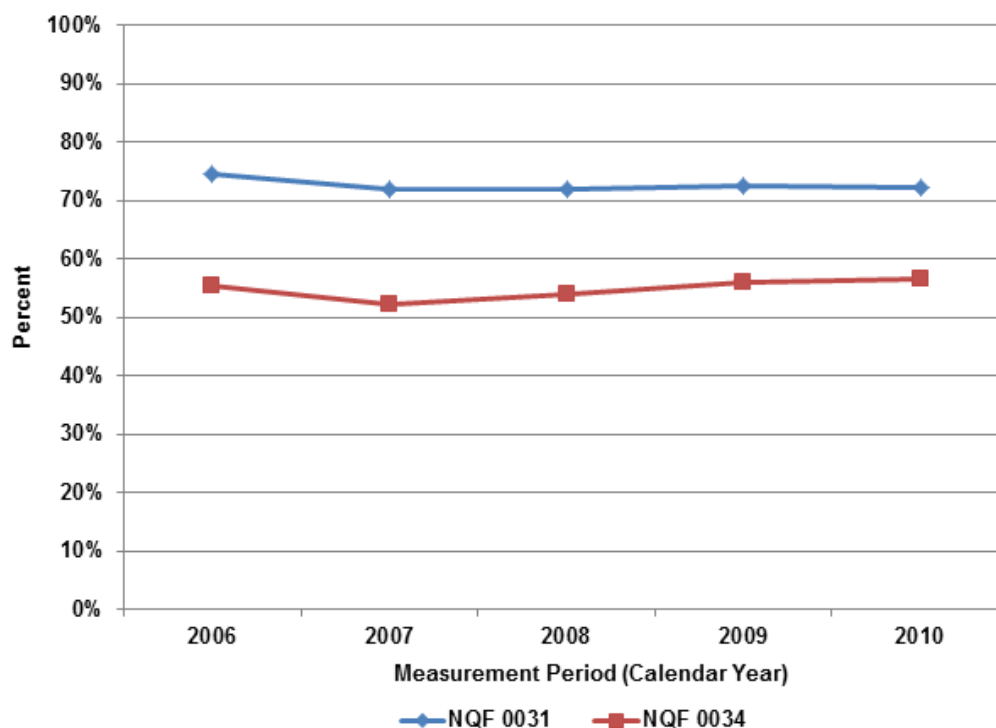
Performance Rates

Staying Healthy: Screenings, Tests, and Vaccines

The measures in this category address the extent to which the contracts detect and prevent illness and improve or maintain the physical and mental health of their members. These measures include breast and colon cancer, LDL-Cholesterol screening for members with diabetes or heart disease, vaccines for flu and pneumonia, and the monitoring of physical activity.

Figures 8-1 and 8-2 present the rates for the following preventive health screenings: *Breast Cancer Screening*, *Colorectal Cancer Screening*, *Cholesterol Screening for Patients with Diabetes*, and *Cholesterol Screening for Patients with Heart Disease*. Results are trended to highlight changes in performance between 2006 and 2010. While all four measures report the percentage of Part C beneficiaries receiving a preventive health screen, the two cancer screening rates are applicable to the entire Part C population and the two cholesterol screening rates are based on Part C members with a chronic condition.

Figure 8-1: Breast Cancer and Colorectal Cancer Screening Rates, 2006–2010



Measure	2006	2007	2008	2009	2010
NQF 0031 – Breast Cancer	74.5%	72.0%	71.8%	72.5%	72.2%
NQF 0034 – Colorectal Cancer	55.5%	52.1%	53.8%	56.0%	56.7%

Data Source: CMS Medicare Drug Benefit and C & D Data Group

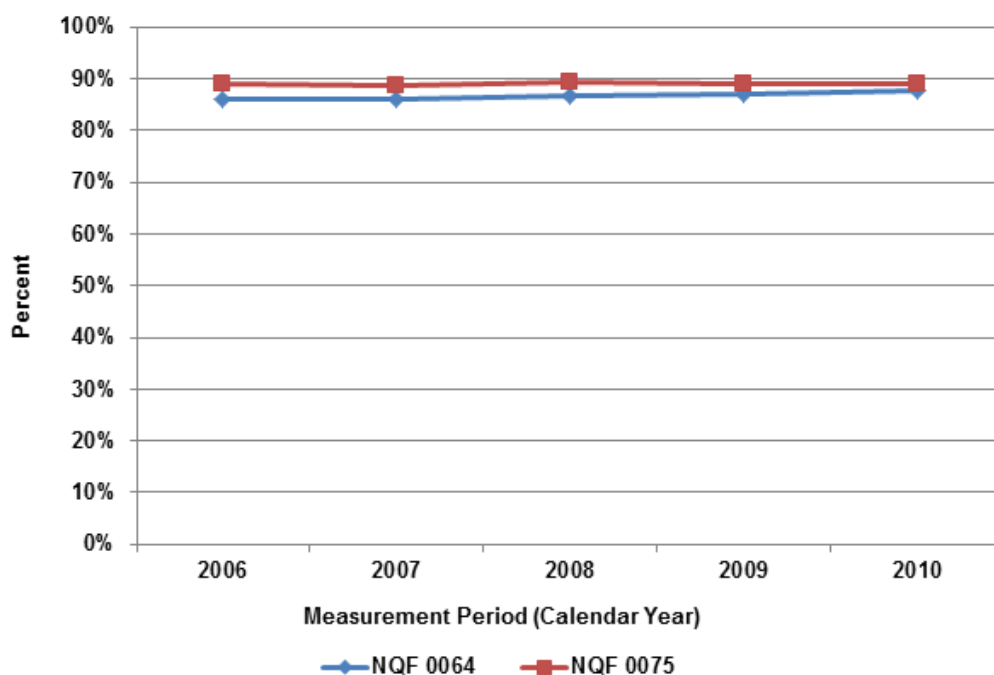
Note: NQF 0031 – Breast Cancer Screening

NQF 0034 – Colorectal Cancer Screening

Breast Cancer Screening is calculated from administrative claims data; *Colorectal Cancer Screening* is obtained from administrative claims and may also include medical record review. For breast cancer screening, although nearly three-quarters of female beneficiaries had a mammogram in 2006, the rate declined in 2007 and 2008. There has been a slight fluctuation in rates of no more than 2.5 percentage points over the five-year measurement period. By 2010, a smaller proportion of female beneficiaries (72.2 percent) received a mammogram, a drop of 2.3 percentage points from 2006. The colorectal-cancer-screening measure had a similar trending pattern. In 2006, 55.5 percent of Part C beneficiaries received a screening for colon cancer. This rate dropped 3.4 percentage points in 2007 to 52.1 percent but started to increase starting in 2008. By 2010, 56.7 percent of beneficiaries received colorectal cancer screening. Although the 2010 rate of 56.7 percent is higher than the rate in 2006 of 55.5 percent, the increase was only a 1.2 percentage point difference. Although across these five years breast cancer screening rates were consistently higher than the colorectal cancer rates, the rate gap between the two

was narrower in 2010 than in 2006, primarily because of the downward trend for the breast-cancer-screening measure.

Figure 8-2: Cholesterol Screening for Patients with Chronic Conditions, 2006–2010
(Diabetes and Heart Disease)



Measure	2006	2007	2008	2009	2010
NQF 0064 – Cholesterol Screening: Diabetes	86.1%	86.0%	86.8%	87.0%	87.6%
NQF 0075 – Cholesterol Screening: Heart Disease	88.8%	88.7%	89.2%	88.9%	89.0%

Data Source: CMS Medicare Drug Benefit and C & D Data Group

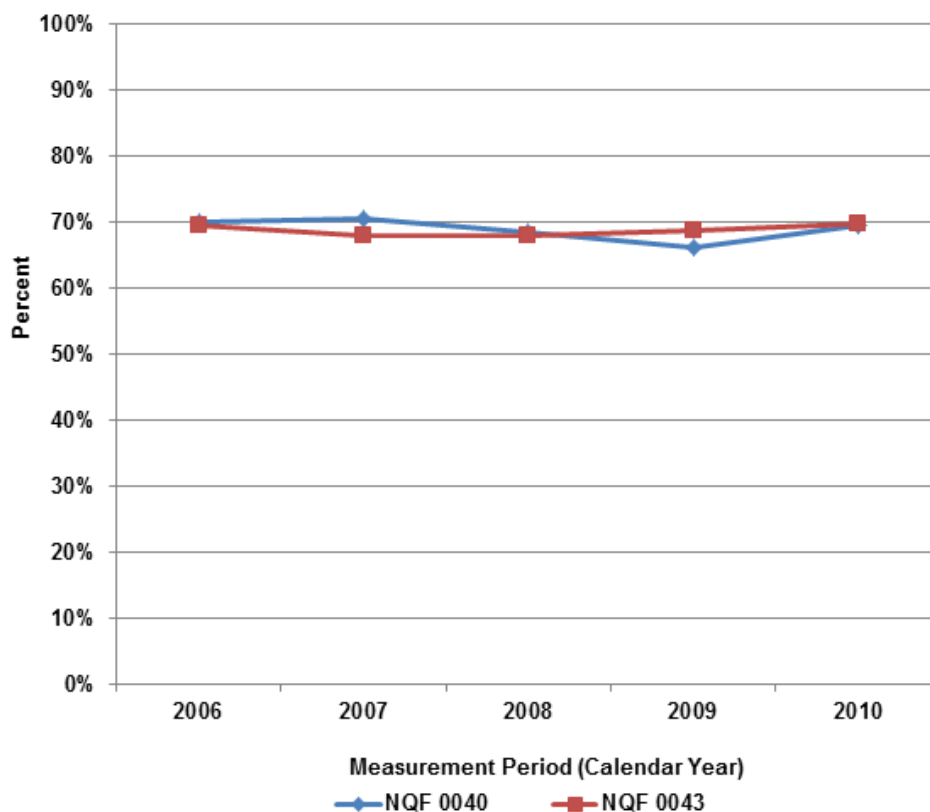
Note: NQF 0064 – Cholesterol Screening for Patients with Diabetes

NQF 0075 – Cholesterol Screening for Patients with Heart Disease

Figure 8-2 displays results for the percentage of Medicare Part C beneficiaries with a chronic condition (i.e., diabetes or heart disease) who were screened for cholesterol during the measurement period. On average, more than four in every five Part C beneficiaries with diabetes or heart disease (87.6 percent and 89.0 percent, respectively) had their cholesterol levels checked during each of the measurement periods under review. Both of the cholesterol screening measures displayed some upward trend with slight rate fluctuation in between years of no more than one percentage point. Across these five years, cholesterol screening rates for beneficiaries with heart disease were consistently higher by no more than three percentage points than those for beneficiaries with diabetes.

Figure 8-3 shows the percentage of Part C beneficiaries that received an annual flu shot prior to or during the flu season and who received a pneumonia vaccination between 2006 and 2010.

Figure 8-3: Influenza and Pneumonia Vaccination Rates, 2006–2010



Measure	2006	2007	2008	2009	2010
NQF 0040 – Flu vaccine	70.2%	70.5%	68.6%	66.3%	69.4%
NQF 0043 – Pneumonia vaccine	69.6%	67.9%	68.0%	68.7%	69.8%

Data Source: CMS Medicare Drug Benefit and C & D Data Group

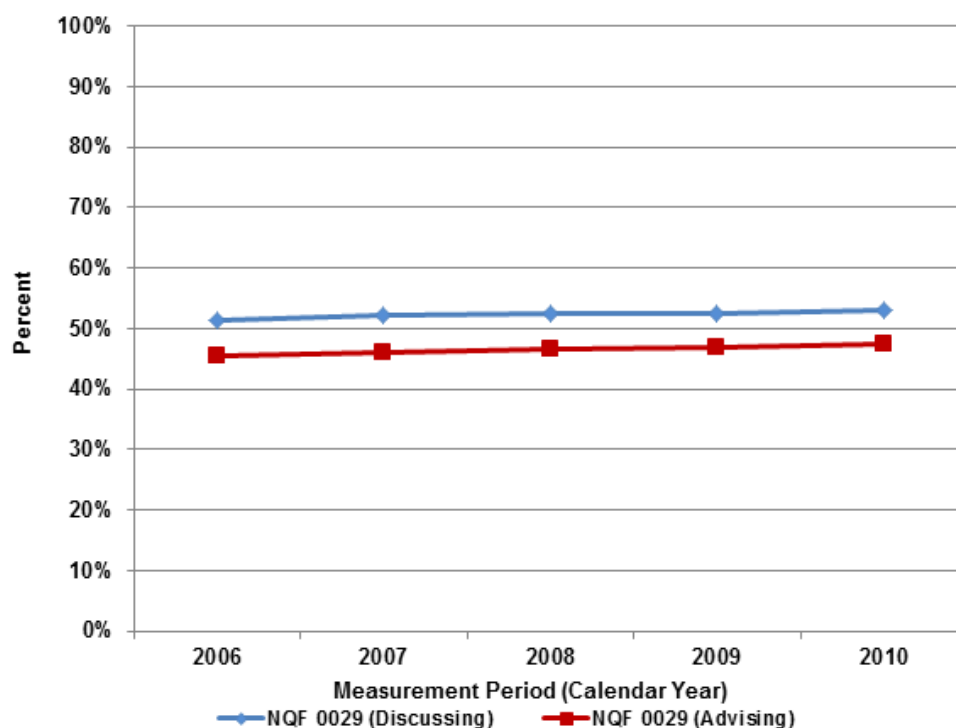
Note: NQF 0040 – *Annual Flu Vaccine*
NQF 0043 – *Pneumonia Vaccine*

Data for the two immunization measures displayed in Figure 8-3 were collected from the Medicare CAHPS survey. Figure 8-3 illustrates that approximately 7 out of 10 beneficiaries reported that they received an annual flu shot during the previous flu season in 2007. The measure started with an initial rate increase from 2006 to 2007, then exhibited a decline in 2008 and 2009 for a total of 4.2 percentage points. The result for this measure then increased 3.4 percentage points in 2010 to 69.4 percent but was still 0.8 percentage points lower than the 2006 rate of 69.6 percent.

Pneumonia vaccination displayed an overall upward trend, with small rate fluctuations in between years. Similar to the *Annual Flu Vaccine* measure, about 7 out of 10 beneficiaries had received the pneumonia vaccine by 2006 and, while there was an initial decline in 2007, by 2008 the rates began increasing steadily. By 2010, 69.8 percent of beneficiaries received the pneumonia vaccine, an increase of 0.2 percentage points from 2006 and 1.9 percentage points from 2008, which was the lowest point across the five-year measurement period.

Figure 8-4 highlights the percentage of beneficiaries receiving guidance regarding physical activity.

Figure 8-4: Monitoring Physical Activity, 2006–2010



Measure	2006	2007	2008	2009	2010
NQF 0029 – Advising Physical Activity	45.6%	46.1%	46.6%	46.9%	47.5%
NQF 0029 – Discussing Physical Activity	51.3%	52.1%	52.5%	52.6%	53.0%

Data Source: CMS Medicare Drug Benefit and C & D Data Group

Note: NQF 0029 (Advising) – Monitoring Physical Activity – Advising Physical Activity

NQF 0029 (Discussing) – Monitoring Physical Activity – Discussing Physical Activity

The two measures displayed in Figure 8-4 were collected via the HOS survey. In 2006, just over half of senior plan members discussed exercise with their physician or other health provider during the measurement period, and this rate continued to increase in 2010 to 53.0 percent. Similarly, the percentage of senior plan members who were subsequently advised to start

exercising, increase, or maintain their level of physical activity also increased steadily from 45.6 percent in 2006 to 47.5 percent in 2010. Although only about half of the Part C beneficiaries discussed their physical activity level with their physicians/health care providers, these results should not be overstated, especially since these two measures do not address other means of communication by the health plan regarding physical activity (e.g., educational mailings and gym memberships). Ideally, most of a plan's members would receive some form of education about physical activity from their health plan, given the increasing rates of overweight and obesity among seniors in the United States.

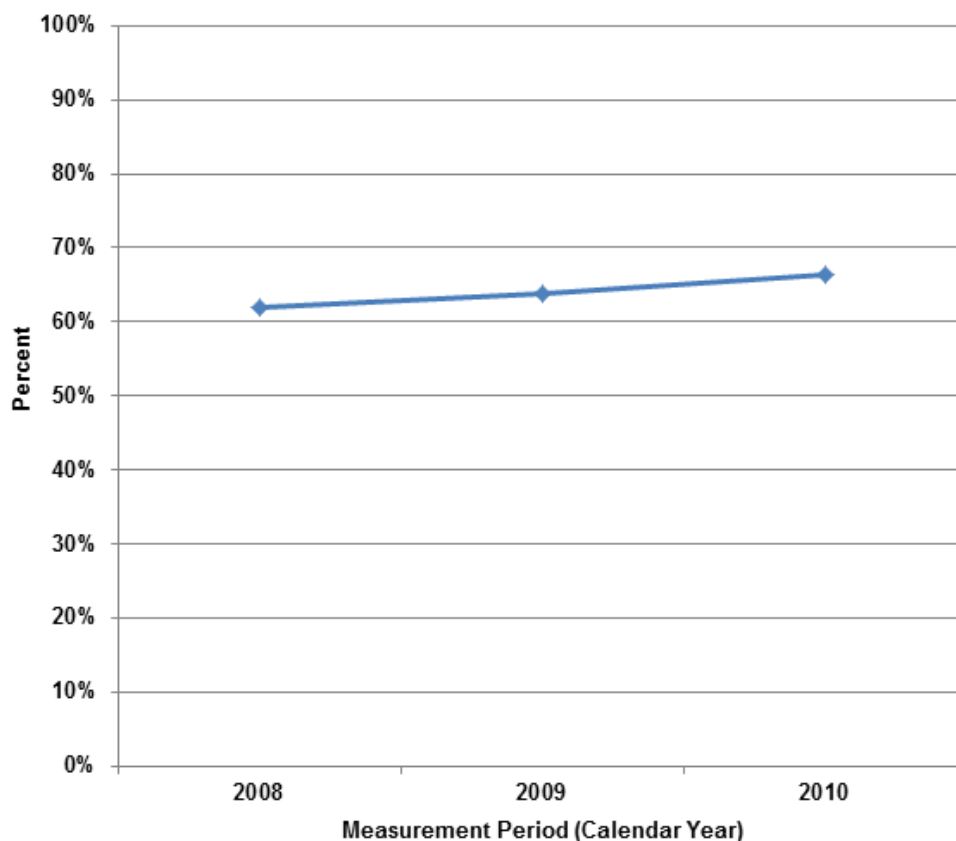
In general, performances on the staying-healthy measures were mixed. Cholesterol screening for members with chronic conditions, breast cancer screenings, and flu and pneumonia vaccination rates each showed that approximately 70 percent or more of the senior plan members received these preventive services. The lowest rates were related to provider coaching on the importance of physical activity. Approximately half of the members discussed exercise with their physicians, and fewer were advised to start, increase, or maintain currently reported levels of activity.

Managing Chronic (Long-term) Conditions

The measures in this category address how plans help people with chronic health conditions, and results are shown in figures 8-5 through 8-9. This category includes measures reporting the extent to which people with diabetes are getting certain types of recommended care, people with high blood pressure are able to maintain a healthy blood pressure, people with bone fractures are tested for osteoporosis, and people with rheumatoid arthritis are taking drugs to manage their condition. It also includes measures addressing bladder control problems and fall prevention.

Figure 8-5 displays the percentage of Part C beneficiaries whose provider or pharmacist reviewed a comprehensive list of all medications (including vitamins, herbal remedies, and other supplements) used by members at least once during the measurement period. Unlike other measures, the *Yearly Review of All Medications and Supplements Being Taken* measure is restricted to SNPs. SNPs are allowed to target enrollment to one or more types of special needs individuals identified by Congress: (1) institutionalized, (2) dually eligible, or (3) individuals with severe or disabling chronic conditions.

**Figure 8-5: Yearly Review of All Medications and Supplements Being Taken
(2008–2010)**

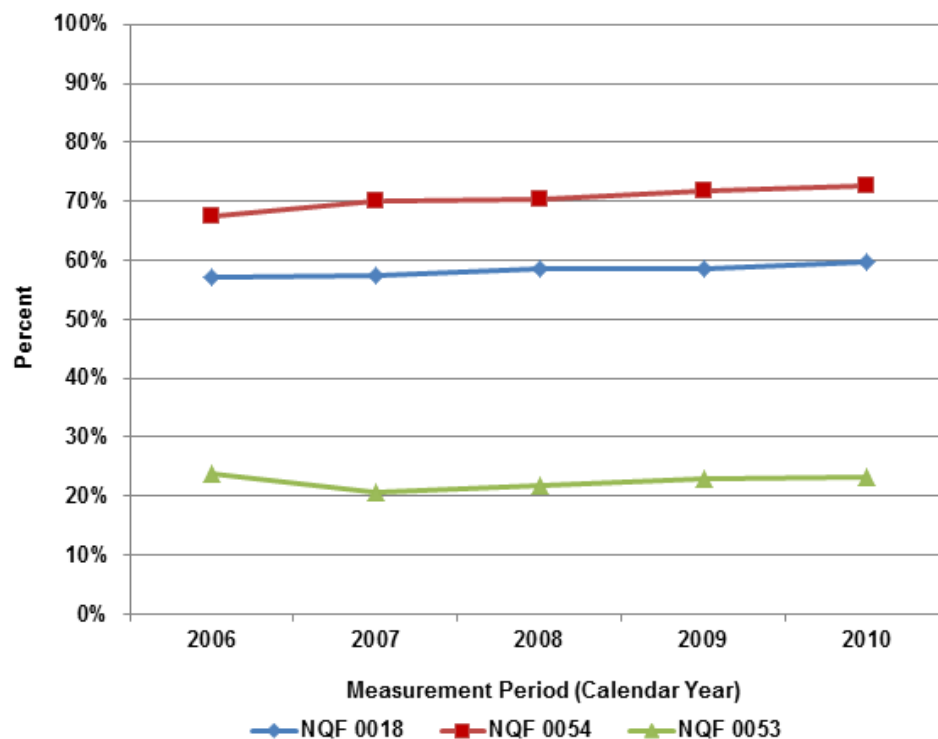


Measure	2008	2009	2010
NQF 0553 – Medication Review	61.9%	63.7%	66.4%

Data Source: CMS Medicare Drug Benefit and C & D Data Group

Data for this measure were collected from administrative claims supplemented by medical record review (i.e., hybrid methodology). In 2010, approximately two-thirds (66.4 percent) of the Part C beneficiaries in a SNP had at least one medication review performed by a prescribing practitioner or clinical pharmacist. The trend associated with this measure shows a steady increase from 2008 to 2010. The 2010 rate of 66.4 percent represents a 4.5 percentage point increase from 61.9 percent in 2008.

Figure 8-6: Managing Chronic Conditions, 2006–2010



Measure	2006	2007	2008	2009	2010
NQF 0018 – High Blood Pressure	57.1%	57.3%	58.6%	58.4%	59.8%
NQF 0054 – Rheumatoid Arthritis	67.6%	70.0%	70.3%	71.9%	72.7%
NQF 0053 – Osteoporosis	23.7%	20.8%	21.9%	22.9%	23.1%

Data Source: CMS Medicare Drug Benefit and C & D Data Group

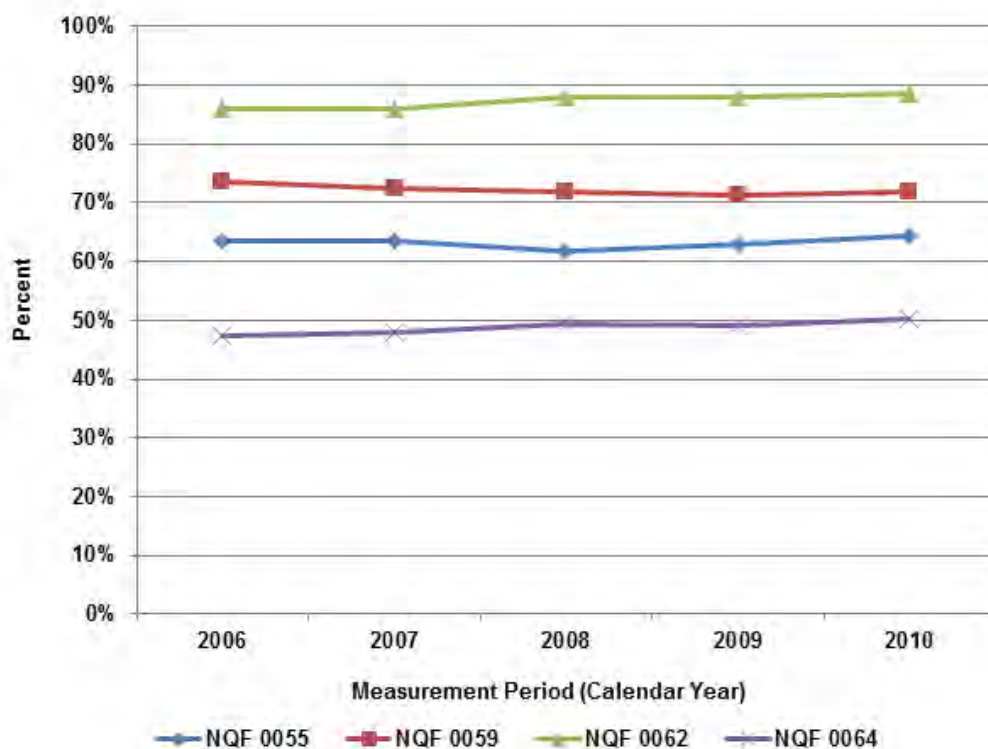
Note: NQF 0018 – Controlling High Blood Pressure
NQF 0054 – Rheumatoid Arthritis Management
NQF 0053 – Osteoporosis Management

Figure 8-6 displays the trends for two administrative claims-based treatment measures for members with rheumatoid arthritis and osteoporosis and one measure for members with hypertension based on a hybrid methodology. The *Controlling Blood Pressure* measure reports the percentage of members with a diagnosis of hypertension whose blood pressure was less than 140/90 mmHg. Overall, the measure shows an upward trend from 57.1 percent in 2006 to 59.8 percent in 2010, with a slight decline of 0.2 percentage points between 2008 and 2009. For beneficiaries diagnosed with rheumatoid arthritis, the percentage of members receiving at least one ambulatory prescription for a disease modifying antirheumatic drug (DMARD) also showed an upward trend from 2006 to 2010. In 2010, 72.7 percent of patients received a DMARD compared with 67.6 percent in 2006, an increase of 5.1 percentage points.

Figure 8-6 also displays the percentage of female plan members who broke a bone and received screening or treatment for osteoporosis within six months. Overall, about one in five women

with a bone fracture had follow-up services for osteoporosis. This measure shows an initial decline from 23.7 percent in 2006 to 20.8 percent in 2007, equaling a 2.9 percentage points decline. By 2010, the rate of 23.1 percent was 0.6 percentage points lower than the rate in 2006.

Figure 8-7: Managing Diabetes, 2006–2010



Measure	2006	2007	2008	2009	2010
NQF 0055 – Eye exam	63.5%	63.4%	61.9%	63.0%	64.3%
NQF 0059 – Blood sugar under control	73.5%	72.4%	71.9%	71.4%	71.8%
NQF 0062 – Kidney function	85.9%	86.0%	87.9%	88.1%	88.6%
NQF 0064 – Cholesterol	47.5%	47.8%	49.3%	49.1%	50.3%

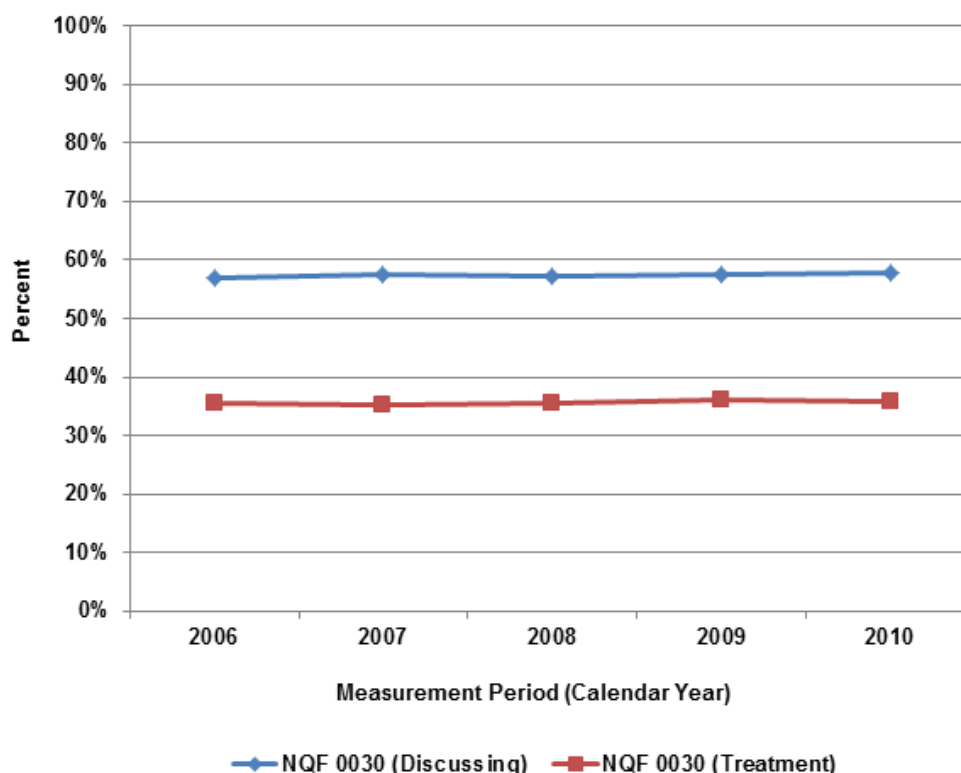
Data Source: CMS Medicare Drug Benefit and C & D Data Group

Note: NQF 0055 – Eye Exam to Check for Damage from Diabetes
NQF 0059 – Plan Members with Diabetes Whose Blood Sugar is Under Control
NQF 0062 – Kidney Function Testing for Members with Diabetes
NQF 0064 – Plan Members with Diabetes Whose Cholesterol is Under Control

Figure 8-7 displays the trends of four measures related to the effective management and treatment of beneficiaries with diabetes, and the data are collected from administrative claims supplemented by medical record review. In 2010, close to 90 percent (88.6 percent) of the beneficiaries with diabetes had their kidney function tested, while only 71.8 percent had their blood sugar under control. Approximately 6 out of 10 (64.3 percent) had an eye exam, while approximately half (50.3 percent) had cholesterol levels below 100 mg/dL. Among the four

measures, only the rates for the kidney function testing measure increased each year during the five-year measurement period. In each of the other three measures, there was at least one year with a reported decline in rates. Nonetheless, the decline for any single year was no more than 1.5 percentage points. With the exception of the blood-sugar-under-control measure, the 2010 rates for all other measures were higher than the 2006 rates. Among those measures with positive rate changes between 2006 and 2010, the cholesterol-under-control-measure exhibited the greatest increase: 2.8 percentage points.

Figure 8-8: Improving Bladder Control, 2006–2010



Measure	2006	2007	2008	2009	2010
NQF 0030 – Discussing bladder control	56.9%	57.6%	57.2%	57.4%	57.7%
NQF 0030 – Treatment for bladder control	35.5%	35.4%	35.7%	36.0%	35.9%

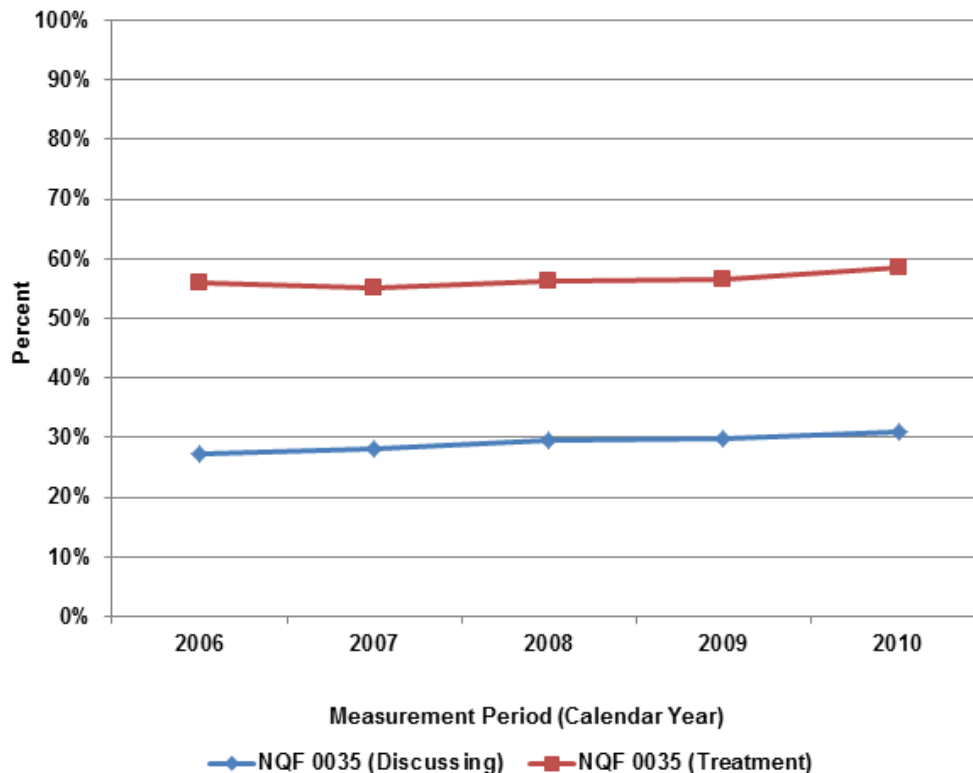
Data Source: CMS Medicare Drug Benefit and C & D Data Group

Note: NQF 0030 – Improving Bladder Control – Discussing and Receiving Urinary Incontinence Treatment

Figure 8-8 displays the *Improving Bladder Control* measure; the data are collected via the Medicare HOS survey. This measure describes the discussion and treatment of urinary incontinence as reported by a sample of Part C beneficiaries. In 2010, nearly 57.7 percent of beneficiaries noting a urine leakage problem discussed the problem with their current doctor or other health provider. Approximately 36 percent of those reporting a urine leakage problem received urinary incontinence treatment. The 2010 rates for both measures were higher than

their 2006 rates (0.8 percentage points higher for the discussing-bladder-control measure and 0.4 percentage points higher for the treatment-for-bladder-control measure).

Figure 8-9: Reducing the Risk of Falling, 2006–2010



Measure	2006	2007	2008	2009	2010
NQF – 0035 Discussing falls	27.2%	28.3%	29.6%	29.7%	31.1%
NQF – 0035 Treatment for falls	55.9%	55.1%	56.2%	56.5%	58.5%

Data Source: CMS Medicare Drug Benefit and C & D Data Group

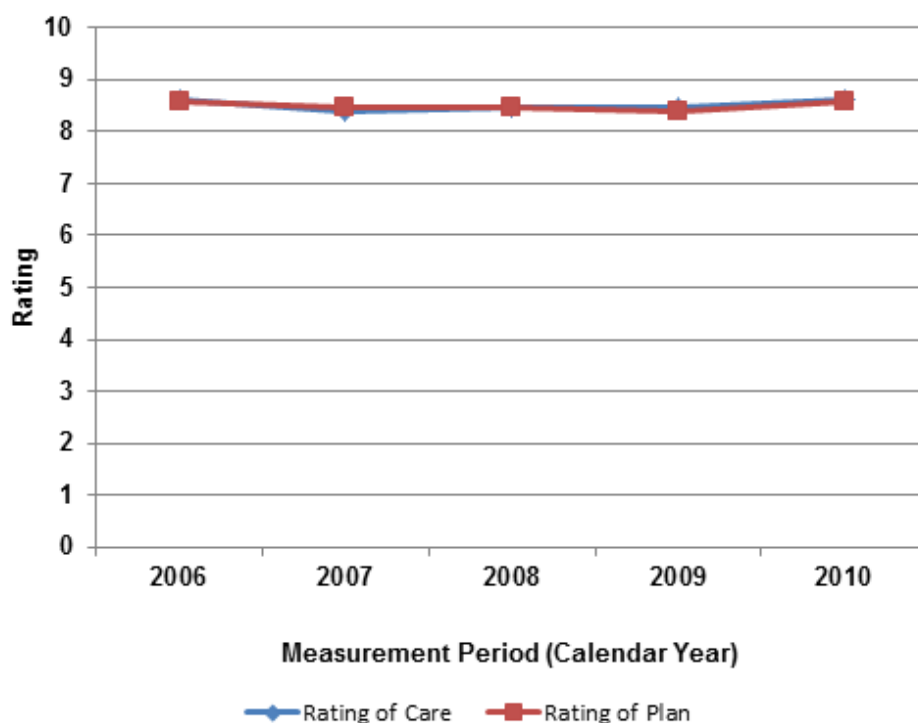
Note: NQF 0035 – Reducing the Risk of Falling – Discussing and Receiving Treatment for Fall Risk

Figure 8-9 displays the *Reducing the Risk of Falling* measure that is collected via the Medicare HOS survey. The measure describes the discussion and treatment of the risk of falls, as reported by a sample of Part C beneficiaries. This sample included those beneficiaries 75 years of age and older regardless of a problem and those aged 65 thru 74 who reported a fall or balance problem. In 2010, while less than one-third of beneficiaries discussed falls or balance problems with their doctor or other health provider, 58.5 percent reported receiving treatment after a fall. The 2010 rates for both measures were higher than the 2006 rates (3.9 percentage points for discussing falls and 2.6 percentage points for treatment for falls).

Ratings of Plan Responsiveness and Care

Figures 8-10 through 8-13 display the performance rates associated with the Medicare CAHPS Survey measures. NQF endorsed the Health Plan CAHPS survey (NQF 0006). All of the measures for these figures are included in this endorsed measure. These measures address how well each contract responds to a specific member's needs, including *Getting Care Quickly*, *Ease of Getting Needed Care* and *Seeing Specialists*, and *Customer Service*. For items related to these dimensions, Medicare beneficiaries were asked to respond with the following response categories: "Never," "Sometimes," "Usually," and "Always." Medicare beneficiaries were also asked to provide an overall rating of care and of the contract using a 10-point scale.

Figure 8-10: Rating of Care and Rating of Plan, 2006–2010 (NQF 0006)



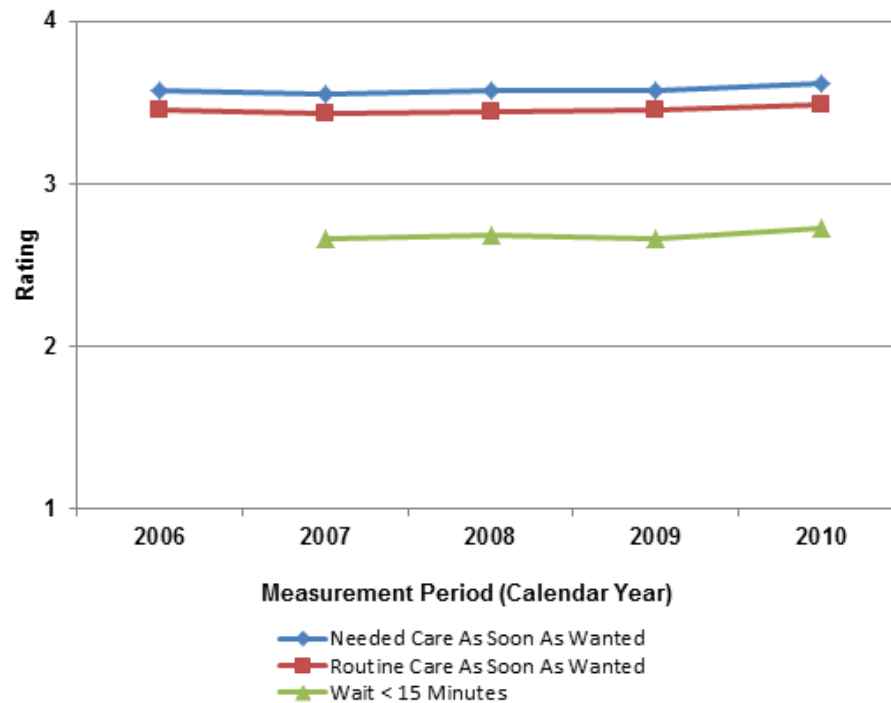
Measure	2006	2007	2008	2009	2010
Overall Rating of Health Care Quality	8.62	8.40	8.46	8.47	8.59
Members' Overall Rating of Health Plan	8.56	8.46	8.46	8.40	8.58

Data Source: CMS Medicare Drug Benefit and C & D Data Group

The survey items in the chart above illustrate beneficiaries' feelings/satisfaction toward their overall health care quality and health plan. Respondents were asked to rate these two items on a 10-point scale. Figure 8-10 shows that, on average, members had an almost identical rating of health care quality and their health plan between 2006 and 2010. In general, Part C beneficiaries rated the quality of health care provided to them slightly higher than the overall services they received from the health plan. Both of these measures exhibited a slight dip in

one of the five years (2007 for *Rating of Health Care Quality*, and 2009 for *Rating of Health Plan*) but remained essentially unchanged between 2006 and 2010.

Figure 8-11: Getting Appointments and Care Quickly, 2006–2010 (NQF 0006)

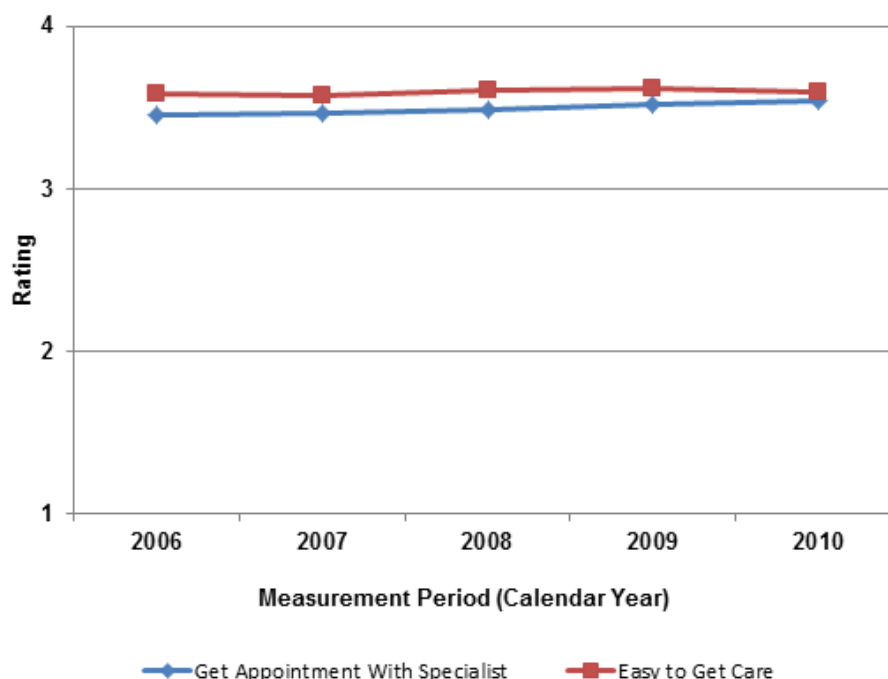


Measure	2006	2007	2008	2009	2010
Needed Care As Soon As Wanted	3.57	3.55	3.57	3.58	3.61
Routine Care As Soon As Wanted	3.46	3.43	3.44	3.46	3.49
Wait < 15 Minutes		2.66	2.68	2.66	2.73

Data Source: CMS Medicare Drug Benefit and C & D Data Group

Figure 8-11 displays the average ratings for items related to getting appointments and care in a timely manner. For these items, Part C beneficiaries were asked to respond using one of four categories: 1 = Never, 2 = Sometimes, 3 = Usually, and 4 = Always. In 2010, the average ratings for getting needed care and routine care as soon as wanted fell between 3, “Usually,” and 4, “Always.” In general, the results for both of these measures had nearly identical trends; the ratings for getting needed care were slightly higher than the ratings for routine care. Although both measures exhibited a decline between 2006 and 2007, the results for each measure have been increasing since 2007. Rates related to *Waiting Time Less Than 15 Minutes* showed minimal changes between 2007 and 2009, but an increase in 2010. In general, Part C beneficiaries’ whose rating on how frequently their *Waiting Time Was Less Than 15 Minutes* were between “Sometimes” and “Usually.” These findings suggest that, although in general Part C beneficiaries usually received care as soon as they wanted, the wait time was often more than 15 minutes.

Figure 8-12: Ease of Getting Needed Care and Seeing Specialists, 2006–2010 (NQF 0006)

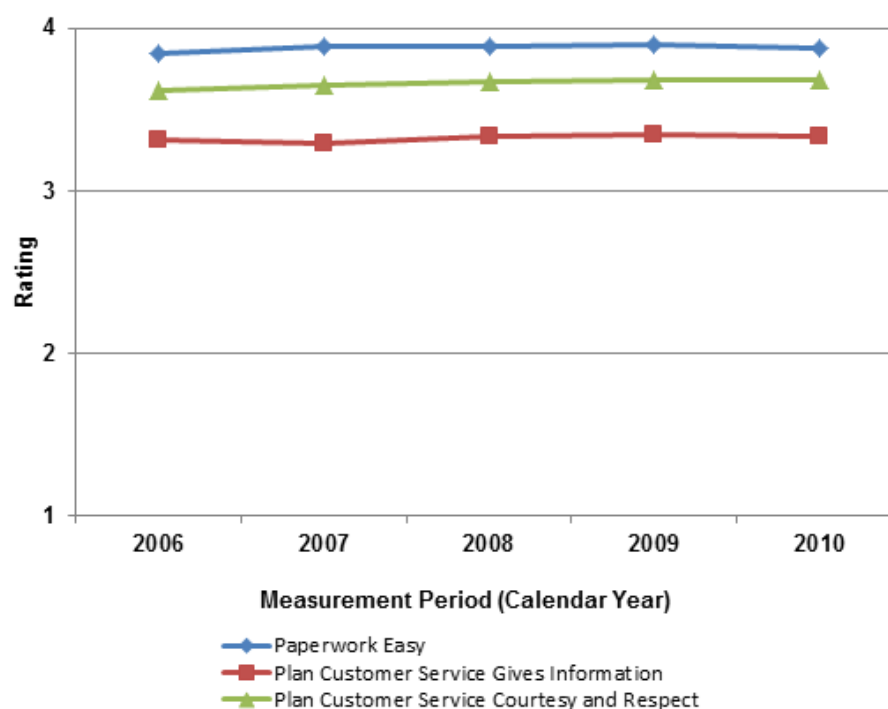


Measure	2006	2007	2008	2009	2010
Get Appointment With Specialist	3.46	3.47	3.49	3.52	3.54
Easy to Get Care	3.58	3.57	3.60	3.61	3.59

Data Source: CMS Medicare Drug Benefit and C & D Data Group

Figure 8-12 displays the average ratings for items related to the *Ease Of Getting Care* and *Seeing Specialists*. The ratings for getting an appointment with a specialist increased steadily from 2006 to 2010. For the *Ease of Getting Get Care* measure, there was a slight decrease in the average rating (0.01) between 2006 and 2007. Overall, the 2010 average ratings for both measures show that Part C beneficiaries generally feel they were usually able to get care easily and see a specialist when needed. When comparing the two measures, the ratings for getting care easily were consistently slightly higher than for getting an appointment with specialist.

Figure 8-13: Customer Service, 2006–2010 (NQF 0006)



Measure	2006	2007	2008	2009	2010
Paperwork Easy	3.85	3.88	3.89	3.89	3.87
Plan Customer Service Gives Information	3.31	3.29	3.34	3.34	3.33
Plan Customer Service Courtesy and Respect	3.62	3.65	3.68	3.68	3.68

Data Source: CMS Medicare Drug Benefit and C & D Data Group

Figure 8-13 reports the average ratings for measures related to customer services. The ratings for three measures show a general increase, followed by a small decline in 2010. The ratings for customer service being courteous and respectful to Medicare beneficiaries showed a steady increase from 2006 to 2008. However, the trend plateaued beginning in 2008. Overall, Part C beneficiaries usually found that the paperwork was easy, the customer service was courteous and respectful, and that they were generally given the information/help they needed. Of the three measures, the rating for customer service helping/giving helpful information was the lowest.

Limitations

When reviewing the results presented in this chapter, several limitations should be considered when interpreting the trends. First, since this review was limited to NQF-endorsed Medicare measures that are publicly available and have nationally representative data, the selected Part C measures represent only a subset of the total measures available. As such, the results are not sufficient to draw conclusive findings regarding the overall impact of CMS' complete set of Part

C measures. The current study was also not designed to specifically evaluate the effects of ongoing contract programs on the reported measures.

Additionally, while the data reported by contracts are accurate for public reporting, the rates analyzed in this section are mostly average, national rates calculated from results submitted by reporting contracts. Some measures allow contracts to use either an administrative methodology incorporating the entire population, or to use a sample and supplement the data with medical record review (i.e., hybrid methodology). The rates for these measures include data obtained from a combination of these methods. As such, caution should be used when interpreting the results as the methodology used to calculate rates (i.e., administrative or hybrid) may influence the findings.

Finally, caution should also be used in interpreting the changes in results noted in this chapter. Since no statistical testing was used to calculate the weighted national averages or to examine whether changes in rates across years were real, changes in rates observed over time may not be related to CMS programs or public reporting. Potential factors affecting results include health plans entering and exiting managed care markets, instability of provider networks among health plans, and member case-mix changes. These changes may potentially confound the impact of the use of public reporting on measure performance.

For measures that rely on survey data, such as the Medicare HOS and the Medicare CAHPS Survey, generalizability of the findings reported in this chapter will be affected by the presence of any response bias associated with non-participating members.

Conclusions and Next Steps

Overall, performance across Part C measures presented in this chapter illustrated consistent performance across all years under review. While some variation in rates was noted during the measurement periods, evidence of major shifts in trends was minimal. One measure, *Yearly Review of All Medications and Supplements Being Taken*, showed relatively strong evidence of improvement with a 4.5 percentage point increase between 2008 and 2010. Other measures showing some evidence of improvement included the *Monitoring Physical Activity*, *Controlling High Blood Pressure*, and *Rheumatoid Arthritis Management* measures.

In general, performance across all measures was moderate, suggesting the continued need to monitor performance and indicating considerable room for improvement. Among the measures evaluated, three measures—i.e., *Cholesterol Screening in Patients with Diabetes*, *Cholesterol Screening in Patients with Heart Disease*, and *Kidney Function Testing in Members with Diabetes*—exhibited comparatively higher performance. Each measure indicated that more than 85 percent of members received these screening procedures annually.

Additionally, in evaluating Part C results by NQS priority domains, performance was mixed. In general, performance for the *Best Practices for Healthy Living* domain was mixed, highlighting

several opportunities for improvement. Approximately 7 out of 10 Part C beneficiaries received a mammogram, flu shot, or pneumonia vaccination; the prevalence of colorectal cancer screening and physician monitoring of physical activity was comparatively lower.

Performance across those measures associated with the *Effective Prevention and Treatment of Illnesses* domain exhibited a wide range of results, given the beneficiaries included in these measures have been diagnosed with chronic conditions; the findings suggest important areas to target for improvement in the effective prevention and treatment of adverse outcomes. Although the results indicate opportunities for improvement, results related to the control of high blood pressure and rheumatoid arthritis management did show some improvement.

Similarly, performance among the remaining NQS priority domains (i.e., *Communication and Care Coordination*, *Safety*, and *Person and Family Centered Care*) showed mixed performance.

As the Part C program continues to evolve, CMS continues to evaluate the selection of measures used to monitor overall performance. Although the measures presented in this chapter only represent a subset of the total Part C Plan Rating performance measures, they suggest moderate performance across the two NQS priority domains: *Best Practices for Healthy Living* and *Effective Prevention and Treatment*. CMS and its contractors should continue to monitor performance in relation to other Part C measures and activities.

Finally, the data presented within this chapter are considered descriptive and intended to provide a national context of the current trends in performance for a subset of health plan measures. While trending information is presented, no statistical testing was conducted to examine whether the changes in rates across years denote improvement or decline in performance. Future studies should incorporate more sophisticated statistical methods in order to evaluate the impact of these publicly reported measures on the quality of care provided by Medicare Advantage plans.

9. Medicare Part D

Introduction

Section 101 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) (Pub. L. 108-173) amended Title XVIII of the Social Security Act (the Act) by establishing the Voluntary Prescription Drug Benefit Program (Part D). Effective January 1, 2006, Part D was offered as an optional prescription drug benefit for individuals who were entitled to Medicare benefits under Part A or enrolled in Medicare benefits under Part B. Beneficiaries who qualified for both Medicare and Medicaid (full-benefit dual eligible) automatically received Part D. The MMA also provided assistance with premiums and cost sharing to eligible low-income beneficiaries. The regulations governing Part D were set forth in 42 CFR Part 423 – *Voluntary Medicare Prescription Drug Benefit*. There are a number of places in which Part D statutory provisions are incorporated by referring to specific sections of the Act that governed the Medicare Part C program, also known as the Medicare Advantage program (MA program, or MA), and formerly the Medicare + Choice (M+C) program. Generally, Part D coverage is provided under Prescription Drug Plans (PDPs), which offer only prescription drug coverage, or through Medicare Advantage Prescription Drug (MA-PD) plans, which offer prescription drug coverage that is integrated with the health care coverage they provide to Medicare beneficiaries under Part C. PDPs must offer a basic prescription drug benefit. MA organizations offer either a basic benefit or broader coverage for no additional cost. MA-PDs and PDPs may also offer supplemental benefits under enhanced alternative coverage for a supplemental premium. Organizations offering drug plans have flexibility in the design of the prescription drug benefit packages, including the establishment of formularies. . The MMA also provided subsidy payments to sponsors of qualified retiree prescription drug plans (the retiree drug subsidy, or RDS) to encourage retention of non-Part D employer-sponsored benefits.^{1 2}

Consumer-oriented tools and basics about the benefits and Part D Plans are accessible through Medicare's Plan Finder Web site <https://medicare.gov/find-a-plan/questions/home.aspx>. The site allows consumers to compare PDP offerings and coverage options in their area. The site also has a helpful formulary finder that allows comparison of PDPs based on their coverage of an individual's personalized list of drugs and monthly out-of-pocket drug costs for the year.

Reporting and Data Collection History

The CMS Part D Plan Ratings are intended to assist beneficiaries in enrollment decisions, serve as a basis for compliance and enforcement actions, and provide the basis for decisions regarding plan applications. The process for assigning star ratings involves applying a series of

¹ This information was obtained from Chapter 1 of the Part D Manual
http://www.cms.gov/PrescriptionDrugCovContra/12_PartDManuals.asp#TopOfPage

² The Star Rating described in this Chapter, do not pertain to this retiree subsidy benefit.

business rules to individual measures in a quality control framework. Detailed information on the Part D Plan Ratings methodology can be found in the *Plan Ratings Technical Notes* document on the CMS Web site. For more information, please go to http://www.cms.gov/PrescriptionDrugCovGenIn/06_PerformanceData.asp. This document is updated annually to reflect changes in measure specifications and to account for additions or deletions of measures.

Medicare Part D measures have evolved since 2006. There are some variations in the specifics and numbers of measures included across the years. During the first public release for the contract year (CY) 2007 annual election period, 11 measures were rated on a 3-star scale rating and grouped into five domains. For CY 2008, the 3-star scale rating evolved into a 5-star scale rating to improve the differentiation among plans, and a star rating was added to the domain level. During this time the number of measures increased to 17 and the number of domains decreased to three. Further enhancements were made during CY 2009, in which there were 19 measures across four domains. A patient safety quality measure (the high-risk medication [HRM] measure) and a composite summary score across all domains were added. The summary score summarizes a plan's performance across the various underlying measures. For CY 2010, 19 measures were included in four domains. Also, a new patient safety measure was added (the diabetes-treatment measure), and a better grouping of measures was implemented across the domains.

Currently, for CY 2012, the measures are categorized into the following four Part D domains:

- ◆ Drug plan customer service: Measures within this domain include how well the plan handles calls and makes decisions about member appeals for drug coverage.
- ◆ Member complaints, problems getting services, and choosing to leave the plan: Measures within this domain include how often members filed complaints about the plan and how often members chose to leave the plan. This domain also includes how often Medicare found problems with the plan.
- ◆ Member experience with the plan's drug services: Measures within this domain include ratings of member satisfaction with the plan.
- ◆ Drug pricing and patient safety: Measures within this domain include how accurate the plan is on the prices of prescriptions and provide accurate and updated pricing information for the Medicare web site. Other measures within this domain include information on how often members with certain medical conditions receive prescription drugs that are considered safer and are clinically recommended for their condition.

Measures Included in This Chapter

The subset of Part D plan-rating measures that are NQF-endorsed and have two or more years of data are included in this chapter. When NQF-endorsed measures do not exist for a specified area or medical topic, CMS may choose to use non-NQF-endorsed measures for a program. Based on the above criteria, many Part D Plan Rating measures currently in use are not included

in this chapter. For 2012, 17 measures are included in the Plan Rating. Three component measures (of an NQF endorsed measure) did not have two years of data available. The remaining measures are customer service measures and are not NQF endorsed. In future reports, CMS anticipates including analyses of non-NQF endorsed measures, at which point additional Part D measures will be evaluated. The following two measures are the only measures that fulfill the inclusion criteria described above for this initial report:

- ◆ The high-risk medications (HRM) measure, included in this chapter, was first introduced as a Part D Plan Rating for CY 2009 in the *Drug Pricing and Patient Safety* domain. HRM was first developed by the National Committee for Quality Assurance (NCQA), through its Healthcare Effectiveness Data and Information Set (HEDIS), and was adapted and endorsed by the Pharmacy Quality Alliance (PQA). This measure is also NQF-endorsed. The measure is called *Drug Plan Members 65 and Older Who Receive Prescriptions for Certain Drugs with a High Risk of Side Effects, When There May Be Safer Drug Choices* on the CMS Web site.
- ◆ The diabetes-treatment measure, included in this chapter, was first introduced as a Part D Plan Rating for CY 2010 in the *Drug Pricing and Patient Safety* domain. The diabetes treatment measure was adapted from the *Diabetes Suboptimal Treatment* measure, which was developed and endorsed by the PQA. This measure is also NQF-endorsed. This measure is called *Using the Kind of Blood Pressure Medication That Is Recommended for People with Diabetes* on the CMS Web site.

The *Medication Adherence* measure (for diabetes, hypertension and cholesterol) is another NQF-endorsed measure used in the Part D Plan Ratings beginning CY 2012. This measure is not included in this report, as there is only one year of data available.

The data for the HRM measure was obtained from the Prescription Drug Event (PDE) data files submitted by drug plans to Medicare for the reporting period. PDE claims are limited to members over 65 years of age and for those Part D covered drugs identified to have high risk of serious side effects in patients 65 years of age and older. The percentage is calculated as the number of member-years of enrolled beneficiaries 65 years of age and older who received at least one HRM during the period measured, divided by the number of member-years of enrolled beneficiaries 65 years of age and older during the period measured.

The data for the diabetes-treatment measure were obtained from PDE data files submitted by drug plans to Medicare for the reporting period. For this measure, PDE claims are limited to members who received at least one prescription for an oral diabetes medication or insulin and at least one prescription for hypertension. Members who received an angiotensin converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) medication, which are recommended for people with diabetes, were identified. The percentage is calculated as the number of member-years of enrolled beneficiaries from the eligible population who were

dispensed at least one prescription for an oral hypoglycemic medication or insulin and an ACEI or ARB medication during the measurement period, divided by the number of member-years of enrolled beneficiaries in the period measured who were dispensed at least one prescription for an oral hypoglycemic medication or insulin and at least one prescription for an antihypertensive medication during the measurement period.

It should also be noted that most quality measures have multiple measure names. The measure names used in this chapter are based on the measure names located on the Medicare Plan Finder Web site that is used for public reporting.

The HRM measure included in this chapter addresses the *Safety* domain of the NQS priorities, and the diabetes-treatment measure included in this chapter addresses the *Effective Prevention and Treatment of Illness* domain of the NQS priorities, as mentioned in Table 9-1 below.

Table 9-1: Part D Measures

NQF #	Measure Name	Measure Description	National Quality Strategy Priority
0022	Drug Plan Members 65 and Older Who Receive Prescriptions for Certain Drugs with a High Risk of Side Effects, When There May Be Safer Drug Choices (HRM)	Percentage of patients ages 65 years and older who received at least one drug to be avoided in the elderly in the measurement year	Safety
0546	Using the Kind of Blood Pressure Medication That Is Recommended for People with Diabetes	The percentage of patients who were dispensed a medication for diabetes and hypertension who are receiving an ACEI/ARB medication	Effective Prevention and Treatment of Illness

Methods

The performance rates presented in this chapter were calculated from the data posted on the CMS Web site in the Part D Plan Ratings master table http://www.cms.gov/PrescriptionDrugCovGenIn/06_PerformanceData.asp#TopOfPage. The data were aggregated to obtain a non-weighted national average for all the plans. These measures were calculated using PDE data. The following plans and organization types are not included in this data: National PACE Association (NPA), cost plans, employer group health plans (EGHPs), continuing care retirement community demonstrations (CCRCs), end-stage renal disease (ESRD) networks, and demonstration plans. The national average represents simple averages of all contracts. The data presented in the figures and tables below contain performance rates for the period of measurement from 2007 (CY 2009 Part D Plan Ratings) through 2010 (CY 2012 Part D Plan Ratings).

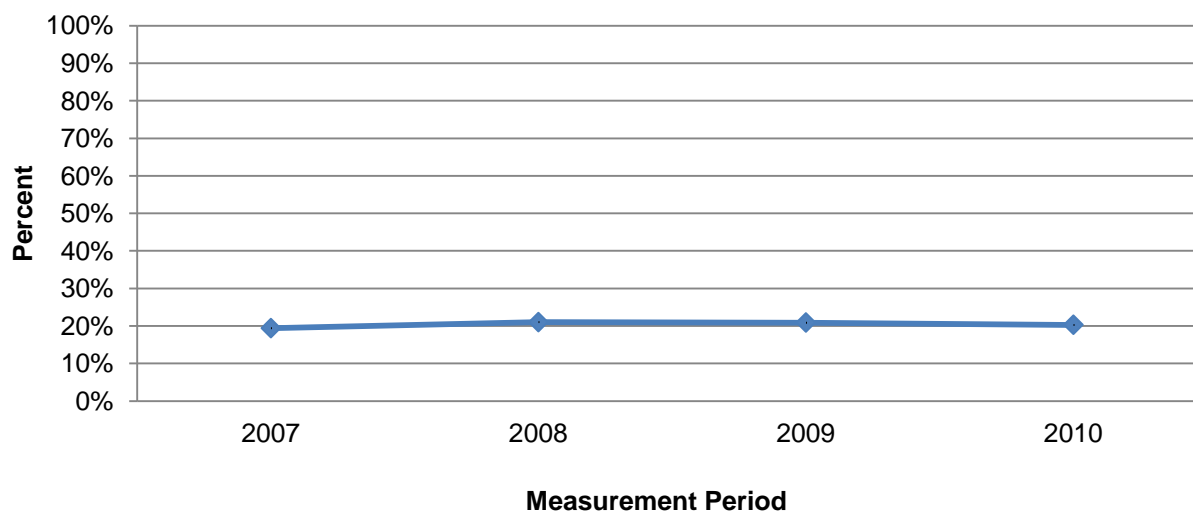
Results

Please refer to Appendix A: Measure Highlights for the summarized results to all of the measures presented in this chapter.

Figures 9-1 and 9-2 display the national averages for PDP and MA-PD contracts reporting rates in the two Part D Plan Rating performance measures presented in this chapter. Adapted for the Part D program, both measures assess the performance of the PDPs and MA-PDs in managing the use of safer medications and promoting the use of clinically recommended medications to Medicare Part D beneficiaries (i.e., avoiding the use of drugs with high-risk of side effects and the use of ACEI/ARB medications among diabetic patients.) Based on available data, nationally observed rates are displayed across multiple measurement periods to identify trends in performance.

Performance Rates

Figure 9-1—High-Risk Medication (HRM)³, 2007–2010 (NQF 0022)



Measure	2007	2008	2009	2010
NQF # 0022 – High-Risk Medication	19.4%	21.0%	20.9%	20.3%

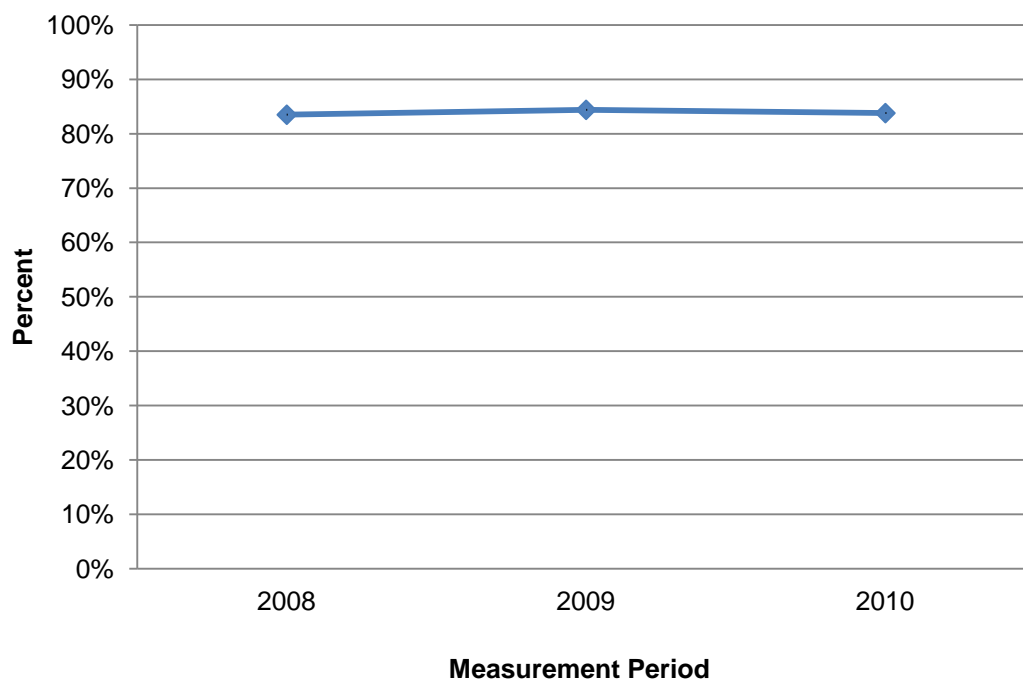
Data Source: CMS http://www.cms.gov/PrescriptionDrugCovGenIn/06_PerformanceData.asp#TopOfPage

CMS calculated the rates for this measure using Part D PDE data, where a lower rate reflects better performance. Figure 9-1 displays the trend for this measure over the four-year measurement period. Overall, about one in every five drug plan members 65 and older received

³ This measure was first developed by the National Committee for Quality Assurance (NCQA) through its Healthcare Effectiveness Data and Information Set (HEDIS), and then adapted and endorsed by the Pharmacy Quality Alliance and by the National Quality Forum. The CMS Web site references this measure as *Plan Members 65 and Older Who Received Prescriptions for Certain Drugs with a High Risk of Side Effects, When There May Be Safer Drug Choices*.

prescriptions with a high risk of side effects in the elderly when safer drug choices may be available. The data are adjusted for member enrollment in the drug plan and are limited to those medications covered by the Part D program. The rates across all four years of reported data hovered around 20 percent, with the rate peaking in 2008 at 21 percent. Since then, the national average has declined each year. The difference in reported rates between each individual measurement year was no more than 0.7 percentage points. The 2010 rate (20.3 percent) was 0.9 percentage points higher than the 2007 rate (19.4 percent).

Figure 9-2—Diabetes Treatment⁴, 2008- 2010 (NQF 0546)



Measure	2008	2009	2010
NQF # 0546 – Diabetes Treatment	83.5%	84.4%	83.8%

Data Source: CMS http://www.cms.gov/PrescriptionDrugCovGenIn/06_PerformanceData.asp#TopOfPage

The diabetes-treatment measure was also calculated using Part D PDE data; however, a higher rate reflects better performance for this measure. Figure 9-2 shows that around five out of every six drug plan members identified as having diabetes and hypertension received an ACEI or ARB medication. Similar to the previous measure, the reported averages across each measurement period remained largely unchanged for this measure. The national average was

⁴ The diabetes-treatment measure used in evaluating Part D plan performance is adapted from the PQA/NQF-endorsed measure, Diabetes Suboptimal Treatment. It represents a complement to the original measure and reports the percentage of Part D beneficiaries with diabetes who were receiving an ACEI/ARB medication. The CMS Web site references this measure as, *Using the Kind of Blood Pressure Medication That Is Recommended for People with Diabetes*.

approximately 84 percent for all three years, with differences in rates of less than 1 percentage point between each individual year. There was no discernible trend exhibited in the results. The 2010 rate (83.8 percent) was 0.3 percentage points higher than the 2008 rate (83.5 percent).

Limitations

When reviewing the results presented in this section, several limitations should be considered when interpreting trends. First, since this review was limited to NQF-endorsed Medicare measures with at least two years of data available, only two Part D measures were analyzed, the HRM measure and the diabetes-treatment measure. As such, the results are not sufficient to draw conclusive findings regarding the overall impact of CMS' complete set of Part D measures at any particular point in time. Also, the current study was not designed to specifically evaluate the effects of ongoing Part D programs implemented by CMS to monitor and improve performance.

Second, it should be noted that since both measures were based on PDE claims data, the results only include data for beneficiaries who have filled prescriptions that have been submitted for payment. The measures do not account for medications that have been obtained outside of normal mechanisms (e.g., samples from physicians) or prescriptions that were filled outside of the Part D program—such as pharmacy discount programs. Factors such as this could affect the rates. Additionally, members who did not have any alternative but to take or not take the listed prescriptions (e.g., other medications with fewer side effects, though available, are ineffective) or who did not have any side effects associated with the high-risk medication, regardless of how few they were, were not considered as exclusions. For example, depending on co-existing disease conditions or prescription of other medications, it may not be appropriate for patients to be prescribed certain classes of medications (e.g., ACEI/ARB medications). The measures do not control for the appropriateness of a given prescription, only for whether there was a claim submitted for a specific medication.

Third, the reported trends were based on the national averages of rates reported by drug plans and were not weighted by the plan's membership. To the extent that a plan's membership and the number of participating plans differ across years, the reported trends (upward or downward) may not translate to an improvement or decline in performance in patient safety. Additionally, since this chapter did not use any statistical models to examine whether the changes in rates were real, caution should be used when interpreting these changes.

Fourth, this chapter did not examine how the reported outcomes varied by drug plan or key plan-level characteristics. Further subgroup analyses may also provide important insights in understanding disparities of care or identifying best practices for improving patient safety and the effectiveness of treatment.

Conclusions and Next Steps

Overall, the trends displayed for the two Part D measures suggest relatively stable performance. Specifically, only about 20 percent (or one in five) of Part D beneficiaries age 65 and older received a prescription for medications with a high risk of side effects, while approximately 84 percent (or five in six) of Part D beneficiaries with diabetes were prescribed an ACEI/ARB medication to control hypertension. These findings suggest a high level of adherence to clinical guidelines. Interestingly, performance on both measures has seen only slight changes in overall averages since the initial measurement periods, suggesting that there is still room for improving prescribing patterns based on Part D reporting. However, as noted earlier, caution should be used when interpreting these results due to confounding environmental and patient variables.

As the Part D program continues to evolve, CMS continues to enhance the measure set used for Plan Ratings. More measures may be selected to fill the NQS priority domains other than those of *Safety* and *Effective Prevention and Treatment of Illnesses*. In the future, CMS intends to conduct more in-depth analyses that will build on this report. In addition to evaluating a more comprehensive set of measures associated with the Part D program, CMS also anticipates conducting more detailed analyses incorporating individual plan performance to better understand the impact of plan characteristics. These more thorough investigations and evaluations might include subgroup analyses to detect potential disparities in care.

10. CMS Measures Under Consideration

Introduction

Section 3014 of the Affordable Care Act of 2010 (Affordable Care Act or ACA) (P.L. 111-148 and P.L. 111-152) enacted Section 1890A(a) of the Social Security Act (the Act), which requires the establishment of a federal “pre-rulemaking process” for the selection, within the Department of Health and Human Services (HHS), of quality and efficiency measures for use in certain specific programs, for use in reporting performance information to the public, and for use in health care programs other than for use under the Act.

Prior to the ACA, HHS and CMS received input on measures that are included or proposed to be included in its programs by issuing draft rules on one health care program at a time. The Proposed Rule Making Process allows stakeholders and other interested parties to provide comments before the issuance of a Final Rule specifying the measures to be implemented.

Because the rules are program specific, it is not always easy to assess a cross-program look at measures in use by the federal government. The “pre-rulemaking process” created by the ACA, allows for a more fully coordinated vision for performance measurement across CMS and HHS.

The ACA requires a consensus-based entity to convene multi-stakeholder groups to provide input to HHS on the identification of the best available quality and efficiency measures for use in public reporting. These measures are for use in certain specified programs and for use in performance-based payment.

NQF, the consensus-based entity selected by HHS to fulfill the ACA requirement, convened a public-private partnership, the Measure Applications Partnership (MAP), for the explicit purpose of providing input to HHS on the selection of quality and efficiency measures for use in public reporting, and for use in certain specified programs and performance-based payment programs.

The list of *Measures under Consideration* and its submission and posting on the NQF Web site (www.qualityforum.org/MAP/) are in response to the first and second requirements of the pre-rulemaking process articulated above.

Measures Included in this Chapter

In this Chapter we assess the impact of *Measures under Consideration* that we previously made available to the public as noted immediately above.

The list of applicable quality and efficiency *Measures Under Consideration* compiled by CMS

includes those measures that have not been finalized in previous rules and regulations for a particular CMS program, and that CMS is considering for adoption through rule-making in 2012 for future implementation years beyond 2012, including measures suggested by the public.

Since these measures are under consideration for use in CMS programs, there is insufficient information about performance to assess impact based on implementation. Therefore, we have assessed their anticipated impact on health care based principally upon their relationship to the National Quality Strategy (NQS) priorities. The NQS is the framework through which CMS gauges the impact of quality and efficiency measures.

Methods

Information for measures that CMS is considering for adoption in calendar year 2012 was obtained from the list of *Measures under Consideration* that was posted on the NQF Measure Applications Partnership (MAP) Web site available at http://www.qualityforum.org/Setting_Priorities/Partnership/Measure_Applications_Partnership.aspx.

Included in the *Measures under Consideration* document made available to the public, is an analysis of the expected impact of each of the measures that are listed. Specifically, for the *Measures under Consideration*, CMS included information on the expected impact in relation to the quality goals of the NQS. Moreover, the impact is assessed in terms of priority.

Each measure included in the *List of Measures under Consideration for 2012 Rule-making* was assigned a “Category”. The category assignment represents a descending priority by which CMS suggested that the MAP focus its attention in providing feedback to CMS.

- ◆ Category 1 – High Priority for MAP review. Not currently in any other CMS program.
- ◆ Category 2 – Medium Priority for MAP Review. Not currently in any other CMS program.
- ◆ Category 3 – Low Priority for MAP Review. Currently included in one or more CMS programs, but under consideration for another CMS program

Results

CMS made publicly available and sought multi-stakeholder group input on 367 new measures under consideration across the CMS programs that are considering adopting new measures through rulemaking in 2012. Inclusion of a measure in the list does not require CMS to select the measure for the identified program.

In addition to categorizing the measures by their likelihood of adoption, CMS also assessed how the measures might have a favorable impact on health care. The six NQS priorities were used to categorize the areas of potential impact.

Table 10-1 below presents the measures, by category, in relation to each of the NQS priorities. Although the measures presented only list one NQS priority, the impact of many of the measures may address multiple priorities. For example, a 30-day all cause readmission measure may be categorized as addressing the priority of *Safety* or *Communication and Care Coordination*. It will likely also have an impact on the quality of care delivered (*Effective Prevention and Treatment of Illness*) and cost (*Affordable Care*).

Table 10-1: Measures Under Consideration for Calendar Year 2012

National Quality Strategy Priority	Category 1	Category 2	Category 3	TOTAL
Affordable Care	3	4	2	9 (2.5%)
Best Practices for Healthy Living	5	17	9	31 (8.4%)
Communication and Care Coordination	5	14	3	22 (6.0%)
Effective Prevention and Treatment of Illness	31	166	60	257 (70.0%)
Person and Family Centered Care	0	6	0	6 (1.6%)
Safety	16	4	22	42 (11.4%)
TOTAL	60 (16.3%)	211 (57.5%)	96 (26.2%)	367 (100%)

Source: http://www.qualityforum.org/Setting_Priorities/Partnership/Measure_Applications_Partnership.aspx

CMS categorized 60 new quality and efficiency measures under consideration as likely to have the most significant impact with respect to identified NQS goals and to be included in 2012 rulemaking in the referenced CMS programs (Category 1). In efforts to align measures across programs, CMS listed 96 measures currently used in at least one CMS program for possible inclusion in another program (Category 3). CMS expects the Category 3 measures, if adopted, to be of greater impact through alignment across programs and settings. CMS is less certain of the expected impact of 211 measures that are in Category 2. Although, the NQS priority *Effective Prevention and Treatment of Illness* has the largest share of measures in all three categories (257 total), the list includes measures across all of the priorities. Few current measures address *Affordable Care*. CMS listed three new *Affordable Care* measures as likely to be adopted in 2012 (Category 1) with four as Category 2 and two additional measures that are being used in current programs, for possible use in another program (Category 3). *Best Practices for Healthy Living* has 5 new measures in Category 1, an additional 17 in Category 2, and 9 that are being considered for additional programs. Twenty-two measures listed address *Communication and Care Coordination*; six measures address *Person and Family Centered Care*, and 42 address *Safety*.

Limitations

The assessment of the impact of the *Measures under Consideration* was based on available information. Because these measures have not yet been implemented by CMS, only the potential impact can be assessed. While it is understood that some measures can be

appropriately classified under more than one NQS priority area, for the purposes of this chapter each quality measure is assigned to only one specific NQS priority area. Other reports and analyses may assign the measure to a different NQS priority.

Conclusions and Next Steps

CMS will continue its goal of aligning measures across programs. This includes the establishment of a “core set” of measure sets that can aligned across similar programs. This “core set” of measures could help ensure that each of the NQS priorities are addressed in measures for each of the programs. CMS also plans to develop and adopt measure selection and removal criteria, which will further the goal of measure alignment.

As a subset of measures that are being considered get selected for use and move in to implementation, further analyses will be conducted to assess the impact of these measures and their performance rates.

As new measures are being considered as part of the pre-rulemaking process, CMS will continue to assess their potential impact.

11. Summary of Impact of Implemented Measures

Overall, the majority of implemented quality measures evaluated in this report showed some improvement in rates or remained steady during the study period. However, caution should be used when interpreting performance trends as statistical testing was not performed when evaluating changes in rates. Improvement or declines in performance may not accurately, or completely, reflect trends in program performance. Additionally, it is important to note that performance should not be compared across programs for many reasons including, but not limited to, the lack of representativeness, the use of weighted versus non-weighted results, and incomplete sets of measures due to study exclusion criteria. Excluding Physician Quality Reporting System (PQRS) measures, about 86 percent of the measures in these seven programs showed an actual increase or no change in the reported rates during the study period.

Figure 11-1 shows the proportion of measures within each program that are included in this initial report whose rates have (1) declined, or (2) increased or remain steady. Each chapter discusses one of the eight programs and contains between one and 123 individual measures.¹ In some cases, a single NQF-endorsed measure consists of multiple components. For the purposes of this conclusion chapter, each component measure that is reported separately in the preceding chapters is counted as a “measure”. For some measures, improvement is seen as movement toward 100 percent (e.g., immunizations), which represents perfect performance. For other measures (sometimes referred to as reverse or inverse measures), perfect performance is achieved through demonstrating a zero percent rate (e.g., physical restraints). Figure 11-1 uses these definitions to place each measure on the same scale, regardless of the desired direction of rate change (increase or a decrease), and classifies steady state rates with increases. Neither linear trending analysis nor statistical significance testing was conducted. Therefore, caution should be used when drawing conclusions. Additionally, the results in Figure 11-1 represent snapshots of program performance and are not intended to serve for comparative purposes. There are only two measures identified as unchanged.² The programs are sorted in Figure 11-1 according to their descending proportion of measures for each program that exhibited an positive trend/steady state in performance.

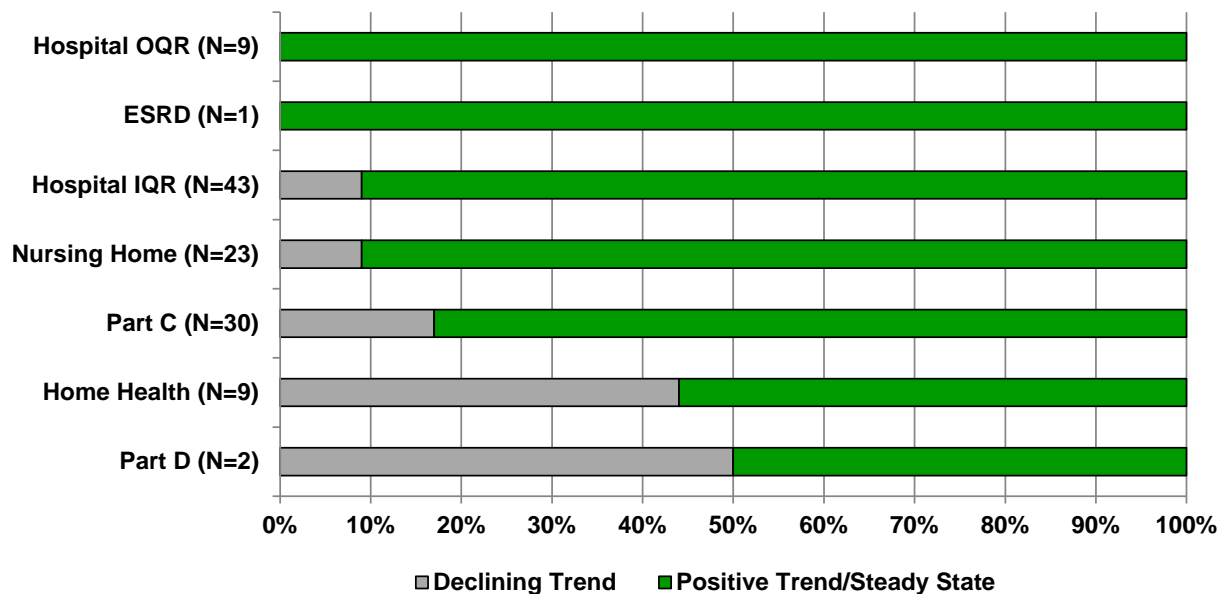
The Physician Quality Reporting program, with 123 measures included in the report, were not included in figure 11-1 due to the limitations associated with the data from this program. Unlike the measures reported in the other chapters, the measures in Physician Quality Reporting are

¹ Measure count: ESRD = 1, Home Health = 9, Hospital IQR = 43, Hospital OQR = 9, Nursing Home = 23, Part C = 30, Part D = 2, and PQRS = 123.

² Hospital IQR – Oxygenation Assessment, and Patients Who Reported doctors ‘Always’ Communicated Well

not publicly reported. The PQRS program is voluntary with relatively low participation rates. Some measures are reported by only a very small number of professionals. Additionally, the data are self-reported and not subjected to the types of accuracy checks that measures that are publicly reported are subject to.

Figure 11-1: Change in Performance by Program, CY 2006 – CY 2010



Measure	Declining Trend	Positive Trend/Steady State
ESRD (N=1)	0%	100%
Hospital OQR (N=9)	0%	100%
Nursing Home (N=23)	9%	91%
Hospital IQR (N=43)	9%	91%
Part C (N=30)	17%	83%
Home Health (N=9)	44%	56%
Part D (N=2)	50%	50%

Data Source: Data were derived from various sources. See specific chapters for detail reporting of source.

Note: Data were not available for all measures between 2006 and 2010, these dates represent the earliest start and end dates across the overall set of measures that included in this report.

Figure 11-1 shows that two programs, the ESRD and Hospital OQR (HOQR), had 100 percent of their measures included in this report, exhibiting a positive trend/steady state. However, caution should be used when interpreting the results for the ESRD program as there was only one measure evaluated for this report. Similarly, Part D, with only two associated measures, caution should be exercised when interpreting the finding that just half of its measures

exhibited a positive trend/steady state. With nine of its measures evaluated in this report, the HOQR program has 100 percent of its measures showing positive trends (or remained steady). The Nursing Home program (23 measures) and Hospital IQR program (43 measures) exhibited positive (or steady) trends for 91 percent of the assessed measures followed by Part C with 83 percent.

The single measure included in this report for the ESRD program showed substantial improvement over the assessment period. The overall *Risk-adjusted Standardized Mortality Ratio* declined (i.e., improved) from 1.10 in 2006 (i.e., a 10 percent added risk to expected mortality) to 0.94 by 2010 (a 6 percent lessening of the risk from expected). This movement from above to below risk-adjusted expected mortality very likely represents a substantively important improvement for this program.

The Hospital OQR program also showed 100 percent of its nine measures exhibiting positive trends (or remained steady) over the study periods. Of these measures, *Median Time to Transfer to Another Facility for Acute Coronary Intervention* (NQF 0290) and *Median Time to ECG* (NQF 0289) showed the largest relative rates of improvement. In general, time-based measures in this program exhibited a greater opportunity for improvement whereas, measures associated with the provision of aspirin and antibiotics exceeded 95 percent.

For the Nursing Home program, the only two measures that showed decline were *Low-risk, Long- Stay Residents Who Lose Control of Their Bowels or Bladder* (NQF 0183) and the measure for *Long- Stay Residents Who Had a Urinary Tract Infection* (NQF 0196). The measure for *Long- Stay Residents Who Have /Had a Catheter Inserted and Left in Their Bladder* (NQF 0184) showed an increase in rate from 6.2 percent to 4.9 percent (i.e., a relative change of about 21 percent). The relationship between these three process measures may be examined in future studies.

Of the nursing home measures with positive (or steady) trends, the use of physical restraints showed the greatest relative change (56 percent). The largest percentage point increase was seen for pneumococcal vaccinations for both short and long stay residents. These showed some of the largest gains (NQF 0433 for both measures). This result is somewhat expected due to the long duration of the effectiveness of the vaccine, generally required once in a lifetime. For this reason, the rates of improvement tend to be higher for this process measure than they are for other process measures that need to be repeated with annual frequency, such as influenza vaccinations.

For measures evaluated within the Hospital IQR program, 39 of the 43 measures showed positive (or steady) trends (91 percent); two measures' rate showed no change: *Oxygenation Assessment* (NQF 0146) and *Patients who Reported Their Doctors 'Always' Communicated Well* (HCAHPS survey, NQF – 0166). The rate for the *Oxygenation Assessment* measure was consistently at 99 percent from 2006 through 2008 and the measure was retired in the first quarter of 2009. Four measures showed slightly declining rates: mortality and readmissions

rates for heart failure patients and for pneumonia patients. Of the 37 measures with positive (or steady) trends, the surgical care process measures, as an overall group, have attained the largest gains. These are important measures for patient safety. Two AMI process measures also showed large gains: PCI within 90 minutes increased 36 percentage points and fibrinolysis therapy within 30 minutes increased 24 percentage points. The measures for influenza and pneumonia vaccinations increase 21 percentage points and 23 percentage points, respectively.

Within the 30 measures included in this report for the Medicare Part C analysis, five measures exhibited a decline in performance, none remained unchanged, and 25 showed favorable trends. Of the five declining measures, none was greater than 2.3 percentage points (*Breast Cancer Screening*), indicating that all negative changes were comparatively small. Of the 25 measures with positive (or steady) trends, the *Rheumatoid Arthritis Management* (NQF 0054) measure showed the absolute rate increase at 5.1 percentage points, from 67.6 percent to 72.7 percent (relative change of 7.5 percent). The *Reducing Risk of Falling* (NQF 0035) measure showed the highest relative change rate (i.e., 14.3 percent), although the absolute rate increase was 3.9 percentage points.

Five of the nine measures included in the Home Health chapter showed positive trends (or remained steady) and one of the measures saw their rate remain unchanged during the study period. Of the measures showing positive trends (or remaining steady), *Improvement in Ambulation/Locomotion* (NQF 0167) showed the most gain, increasing by 5.8 percentage points.

Medicare Part D had just two (2) measures that met the requirements for inclusion in this report. One measure, *Using the Kind of Blood Pressure Medication That Is Recommended for People with Diabetes* (NQF 0546) showed positive trend while *Drug Plan Members 65 and Older Who Receive Prescriptions for Certain Drugs with a High Risk of Side Effects, When There May Be Safer Drug Choices* (NQF 0022) declined. However, neither movement was as large as a single percentage point. Additional measures have been added to the program but were not included in this report due to the fact that only one reporting period of data is available. Future analyses will include these newer measures.

Unlike the measures reported in the other chapters, the measures in Physician Quality Reporting are not publicly reported. The program allows eligible professionals to select the measures they choose to report and their method of reporting each year. Additionally, the accuracy of the data submitted is not validated. Therefore, this report does not attempt to make any conclusions about either the quality of care provided or changes in the attending rates over time. However, it is encouraging to note that participation in this voluntary program has shown steady increases each year. As this program matures, future analyses that allow for more conclusions about performance may be performed.

National Quality Strategy Priorities

Being able to understand if CMS measures align with the National Quality Strategy (NQS) priorities is important in understanding the effect of CMS programs on national health care goals. The National Quality Strategy, required by Section 3011 of the Affordable Care Act, sets priorities to guide efforts to increase access to high quality, affordable health care. As noted earlier, the NQS focuses on six priorities; *Safety, Person and Family Centered Care, Communication and Care Coordination, Effective Prevention and Treatment of Illness, Best Practices for Healthy Living, and Affordable Care.*

Although the programs included in this report were developed prior to the implementation of the National Quality Strategy, this report provides a high-level overview of how the measures used in these programs are supporting the National Quality Strategy. Future analyses may include national performance on measures by NQS priority, which may further illuminate quality and efficiency measure impact on national health care goals.

Next Steps

CMS intends to continue to evaluate the impact of NQF endorsed quality measures in use and to make public a report at least every 3 years as part of the ongoing pre-rulemaking process. CMS intends to use this information to inform measure selection and removal from its quality programs.