

Report to Congress
The Administration, Cost, and Impact of the Quality Improvement
Organization (QIO) Program for Medicare Beneficiaries for Fiscal Year
2010

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EXECUTIVE SUMMARY

Section 1161 of the Social Security Act (the Act) requires the submission of an annual report to Congress on the administration, cost, and impact of the Quality Improvement Organization (QIO) Program during the preceding fiscal year. This report fulfills this mandate for FY 2010. The statutory mission of the QIO Program is set forth in Title XVIII of the Act-Health Insurance for the Aged and Disabled. Specifically, section 1862(g) of the Act states that the mission of the QIO Program is to improve the effectiveness, efficiency, economy, and quality of services delivered to Medicare beneficiaries and to ensure that those services are reasonable and necessary. The quality improvement strategies of the Medicare QIO Program are implemented by state and territory specific QIO contractors who work directly with health care providers and practitioners in their state, territory, and the District of Columbia. Approximately 54,000 providers and more than one million practitioners¹ nationwide were eligible to work with QIOs during this period. The providers and practitioners requested and received QIO technical assistance. At the request of beneficiaries, CMS, Fiscal Intermediaries or Medicare Administrative Contractors, providers and practitioners were subject to QIO review for specific reasons (e.g., record reviews for quality of care complaints). In addition, the QIO can instigate its own reviews.

During the 2010 fiscal year (FY2010), the QIO Program was administered through 53 performance-based, cost-reimbursement contracts with 41 independent organizations.² These contracts contained an award fee plan based upon net performance expectations for most technical work related to the themes. These contracts were awarded for a 36-month period beginning August 2008. The contractors are paid fees for the expectations they meet and if the contractors did not meet expectations, they did not get the award fees. For special projects and information systems work, contractors were compensated using a cost-plus-fixed-fee method.

The QIOs' technical performance under the contracts covering the FY2010 period was evaluated at the 18th and 28th months of their 36-month contract by CMS' contract evaluation team. This report covers the 18th month evaluation. The QIOs submitted vouchers on a monthly basis and were reimbursed for their costs. Their monthly invoices were thoroughly reviewed and certified by an assigned Contracting Officer's Representative (formerly Project Officer) and Contract Specialist. The QIOs were staffed with physicians, nurses, technicians, and statisticians. Approximately 2,300 QIO employees nationwide conducted a wide variety of quality improvement activities to ensure the quality of care provided to Medicare beneficiaries.

¹ These data and categories are from CMS Office of Research, Development, and Information. "CMS Program Data" Sources "ORDI/OACT/OFM/CMM" Providers Plans as of 12/31/09; published 2009.

² Cost plus award fee contracts are not the only payment mechanism used for QIO contracts.

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In FY 2010, QIO Program expenditures totaled approximately \$357 million.³ FY 2010 covered the 15th through 26th months of the 9th SOW contract, which began for all QIOs simultaneously on August 1, 2008.

BACKGROUND

The statutory authority for the QIO Program is found in Part B of Title XI of the Act, which established the Utilization and Quality Control Peer Review Organization Program, now known as the QIO Program.⁴ The statutory mission of the QIO Program is set forth in Title XVIII of the Act-Health Insurance for the Aged and Disabled. More specifically, section 1862(g) of the Act states that the mission of the QIO Program is to improve the effectiveness, efficiency, economy, and quality of services delivered to Medicare beneficiaries and to ensure that those services are reasonable and necessary.

CMS has identified the following goals for the QIO Program in general and for the FY2010 period:

- Improve quality of care for beneficiaries by ensuring that beneficiary care meets professionally recognized standards of health care;
- Protect the integrity of the Medicare Trust Fund by ensuring that Medicare pays only for services and items that are reasonable and medically necessary and that are provided in the most economical setting; and
- Protect beneficiaries by expeditiously addressing individual cases such as beneficiary quality of care complaints, contested Hospital Issued Notices of Noncoverage (HINNs), alleged violations of the Emergency Medical Treatment and Labor Act of 1986 (§ 1867 of the Social Security Act, EMTALA), and other beneficiary concerns as identified by the statute.

Under section 1161 of the Act, the Secretary is required to submit an annual report to Congress on the QIO Program on the administration, cost, and impact of the Program during the preceding fiscal year

I. PROGRAM ADMINISTRATION

Description of Quality Improvement Organization Contracts

³ The Department of Health and Human Services, Fiscal Year 2010, Centers for Medicare and Medicaid Services, Office of Financial Management, 2010.

⁴ Part B of Title XI of the Act has been amended by Section 261 of the Trade Adjustment Assistance Extension Act of 2011, was effective January 1, 2012. The amendments to the underlying law did not affect the scope of work for the QIOs during the 2010 fiscal year.

In August 2008, CMS awarded contracts for the 9th Statement of Work (SOW) for the 53 geographic areas; contracts were awarded to 41 independent organizations participating in Medicare's QIO Program. These QIO contracts extended from August 1, 2008 through July 31, 2011. The 9th SOW focused on improving the quality and safety of health care services furnished to Medicare beneficiaries. The 9th SOW was centered around recommendations from the Institute of Medicine, the Government Accountability Office, and members of Congress about how the Program can deliver maximum benefit to patients at the greatest value to the Government. Utilizing health care quality improvement initiatives and evidence based interventions will improve the quality and efficiency of health care and health care services delivered to Medicare beneficiaries. The contracts provide additional tools for CMS and the QIOs to track, monitor, and report on the impact that the QIO program has on the care provided in their states/jurisdictions. The QIOs' technical performance during the 9th SOW was evaluated at the 18th and 28th months of their 36-month contract. This report covers the 18th month evaluation conducted for the 9th SOW.

By law, the mission of the QIO Program is to improve the effectiveness, efficiency, and quality of services delivered to Medicare beneficiaries. As a result QIOs were monitored quarterly to determine if they met established targets for specific activities within the timeframes described in Section C.6. of the 9th SOW. Their monthly invoices were thoroughly reviewed and certified by the assigned Contracting Officer's Representative (formerly Project Officer), Government Task Leader (GTL) and Contract Specialist. QIOs are evaluated according to how well they reach CMS specified performance goals.

QIOs Interacting with Health Care Providers and Practitioners

QIOs worked with and provided technical assistance to health care practitioners and providers such as physicians, hospitals (including critical access hospitals), nursing homes, and home health agencies during the FY2010. In addition to working with practitioners and providers, QIOs worked with beneficiaries, other partners, and stakeholders to improve the quality of health care provided to and received by beneficiaries, health care delivery systems, and addressed beneficiary complaints regarding quality of care.

Any provider or practitioner who treats Medicare patients and would be paid under Title XVIII of the Social Security Act may receive technical assistance from a QIO and may be subject to review by the QIO. CMS estimates that approximately 54,000 providers and more than one million practitioners nationwide may interact with QIOs each year. Interaction can come in a variety of forms including direct intensive QIO assistance to providers and practitioners, occasional contact with the QIO at professional meetings, visits to the QIO website, and/or QIO patient care and record review on behalf of beneficiaries.

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II. PROGRAM COST

Under Federal budget rules, the QIO Program is defined as mandatory spending rather than discretionary spending because QIO costs are financed directly from the Medicare Trust Fund and are not subject to the annual appropriations process. In FY 2010, QIO Program expenditures totaled \$ 357 million. This spending represents approximately \$9 annually per Medicare beneficiary, for at least 45 million Medicare beneficiaries to improve quality of care, and less than one tenth of one percent (0.1%) of the \$503.9 billion Medicare expenditures during that year.

III. PROGRAM IMPACT

Overview

The QIO Program impacts Medicare beneficiaries on an individual basis and the beneficiary population as a whole. In FY 2010 over 47 million persons were covered by Medicare; that is 98.1 percent of the aged population of the United States – virtually everyone 65 and older. Of that total, 8 million disabled persons were covered.⁵ Medicare beneficiaries represent a significant portion of the nation’s population (14.7 percent) that receives improved health care as a result of QIO activity.

The QIOs worked with providers and practitioners to use health information technology to improve care coordination of Medicare beneficiaries resulting in less costs to the Medicare program while also ensuring the integrity, quality and efficiency of care provided to Medicare beneficiaries. In the 9th SOW, QIOs provided direct technical assistance to nursing homes with high rates of pressure ulcer and physical restraints. QIOs worked with nursing homes to instill quality improvement practices and known best practices for pressure ulcer prevention and physical restraint removal resulting in beneficiaries with fewer bed sores or pressure ulcers and/or who were able to maintain their independence because restraints were used less frequently.

This section provides information about QIO accomplishments and the impact on beneficiaries as a result of the work under the 9th SOW. The 9th SOW had 6 Themes: Beneficiary Protection, Patient Safety, Core Prevention, Disparities, Care Transitions and Chronic Kidney Disease. Each Theme also included components, which addressed a particular area of concern or setting where QIOs were required to put their efforts when working on the Tasks. Under each Theme, QIOs provided technical assistance by means of quality improvement tools and techniques that improved beneficiary health care. Of the six Themes, three were minimum requirements for all QIOs nationwide, while the

⁵ CMS U.S. Department of Health and Human Services. CMS Office of Research, Development, and Information 2008 CMS Statistics. CMS Pub. No 03497. August 2009.

Disparities Theme was limited to 33 areas; the remaining two Themes, Care Transitions and Chronic Kidney Disease, were optional.

The 9th SOW was developed using the recommendations of the Government Accountability Office (GAO), the Department of Health and Human Services (HHS), the 2006 Institute of Medicine (IOM) Report on the QIO Program, the Congress, and other internal and external experts. In May 2007, the GAO, at the request of the Senate Finance Committee, reviewed the QIO Program, and recommended ways to re-allocate QIO resources to make greater Program impacts. This, along with the IOM report, resulted in a number of changes that were implemented in the 9th SOW QIO contract. The 9th SOW represents a significant shift in the Quality Improvement Organization Program.

Specific changes in the 9th SOW contract from the prior contract included:

- Expanding the entities eligible for QIO contracts.
 - CMS competitively awarded 13 contracts.
- Awarding contracts based on a demonstrated need for QIO intervention in a geographic area for a particular clinical improvement and demonstrated ability on the part of the contractor.
 - Three of the six Themes in the 9th SOW were based upon clinical need and/or contractor ability.
- Monitoring QIO performance closely, with an innovative continuous contract monitoring/accountability framework. QIOs were required to meet certain performance targets or experience significant consequences.
 - The 9th SOW includes two contract evaluation periods, the 18th and 28th month evaluations with stringent requirements for each. Appropriate contract action was initiated against any QIO that did not meet minimum performance criteria, as specified in sections C.5 through C.7 of the 9th SOW. Contract action included, but was not limited to, initiation of performance improvement plans, termination of certain activities within the contract, and early termination of the contract.
- Training CMS staff to provide more thorough, effective oversight of contract costs and contractor performance.
 - CMS used performance-based contracting methods.
- Regularly reporting progress throughout the contract term to HHS and OMB.
- Altering the procurement process to increase scrutiny during procurement, to increase contractor accountability, and to require contractor effort to improve efficiency, even before the contract began.
 - Procurement oversight was tightened and enforced.
- Basing performance elements on evidence based interventions, which ensures improved quality of care for Medicare beneficiaries.

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For the awards, CMS conducted a full-and-open competition for 13 jurisdictions, the eight that failed the 8th SOW evaluation and the five required by the out-of-state rule. Competitive Bids were received for seven of the thirteen jurisdictions. All thirteen contracts were awarded: eleven to the original QIO and two, California and North Carolina, to a new QIO.

Table 1. QIO Competitive Process for 9th SOW QIOs

States	Contracts to be competed		Results of competition		Award Status
	Failed	Out-of-state rule	No Bid Received	Bid Received	New Contractor
Alaska					
California					
Idaho					
Maine					
Minnesota					
Mississippi					
New York					
Nevada					
N Carolina					*
Vermont					
Wyoming					
Oklahoma					
S Carolina					
Total	8	5	6	7	2

New contractors were engaged in the jurisdictions of California and North Carolina. In California, the Health Services Advisory Group (HSAG) became the QIO and in North Carolina, the West Virginia Medical Institute (WVMI) (an affiliate of Quality Insights) was awarded the QIO contract. Both of these Contractors had served as QIOs in other jurisdictions under the 8th SOW—HSAG was the QIO for Arizona and is also affiliated with the Florida QIO, while WVMI was the West Virginia QIO and is also affiliated with the Pennsylvania and Delaware QIOs.

*However, Carolinas Center for Medical Excellence (formerly Medical Review of North Carolina), the NC QIO incumbent for the 8th SOW, protested and won back the NC QIO for the 9th SOW. Therefore, WVMI did not remain the 9th SOW NC QIO after August 14, 2008.

This increased competition was designed to provide incentives to QIO contractors to achieve better productivity at less cost to the government, and with greater efficiency.

Background of 9th SOW

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The 9th SOW was built on the Department's health care initiatives and a growing evidence base about how to improve the quality and efficiency of the health care sector. The 9th SOW had 6 main sections or Themes; three of them were required in all 53 QIO contract jurisdictions, while 2 were competed among the QIOs to be conducted sub-nationally and 1 was targeted to specific jurisdictions.

For All QIOs:

1. Beneficiary Protection
2. Patient Safety
3. Core Prevention

For Certain QIOs Determined Competitively:

4. Chronic Kidney Disease (CKD) Project
5. Care Transitions Project: To Reduce Hospital Readmissions (Care Transitions)

Targeted for Specific Areas:

6. Prevention: Efforts to Reduce Health Disparities among Diabetes Patients (Disparities)

In response to the recommendations by the reports and agencies described above, CMS used the 9th SOW as a way to develop a robust framework of quality measures that would hold QIOs accountable for changes at many levels of the health care system, and to implement a management information system that would help CMS monitor the Program through system and program performance metrics.

In addition, under the 9th SOW contracts, QIOs focused their intervention projects across the spectrum of care, rather than in "silos" based on settings of care, as has been the case with previous scopes of work. This allowed the QIOs to have a sector-wide impact on the provision of care to Medicare beneficiaries. Furthermore, QIOs focused their interventions on those providers and practitioners who were most in need of assistance in providing better care to their Medicare beneficiaries. QIOs' efforts were focused on providing intensive, one-on-one support to low-performing providers and practitioners.

This strategy is consistent with recommendations from both the IOM and GAO in the reports cited above. Both of these reports stated that the Program should direct its energy and resources to facilities which would most impact and improve patient safety and care.

CMS instructed QIOs to assist providers based on their need for assistance; for example, facilities were targeted for Patient Safety improvement based on factors such as their performance related to antibiotic administration to surgical patients (for hospitals), their rates of high-risk pressure ulcers, or use of physical restraints (for nursing homes).

Disparities and sub-national projects

CMS made efforts to develop interventions and contract awards based on demonstrated need for a particular clinical improvement and the ability of a contractor to meet that need within the area. This resulted in three of the main projects under the QIO Program to be developed on a “sub-national” level, based on full-and-open competition. These sub-national Themes were: Chronic Kidney Disease (CKD), Care Transitions, and Prevention Efforts to Reduce Health Disparities among Diabetes Patients. This approach allocated resources where they were needed most, rather than providing a steady, uniform funding stream across all 53 QIO jurisdictions.

CMS used the 9th SOW as a platform for addressing health disparities among the nation’s underserved populations. For the purpose of the 9th SOW, “underserved” populations were defined as those persons who are of African-American, Hispanic/Latino, Asian/Pacific Islander, or American Indian/Alaska Native descent as defined by the data source utilized for evaluation measurement. CMS determined that 33 of the 53 QIO states/jurisdictions were eligible for competition to receive the Health Disparities Sub-national Theme contract as a component of their SOW contract. The 33 QIO states/jurisdictions were selected based on the numbers of Medicare diabetic “underserved” within the state/jurisdiction (a minimum threshold of 5,000 such individuals was used). All 53 QIO jurisdictions were eligible to compete for the CKD and Care Transitions sub-national Themes. To be considered for one or more of the sub-national Themes, QIOs were required to submit a proposal. A total of 19 QIOs were awarded at least one sub-national project under the 9th SOW. Two of them—Georgia and New York—performed all three, while Florida, Louisiana, Rhode Island, and Texas performed two.

Care Transitions States (14): Alabama, Colorado, Florida, Georgia, Indiana, Louisiana, Michigan, Nebraska, New Jersey, New York, Pennsylvania, Rhode Island, Texas, Washington.

Chronic Kidney Disease States (10/11): Florida, Georgia, Missouri, Montana, Nevada, New York, Rhode Island, Tennessee, Texas, Utah. An eleventh QIO, the Virgin Islands (VI) is also working on the Chronic Kidney Disease Sub-national Theme, but it is part of their core 9th SOW contract.

Prevention Disparities: Efforts to Reduce Health Disparities among Medicare Beneficiaries with Diabetes States/Jurisdictions (5/6): District of Columbia, Georgia, Louisiana, Maryland, New York. A sixth QIO, the Virgin Islands (VI) also worked on the Health Disparities Sub-national Theme, but this was part of their core 9th SOW contract. Given the composition of the population of the VI, they did not compete for this as sub-national theme work; it was awarded as part of their core 9th SOW QIO contract.

Theme Requirements and Measures

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Each of the Themes in the 9th SOW had an established set of quality measures that provided accountability to the QIOs for making changes at all levels of the health care system. An overall summary of the 18th month evaluation is on page 23 of this report.

Theme C.6.1. Beneficiary Protection

Beneficiary Protection activities are mandated by Federal statutes and regulations. Several types of reviews are included in the beneficiary protection theme, i.e., quality of care review, utilization review, review of beneficiary appeals of certain provider notices and reviews of potential anti-dumping cases. These reviews ensure quality improvement while protecting the Medicare Trust fund. While this Theme focused on conducting activities to meet regulatory and statutory requirements, it also enhanced QIO collaboration with the Beneficiary Complaint Survey Contractor, Fiscal Intermediaries (FIs), Carriers, Medicare Administrative Contractors (MACs), Recovery Audit Contractors (RACs), State Survey Agencies (SSAs), and the Office of Inspector General (OIG). Using data analysis as a tool, beneficiary protection clearly establishes a link between case review and quality improvement.

Beneficiary Protection tasks were measured in terms of the number of cases reviewed and the satisfaction of the beneficiary with the case review process. Ninety percent of all cases reviewed by the QIO were required to meet timeliness of review standards; while improving beneficiary satisfaction scores each quarter. In addition, QIOs implemented quality improvement activities (QIAs) with Medicare providers. For this particular task QIOs were required to (1) increase the number of QIAs while continuing to improve results each quarter and (2) complete a system-wide change QIA. The system-wide QIA change had to have an impact beyond an individual beneficiary or provider, and had to result in a tangible improvement to a system or process while improving the quality of health care for all Medicare beneficiaries. Beneficiary protection was not evaluated at the 18th month.

Theme C.6.2. Patient Safety

Patient Safety as defined in the 9th Scope of Work (SOW) means freeing patients from the risk of harm or injury resulting from their interaction with the health care delivery system. To that end, CMS focused QIO activities on six components (or focus areas), which can adversely affect patients and residents in both the hospital and long term care settings. These six components were: (1) reducing the rates of pressure ulcers in nursing homes and hospitals (PrU-NH and PrU-H); (2) reducing the rates of physical restraints (PR) in nursing homes; (3) improving inpatient surgical safety and heart failure (SCIP/HF); (4) improving drug safety; (5) reducing the rates of healthcare associated Methicillin-Resistant Staphylococcus aureus (MRSA) infections in the acute care setting;

(6) and improving the clinical outcomes of nursing homes that have been deemed by CMS as Special Focus or candidates for the Special Focus Facility List (Nursing Homes in Need – NHIN).

There were specific Tasks associated with the Patient Safety Theme:

- Recruiting CMS-specified providers;
- Assessing quality improvement tools and interventions by component;
- Assessing provider culture as it relates to Patient Safety;
- Training providers by component;
- Analyzing and sharing with each participating provider data received from that provider;
- Creating action oriented meetings of key members of provider staff, including community champions of the Patient Safety work;
- Identifying successful improvement methods with details on implementing successful strategies; sharing best practices with CMS and QIO community; and
- Documenting and sharing quality improvement activities

Patient Safety is everyone’s responsibility. For practices to be successful and for safety to become ingrained in the fabric of any organization, it requires leadership commitment of the provider organization, an understanding by the provider of where the organization stands with regards to patient safety, data transparency, and the will to execute proven effective practices. These basic quality improvement tactics were intended to take a provider organization agreeing to work with the QIOs from common practice to best practice in specific clinical areas of identified patient harm for which there was evidence and proven processes. The 9th SOW Patient Safety Theme focused on building and spreading known successes of the QIO program for which there existed a public health need and expanding the knowledge base in other unproven but equally important healthcare issues. Within the first 18 months of contract award, QIOs had made considerable progress in laying a firm foundation that ultimately resulted in better outcomes for beneficiaries.

Below are three tables summarizing work in the 9th. The first provides the quantitative measure specifications utilized for this work in the 9th (Table 1). The second summarizes the contract evaluation measures, and targets for the 18th month evaluation period which are the primary focus of this report (Table 2). The third provides the 18th month contract evaluation measures, and targets for new work that the QIO embarked upon during this contract period (Table 3).

Pressure ulcers (PrU) are a painful, costly and largely preventable condition that, when not appropriately treated, can cause serious illness and even death. Prior national quality improvement efforts in long term care facilities had been largely successful, notably the QIO efforts in the 7th and 8th SOWs. Therefore, in the 9th SOW, CMS deployed resources

and expertise of the QIOs to nursing homes with the most opportunity for improvement. QIOs recruited from a list created using data from the Minimum Data Set (MDS) to identify nursing homes with unsuppressed (weighted) rates in 2 of 3 quarters (Q42006 through Q22007) that met or exceeded 20%. QIOs recruited 1, 253 nursing homes with pressure ulcer rates exceeding 20% and were expected to achieve an 8% relative improvement rate (RIR). The baseline rate for the identified participant group was 17.10%, which was significantly higher than non-participating homes, with a rate of 11.76. Because pressure ulcers can generally be attributed to system failures, the QIOs were tasked with ensuring that the foundations for improvement were in place with the issuance of two long term care process measures by the 18th month evaluation. Specifically, the facility should work to ensure that appropriate wound treatment for stage II and III pressure ulcers are in place and that those residents that are at high risk of acquiring a pressure ulcer are receiving preventative measures. QIOs met the 18th month goal of having 31 percent of participating facilities follow established protocols for the treatment of identified pressure ulcers and 28% preventative measures. In both instances, 100% of QIOs met or exceeded their 18-month targets.

The use of **physical restraints (PR)** can greatly diminish the quality of life for long term care residents. Similar to the pressure ulcer work, significant progress had been made nationally in reducing the number of physical restraints being used in prior scopes of work. Therefore, QIOs recruited from a list created using MDS data to identify nursing homes with unsuppressed (weighted) rates in 2 of 3 quarters (Q42006 through Q22007) that met or exceeded 11%. QIOs recruited 1,297 nursing homes and were expected to achieve 20% relative improvement from baseline at the 28th month. The national baseline rate for the identified participant group was over 10%, which was significantly higher than non-participating homes at 3.78%. All QIOs met the 18th month target to achieve a 7% relative improvement rate.

The **Surgical Care Improvement Project (SCIP/HF)** is a national quality partnership of organizations focused on improving inpatient surgical safety and heart failure treatment in hospitals. The Heart Failure Measure was added due to the large numbers of patients who suffer from heart failure post-surgery and because there was considerable improvement to be made in the measure. QIOs were tasked with improving a total of nine SCIP measures of their recruited providers. In addition, QIOs had to ensure implementation of a pre or post venous thromboembolism (VTE) protocol and a prophylactic antibiotic protocol or policy in each facility. QIOs recruited from a list of identified providers based on their opportunity for improvement in the SCIP measures. Additionally, QIOs could recruit up to 15% of their total number of providers that were not previously identified, since the recruitment list was based on the performance of only two metrics. QIOs working in the SCIP/HF component at the 18th month were expected to have meet their recruitment targets and have at least 14% of their hospitals with a pre or post-operative venous thrombolytic embolism (VTE) standing order or protocol in

place and 28% of their hospitals with an established prophylactic antibiotic standing order or protocol. All QIOs passed the 18th month goal.

Under the **Drug Safety** component, QIOs in accordance with Section 1154(a) (17), as amended by Section 109(b) of the Medicare Prescription Drug, Improvement and Modernization Act of 2003, were required to offer quality improvement assistance pertaining to Prescription Drug Therapy to:

- All Medicare providers and practitioners;
- Medicare Advantage organizations offering Medicare Advantage plans under Part C; and
- Prescription drug sponsors offering prescription drug plans (PDPs) under Part D.

QIOs worked with the above entities to decrease the rates of drug-drug interactions (DDIs) and potentially inappropriate medications (PIMs) prescribed. When any of these eligible entities and the QIO agreed that they had quality goals in common the QIO could provide direct technical assistance and establish outcome targets in conjunction with their partners. QIOs were given latitude to decide on the type of projects they would embark upon under this component. The 18th month deliverable was a report from the QIO on the progress of their respective projects. All of the QIOs met this deliverable and submitted a report for CMS review. Further review and analysis of these reports helped CMS to work with QIOs on identifying data issues, uncovered at the 18th month and developing mitigation strategies ahead of the 28th month evaluation. As it pertains to request for technical assistance, 55 percent of QIOs provided technical assistance in response to requests in their state. All QIOs met this 18th month goal.

Patient Safety Quantitative Measures Metrics (Table 1)

Setting	Measure	Metric	Numerator	Denominator
Nursing Home/Nursing Home in Need	Pressure Ulcers	Percent of Residents Who Have Pressure Ulcers	Number of residents with pressure ulcers (State 1-4) on target assessment	Number of residents with a valid target assessment after exclusions are applied and meeting “high-risk inclusion criteria”
Nursing Home/Nursing Home in Need	Physical Restraints	Percent of Residents Who Were Physically Restrained	Number of residents who were physically restrained on the target assessment	Number of residents with a valid target assessment after exclusions are applied
Hospital	Surgical Care Improvement Project	SCIP INF 1 Prophylactic Antibiotics	Number of surgical patients with prophylactic antibiotics initiated	All selected surgical patients with no evidence of prior infection

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	(SCIP)	Received Within One Hour Prior to Surgical Incision	within one hour prior to surgical incision (two hours if receiving vancomycin or fluoroquinolone)	
Hospital	SCIP	SCIP INF 2 Prophylactic Antibiotics Selection for Surgical Patients	Number of surgical patients who received prophylactic antibiotics recommended for their specific surgical procedure.	All selected surgical patients with no evidence of prior infection
Hospital	SCIP	SCIP INF 3 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time	Number of surgical patients whose prophylactic antibiotics were discontinued within 24 hours after Anesthesia End Time (48 hours for Coronary Artery Bypass Graft [CABG] or Other Cardiac Surgery	All selected surgical patients with no evidence of prior infection
Hospital	SCIP	SCIP INF 4 Cardiac Surgery Patients With Controlled Postoperative Blood Glucose	Cardiac surgery patients with controlled postoperative blood glucose (less than or equal to 180 mg/dL) in the time frame of 18 to 24 hours after anesthesia end time	Cardiac surgery patients with no evidence of prior infection
Hospital	SCIP	SCIP INF 6 Surgery Patients with Appropriate Hair Removal	Surgery patients with surgical site hair removal with clippers or depilatory or with no surgical site hair	All selected surgery patients

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			removal	
Hospital	SCIP	SCIP Cardiac Surgery Patients on Beta-Blocker Therapy Prior to Arrival Who Received a Beta-Blocker During the Perioperative Period	Surgery patients on beta-blocker therapy prior to arrival who received a beta-blocker during the perioperative period	All surgery patients on beta-blocker therapy prior to arrival
Hospital	SCIP	SCIP VTE 1 Surgery patients who had order written for appropriate method of VTE prophylaxis	Surgery patients with recommended Venous Thromboembolism (VTE) prophylaxis ordered anytime from hospital arrival to 24 hours after Anesthesia End Time	All selected surgery patients
Hospital	SCIP	SCIP VTE 2 Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery	Surgery patients who received VTE prophylaxis 24 hours prior to anesthesia Start Time to 24 hours after Anesthesia End Time	All selected surgery patients
Hospital	SCIP	SCIP Heart Failure	Heart failure patients with documentation that they or their caregivers were given written discharge	Heart failure patients discharged home

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			instructions or other educational material addressing all of the following: activity level, diet, discharge medications, follow-up appointment, weight monitoring, what to do if symptoms worsen	
Varies	Drug Safety	Drug-to-Drug Interactions (DDIs)	QIOs will develop their own quantitative approach with Project Officer approval	QIOs will develop their own quantitative approach with Project Officer approval
Varies	Drug Safety	Potentially Inappropriate Medications (PIMs)	QIOs developed their own quantitative approach with Project Officer approval	QIOs developed their own quantitative approach with Project Officer approval
Hospital	Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)	Number of MRSA infections per 1000 patient days	Number of MRSA infections	Number of patient days
Hospital	Pressure Ulcers	Percent of Residents Who Have Pressure Ulcers	Number of Medicare inpatient discharge claims with an ICD diagnosis code of 707.23 or 707.24 and corresponding present on admission indicator (POA IND) of 'N' or 'U'.	All final Medicare inpatient discharge claims

Patient Safety 18th month evaluation measures, setting, targets and results (Table 2).⁶

⁶ The evaluation targets for these tasks were issued to contractors via a contract modification.

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Setting	Measures	Targets	18 Month Results
Nursing Home	% wound treatment	31% protocol for treatment of PU	100% Pass
Nursing Home	% high risk with preventative measures	28% provide preventive measures	100% Pass
Nursing Home	Restraints Long Stay Residents	7% relative improvement from baseline	100% Pass
Hospital	SCIP/HF (pre-, post-op VTE)	14% VTE protocol in place	100% Pass
Hospital	SCIP/HF (antibiotic protocol)	28% prophylactic antibiotic protocol in place	100% Pass
Varied	Drug Drug Interactions	Report on progress toward 28 th month goal	100% Pass
Varied	Potentially Inappropriate Medications	Report on progress toward 28 th month goal	100% Pass

In the 9th SOW, CMS embarked on several areas that were brand new to the QIO program. In the patient safety theme specifically, three new areas were determined to require QIO assistance: Methicillin resistant *Staphylococcus aureus* (MRSA), Hospital Pressure Ulcers (H-PrU), and an initiative termed Nursing Homes in Need (NHIN) that sought to work with nursing homes that due to the survey process. Below is an explanation of each of these projects and their 18th month results.

Antibiotic resistant bacteria present a great public health risk. At the beginning of the 9th SOW, it was estimated that 90,000 patients per year would contract Methicillin-Resistant *Staphylococcus aureus* (MRSA). The Centers for Disease Control and Prevention (CDC), just prior to the start of the 9th SOW, released the new Multidrug-Resistant Organism and *Clostridium difficile* Infection (MDRO/CDI) Module for data collection in

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the National Healthcare Safety Network (NHSN) to track this bacterium. At the onset of the 9th SOW it was believed that QIOs would be able to enroll hospital units to report MRSA incidence, establish baseline rates and dependent on that rate assist in the overall reduction of MRSA infections by implementing known best practices. Baseline rates for the country had not been previously established. QIOs recruited 459 hospital units to report MRSA into NHSN and decrease MRSA rates in their facilities. Early in the contract as hospital units began reporting, MRSA rates were smaller than expected and as a result original reduction targets were rendered moot. Therefore, the QIOs were tasked with reporting on MRSA through the NHSN MDRO/CDI Module with the intent of being able to use the data moving forward and expanding the knowledge base. Considerable time was spent by QIOs assisting units in reporting. Therefore, the first 18 months of the QIO contract were focused on getting hospital units with the highest propensity for MRSA (e.g. Intensive Care Units) to report at least four months of MRSA data. All QIOs attained the 18th month goal of having 21% of recruited units reporting into the NHSN for at least four months. This QIO work has helped refine and expand surveillance of MRSA using NHSN; tracking these MRSA infections by location has facilitated the identification of patient care areas, among both ICU and non-ICU settings, that are in greatest need of prevention efforts.

QIOs were tasked with recruiting hospitals to work on reducing hospital-acquired pressure ulcers (H-PrU). There were 438 hospitals recruited to work on reducing hospital-acquired pressure ulcers with a goal of 5% relative improvement based on Medicare Claims Data. The national baseline rate was 4.5% as of 4Q2008. This baseline included all pressure ulcers, regardless of stage or location. October 1, 2008 marked the initiation of the Hospital-Acquired Conditions (HAC) and Hospital Quality Measure Reporting initiatives. These initiatives prompted a change in payment policy where hospitals were no longer paid for the increased cost of care that resulted from pressure ulcers and other hospital acquired conditions (HACs). Therefore, upon continuous data review, the baseline decreased from 4.5% to 1.0% and then again to 0. Hospitals were no longer incentivized to report. While the issue of hospital acquired pressure ulcers exists, there was no data to capture progress or return on investment. This change in payment policy coincided with the baseline period and substantial claims counts resulted. The rates continued to be monitored and remained very low. Therefore, CMS announced the discontinuance of this work effective January 31, 2010 after 18 months of work.

QIOs were expected to provide assistance to a small number of nursing homes, up to three per contract year, who had been identified by CMS Survey and Certification Group as requiring quality improvement assistance, termed Nursing Homes in Need (NHIN). The Nursing Homes were chosen based on their survey status, specifically if they were on the Special Focus Facility (SFF) list. Nursing Homes may be added to this list if there are a number of serious quality issues that arise. Often times, these are not isolated events but speak to greater systems failures of the homes. QIOs were tasked with providing direct technical assistance to these homes, providing assistance in the

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completion of Root Cause Analysis and teaching basic quality improvement techniques while working to improve pressure ulcers and physical restraints.

QIOs worked closely with NHIN leadership to develop customized action plans to assist the nursing homes in prioritizing and making improvements that could be sustained. QIOs were evaluated on their ability to improve physical restraints and pressure ulcers as well as the homes overall satisfaction with the assistance received. Often, pressure ulcers and physical restraints were not the most pressing issues for the participating NHIN facilities. While the QIOs were being evaluated on clinical outcome measures and nursing home satisfaction, the assistance they provided was varied, based upon the improvements each nursing home needed in order to graduate from the Special Focus Facilities (SFF) list. Nationally, three themes emerged within the root cause analysis work conducted by the QIOs citing the following systemic issues: leadership and staff turnover, lack of effective clinical processes, and lack of support for the use and sustainment of quality improvement.

Nursing Homes were referred to the QIO at different times adding to the complexity of developing an evaluation strategy. Therefore, the following algorithm was created to assess QIO performance in this task. To pass the 18th month evaluation, the QIO had to meet the following criteria:

1. If the QIO had not worked with at least one nursing home for at least 12 months, CMS evaluated their recruitment and retention strategy, technical assistance and the root cause analysis performed for each nursing home
2. Otherwise, if the QIO worked with at least one nursing home for at least 12 months, all of the following criteria must be met for the facility with which the QIO has worked the longest: a. A score of 52% or greater on nursing home satisfaction; b. physical restraint rate of no more than 3% and a pressure ulcer rate of no more than 6%. Or, the nursing home must achieve a minimum of 7% relative improvement from baseline for each of these measures that does not meet the above criteria.

Identified participant homes working with QIOs had a 84% graduation rate from the SFF list, while homes not working with QIOs had about a 60% graduation rate for Year 1 participant homes. Out of 52 eligible QIOs, thirty three QIOs passed all components; 11 QIOs did not pass the 18th month target and as a result were issued partial stop work orders. Eight QIOs worked with a NHIN less than 12 months and were evaluated through an alternative method.

The chart below summarizes the setting, measures, targets and results for new work of the QIOs: Methicillin Resistant Staphylococcus aureus (MRSA), Hospital Pressure Ulcer (H-PrU) and Nursing Home in Need (NHIN) at the 18th month evaluation period.⁷

Patient Safety 18th month evaluation measures, setting, targets and results for new QIO Work (Figure 3).

Setting	Measures	Targets	18 Month Results
Hospital	% units reporting on MRSA to the NHSN-MDRO/CDI Module	21% reported at least four months in the NHSN-MDRO/CDI Module	100% Pass
Hospital	Hospital Pressure Ulcer	31% of participating hospitals follow established protocols for treatment of PU	100% Pass
Nursing Homes	Nursing Home in Need (NHIN) - Pressure Ulcers NHIN*,	<p>≥12 mos working with NH: 6% rate Or 7% Relative Improvement (RI)</p> <p><12 mos: Evaluated on recruitment & retention strategies, tech. asst., & Root cause analysis (RCA)</p>	<ul style="list-style-type: none"> • 33 QIOs passed all components • 11 QIOs did not pass the 18th month target -, <p><i>*Eight QIOs worked with NHIN less than 12 months and were evaluated through an alternative method. 1 QIO did not have any eligible homes for this work.</i></p>
	Physical Restraints NHIN*	<p>≥12 mos. working with NH: 3% rate Or 7% RI</p> <p><12 mos.:</p>	

⁷ The evaluation targets for these tasks were issued to contractors via a contract modification.

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		Evaluated on recruitment & retention strategies, tech. asst., & RCA	
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Theme C.6.3. Prevention

CMS recognizes the crucial role that health care professionals play in promoting potentially lifesaving preventive services and screenings to Medicare patients, educating beneficiaries, and providing the care. Medicare now pays for more preventive care benefits than ever before; for example, the Welcome to Medicare preventive physical exam, provides coverage of preventive services. However, many Medicare beneficiaries are not yet taking full advantage of them, leaving significant gaps in their preventive health program. Statistics show that while Medicare beneficiaries visit their physician on an average of six or more times a year, many of them are not aware of their risk for disease or even that they may already have a condition that preventive services are intended to detect. QIOs can assist physician practices and beneficiaries in understanding the importance of disease prevention, early detection and lifestyle modifications that support a healthier life. The QIOs can also assist physicians in using EHR, which can improve communications between patients and providers, giving patients better access to timely information. EHR can also improve physician office efficiency.

The Prevention Theme contained two cancer screening Tasks (breast cancer and colorectal cancer (CRC)), two immunization Tasks (Influenza and Pneumonia), and Tasks on disparities related to diabetes self-management and chronic kidney disease (CKD) prevention.

For the Prevention Theme, the QIO was required to improve rates for mammography and colorectal cancer screening, and influenza and pneumonia vaccinations among Medicare beneficiaries. To achieve these goals, the QIO recruited Participating Practices (PPs) from its state/jurisdiction. To be enrolled as a PP, the practice site must have implemented and be presently using a Certification Commission for Health Information Technology (CCHIT) certified electronic health record (EHR). The QIO assisted each PP in the use of their EHR to redesign and/or implement care management and patient self-management interventions for preventive service needs. The QIO educated each PP on using its EHR capabilities and QIO interventions to improve rates of breast cancer and CRC screening and immunizations.

There were 8 Tasks associated with the Prevention core theme:

- Recruitment of participating practices (PPs);

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- Identification/recruitment of non-participating practices (NPs);
- Promotion of care management processes for preventive services using EHR (post-recruitment educational sessions);
- Completion of an assessment of care processes;
- Submission of PP and NP data to CMS (EHR-derived rates);
- QIO monitoring of statewide rates (mammograms, CRC screens, influenza immunizations, pneumococcal pneumonia immunizations) and disparities
- Production of an annual report; and
- Optimization of performance.

At the 18th month evaluation, QIOs were expected to have: 1) recruited and maintained at least 80 percent of the PP target number through 12/31/09; 2) provided 90 percent of PPs with the initial post-recruitment educational session on the task; and 3) have at least 70 percent of recruited PPs electronically reporting quality data (rates) at least once for each of the 4 measures to the QIO, CMS or support contractor on or before 10/31/09. QIOs were also expected to have shown a 3 percent increase in breast cancer screenings, influenza and pneumococcal immunizations and a 5 percent increase in colorectal cancer screenings.

Table 5 below identifies the Core Prevention 18th month evaluation measures, targets and results.⁸

Measures	Targets	Results
% of recruited participating practices (PPs) maintained through 12/31/09	80%	100% of QIOs passed
% of educational sessions provided to participating practices	90%	100% of QIOs passed
% of PPs reporting all 4 measures from EHRs at least once by 10/31/09	70%	All states passed except VI

⁸ The evaluation targets for these tasks were issued to contractors via a contract modification.

The QIOs were very successful in meeting their monitoring targets for recruitment and training: 99 percent of the QIOs met the recruitment and post recruitment education requirement by February 1, 2009.

By July 31, 2009, QIOs had to submit baseline rates for breast and colorectal cancer screenings and influenza and pneumococcal vaccinations. Ninety-nine percent of the QIOs had reported data using the aggregate file structure worksheet by July 31, 2009.

By October 31, 2009, QIOs were expected to report rates (using the aggregate file structure worksheet) which reflected at least a 2 percent average relative improvement in breast cancer screening and pneumococcal immunizations, as well as a 3 percent improvement in the colorectal cancer screening. QIOs submitted EHR rates for ninety-eight percent of the QIO jurisdictions (52 of 53) for Quarter 5. QIOs reported rates for eighty-two percent of the jurisdictions for all 3 of the clinical measures mentioned above.

By the end of the 18th month all states, with the exception of the Virgin Islands, had at least 70 percent of its PPs reporting on all 4 measures from EHRs. Forty states had 90 percent or more of its PPs reporting all 4 measures from EHRs. Of the PPs meeting minimum reporting requirements from EHRs, all QIOs met the reporting target. The influenza immunization measure will be reported in the next report to congress as the flu season had not ended.

The Virgin Islands QIO did not have sufficient reporting from EHRs to pass the 3rd evaluation measure. This QIO had 6 participating practices (the target was 7); the 18th month evaluation requirement was that the QIO have at least 4 PPs (70 percent of 6, rounded down) report all 4 measures (from EHRs) at least once by October 31, 2009. The QIO reported all 4 measures from 3 of its PPs (not 4) by the deadline. As a result of the Virgin Island QIO not meeting their minimum target, a contracting officer letter was generated informing the QIO of their failure and contract implications. It was also recommended that the QIO subcontract with subject matter experts to improve performance in electronic health records performance.

Sub National Themes

Theme C.7.1. Prevention Disparities

This Task was limited to a sub-set of states with sufficient underserved Medicare diabetes populations, as determined by CMS. Underserved Populations are those persons who are African-American, Hispanic/Latino, Asian/Pacific Islander, or American Indian/Alaska Native. The QIOs which were eligible to compete for a contract served one of the following 33 states, territories, and District of Columbia: AL, AR, AZ, CA, CT, DC, DE, FL, GA, HI, IL, IN, KY, LA, MA, MD, MI, MO, MS, NC, NJ, NM, NY, OH, OK, PA,

PR, SC, TN, TX, VA, WA, WI. Contracts were awarded to: DC, GA, LA, MD, NY and Virgin Islands.

The QIO identified both the practice sites and the ancillary organizations (e.g., community health centers, senior centers, faith-based organizations, etc.) that they would work with as part of the CMS-approved Diabetes Self-Management Education (DSME) process. The QIO facilitated training of appropriate personnel (e.g., nurses, Certified Diabetes Educators (CDEs), Community Health Workers (CHWs), etc.) at the identified organizational sites using evidence-based DSME programs within the underserved population of the Participating Practices (PPs). The QIO was required to establish a partnership with the primary care physician (PCP), CDE, and CHW to facilitate the accessibility of DSME services to patients. The QIO was required to work with the PPs to improve/increase their adherence to clinical guidelines for appropriate use of utilization measures for HbA1c, Lipids, and Eye Exams, as evidenced by Medicare fee-for-service claims billed by physicians for beneficiaries in priority populations with diabetes.

Table 6 below identifies the Disparities 18th month evaluation measures, targets and results.

Measures	Targets	Results
Minimum # PPs (% Total Recruited)	80%	100% pass
Minimum number of patients (% total completed)	25%	

By the end of the 18th month all of the participating QIOs had maintained at least 80 percent of the participating practices. All QIOs had also increased the percentage of beneficiaries completing DSME training by 25 percent. Other targets for the 18th month evaluation included increasing Medicare claims utilization rates of hemoglobin A1c and lipids by 10 percent and increasing eye exams and blood pressure rates (for PQRI practices only) by 5 percent.

Theme C.7.2. Care Transitions

The QIO work under the Care Transitions Theme aimed to measurably improve the quality of care for Medicare beneficiaries who transition among care settings through a comprehensive community effort. These efforts aimed to reduce readmissions following

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hospitalization⁹ and to yield sustainable and replicable strategies to achieve high-value health care for sick and disabled Medicare beneficiaries. QIOs having contracts for the Care Transitions Theme served the following States: AL, CO, FL, GA, IN, LA, MI, NE, NJ, NY, PA, RI, TX, and WA.

In the first year of the 9th SOW, the 14 QIOs defined their communities with precision, conducted root cause analyses in their communities, and began to implement evidence based interventions based on the Table of Evidence Based Interventions listed in the SOW.

Table 7 below identifies the Care Transitions 18th month evaluation measures, targets and results.

Measures	Targets	Results
Measure I-1	30% of transitions	100% pass
Measure I-2	15% of transitions affected by combining I-2, I-3, and I-4	
Measure I-3		
Measure I-4		
Measure I-5	25% of implemented interventions	
Measure I-6	Measured interventions applied to 10% of transitions	

Measure I-1 is the percentage of patient care transitions for patients covered under fee-for-service Medicare in the specified geographic area that are attributable to providers who agree to participate.

Measure I-2 is the percentage of patient care transitions for patients covered under fee for service Medicare in the specified geographic area that are the potential subject of an implemented intervention that addresses hospital/community system-wide processes.

⁹In this contract, “hospitalization” refers to “acute care” hospitals reimbursed by Medicare under PPS. This does not include critical access hospitalization that is not followed by hospitalization at a PPS hospital, nor does it include psychiatric hospitals, inpatient rehabilitation facilities, long-term acute care hospitals, or other special-purpose hospitals.

Measure I-3 is the percentage of patient care transitions for patients covered under fee for service Medicare in the specified geographic area that are the potential subject of an implemented intervention that addresses Acute Myocardial Infarction, Congestive Heart Failure and Pneumonia.

Measure I-4 is the percentage of patient care transitions for patients covered under fee for service Medicare in the specified geographic area that are the potential subject of an implemented intervention that addresses specific reasons for readmission.

Measure I-5 is the percentage of implemented interventions in the specified geographic area that are measured.

Measure I-6 is the percentage of patient care transitions for patients covered under fee for service Medicare in the specified geographic areas to which implemented and measured interventions apply.

Task C.7.3. Prevention: Chronic Kidney Disease

The goal of this Theme was to detect the incidence and decrease the progression of chronic kidney disease (CKD), and improve care among Medicare beneficiaries through: provider adoption of timely and effective quality of care interventions; provider participation in quality incentive initiatives; beneficiary education; and key linkages and collaborations for system change at the state and local level.

In developing their plan, each of the 14 QIOs awarded the CKD tasks considered providing technical assistance to providers and practitioners in Medicare quality measure reporting programs that were directly aligned, and supported the CKD clinical focus areas defined in this SOW. Such quality measure reporting programs could include Physician Quality Reporting Initiative (PQRI), which accepts measures that are similar to the QIO clinical focus areas for CKD, and other targeted CMS-sponsored quality initiatives that support the achievement of the CKD clinical focus areas and are consistent with QIO statutory authority for quality improvement.

The QIOs who were charged with improving care for people with CKD partnered with participating providers to identify and implement needed health systems changes. This process is referred to as "academic detailing" and is also called "practice coaching". Local coalitions made up of a variety of provider, state, and patient organizations worked to promote the common goals of preventing the progression of kidney disease and improving kidney care. QIOs used materials identified from their partners (and in some cases supplemented those evidence-based materials with materials developed in-house) to help healthcare providers analyze their workflow. This process is in keeping with utilizing the Chronic Care Model to improve care. The model emphasizes Delivery System Design, Decision Support and Clinical Information systems.

The Chronic Care Model is comprised of several thematic elements that when combined improve care in health systems at the community, organization, practice and patient levels. QIOs adopted several thematic processes included in the Chronic Care Model. For example, QIO interventions incorporated elements titled Delivery System Design, Decision Support and Clinical Information Systems that are some of the formalized concepts constituting the Chronic Care Model. QIOs having CKD Task contracts served the following States: FL, GA, MO, MT, NV, NY, RI, TN, TX, and UT. In addition, the QIO serving the Virgin Islands worked on CKD as part of its core contract.

The focus areas for quality improvement in CKD included:

- Annual testing to detect the rate of kidney failure due to diabetes;
- Slowing the progression of disease in hypertensive individuals with diabetes through the use of angiotensin converting enzyme (ACE) inhibitor and/or an angiotensin receptor blocking (ARB) agent; and
- Arteriovenous fistula (AV fistula) placement and maturation (as a first choice for arteriovenous access where medically appropriate) for individuals who elect, as a part of timely renal replacement counseling, hemodialysis as their treatment option for kidney failure.

In addition to the above, each of the 14 QIOs identified in its proposal, disparities that existed in its state, the strategy for reducing the disparity, and the target to be achieved. The QIO included, as a component of its plan, activities aimed at the reduction of any disparities in care, such as ethnic, racial, socio-economic, geographic, and other forms of inequity that may exist within its state.

Table 8 below identifies the CKD 18th month evaluation measures, targets and results.

Measures	Targets	Results
% Timely urinary microalbumin testing	4% relative improvement (RI)	100% pass

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% increase ACE/ARB therapy	4% reduction in failure rate (RFR) (using ceiling of 92%)	10 of 11 QIOs failed (FL, GA, MO, MT, NV, RI, NY, TN, TX, UT) *Global failure
% AV fistula placement rate	4% (using top placement rate of 66%)	5 of 11 QIOs failed (FL, GA, MO, NY, TX)

All of the participating QIOs passed the timely urinary microalbumin testing measure.

At the 18th month evaluation, ten of eleven QIOs failed CKD 2, the ACE/ARB measure. CMS undertook a root cause analysis to determine if failure was due to systemic issues (Global Failure) or poor QIO performance.

- The Medicare Part D claims data used to determine this measure are confounded by multiple variables, including:
 - Patient’s decision to use a private prescription benefit and not Part D.
 - Physician providing free samples.
 - Decision to fill prescription through a retail discount program.
 - Mail order prescription through Canada.
 - Prescriptions filled through the VA System.

Each of these leads to fewer claims in Medicare Part D.

As a result of 10 of the 11 participating QIOs failing the measure of percent increase ACE/ARB therapy, CMS requested that the QIOs develop a plan to determine what other efforts should be taken to achieve the state contract goal.

At the 18th month of the 9th SOW, six QIOs passed and five QIOs failed CKD 3, the AVF measure. CMS conducted a root cause analysis (RCA) to determine if the failure was due to systemic issues (Global Failure) or poor QIO performance.

- Analyze performance data for trends and systematic factors, such as, population size, urban versus rural. The five QIOs with the smallest denominators passed. Only one large QIO passed.
- There is a data delay of 6+ months.
- Most of the interventions to improve the AVF rates will not result in short term placement of fistulas, but will result in long term improvement. The

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remeasurement period includes one month prior to the contract start and the first 11 months of the contract.

- Two of the five failed QIOs missed the target by only five patients.
- Overall performance is slightly better in CKD QIOs than in non-CKD QIOs. Individual improvement is higher in CKD QIOs.
- Three QIOs, FL, MO, and NV, received PIPs prior to the 18th month evaluation. NV passed at the 18th month.

Since 5 (FL, GA, MO, NY and TX) of the 11 QIOs failed the last measure (i.e., the percent AV fistula placement rate), a contract officer letter informing the QIOs of the 18th month failure and contract implications was released to the QIOs. CMS recommended that the QIOs in need of assistance subcontract with subject matter experts to improve performance.

CMS also conducted an internal analysis from the data to determine 1) whether the project should continue in the 10th SOW; and 2) if the project continued, whether the metrics should change.

CMS decided Global Failure of the project did not occur because of the degree of success in 55% of the CKD QIOs; further, of the failing QIOs, two missed the target by only five patients.

CMS undertook different contract actions as a result of the number of QIOs that failed to reach the performance target:

- The COR began considering whether a Performance Improvement Plan was warranted and to assess any mitigating circumstances that may have factored into QIO failure to meet the 18 month AV fistula target.
- QIOs were directed to subcontract to secure technical assistance and adequate resources in order to expand reach and move the AVF measure upwards.

Program Evaluation

In August of 2008, CMS awarded a competitive contract to Mathematica Policy Research of Washington D. C. to design and conduct an analysis to evaluate the impact of both the 8th and 9th SOWs of the QIO Program on regional and national health outcomes and processes. In keeping with the prior evaluations and consistent with recommendations of the IOM and other reports, the evaluation addressed not only the impact of the QIO Program but also the mechanisms whereby the impact occurs.

On December 19, 2008 Mathematica Policy Research provided a final Data Analysis and Report for the Assessment of the 8th SOW. This was a short evaluation report that set the stage for the more comprehensive and complete report of the 9th SOW. It set the stage by allowing Mathematica to become aware of and understand the complexities of the QIO work and their associated data and reporting systems

Note that the Program evaluation undertaken by the Mathematica Contractor was quite different from the contract evaluation conducted by CMS and discussed above. Contract evaluation looks at the performance of individual QIOs in relationship to their contractual obligations. Program evaluation provides scientific estimates of the effects of the QIO Program on Medicare beneficiaries' health and welfare as a whole.

The Program evaluation conducted by Mathematica focused on these major areas:

- The relative impact of the QIO on the quality of care of Medicare beneficiaries in the geographic area served by the QIO.
- The QIO program's impact on the quality of care provided to Medicare beneficiaries nationwide.
- Determining if the QIO Program improved healthcare for the underserved and adequately addressed the healthcare disparities issue.
- Cost and benefits of the QIO Program.
- Overall cost-benefit ratio of the QIO Program.
- Factors that mediate the cost-benefit ratio across states, across regions, and nationally.
- Utility (Quality Adjusted Life Years - QALYs) of the various improvements.

The program evaluation concretely demonstrated that QIO efforts resulted in improvements in treatments to prevent blood clots after surgery and maintenance of beta-blockers during hospital stay. QIO work reduced the use of physical restraints in long term nursing home residents. Patients with diabetes were tested more often for kidney damage. Furthermore all health care providers, hospitals, nursing homes, and physician offices, highly valued QIO services and used them to make changes in patient care. Nursing homes and physician offices especially recognized the on-on-one assistance provided by the QIO. Facilitating the sharing of best practices among organizations was a QIO service frequently cited as key by hospitals and nursing homes.

The Mathematica evaluation results have been used to formulate and change the way the QIO program is structured. Some of the results of Mathematica's evaluation will be implemented in the 11th SOW, i.e., QIOs may be more likely to have a measurable impact on quality of care if the period of performance of SOWs were increased to five years. This recommendation will be implemented in the 11th SOW. Also, future evaluations of the QIO Program should include formative, mixed-method approaches, along with impact evaluation focused only on those components that can be structured to allow attribution to the QIO using an appropriate comparison group. CMS staff has been engaged in market analysis and are preparing a request for proposal that addresses: QIO and CMS

performance measurement, quality improvement, rapid cycle evaluation, complex systems evaluation, actionable evaluation, developmental evaluation, and collective impact. As healthcare continues to change, the QIO program uses innovative provider, community and beneficiary based mixed-method scientific efforts to evaluate and maintain its leadership in healthcare quality assurance.

IV. CONCLUSION

In summary, American seniors, the disabled, and all Medicare beneficiaries deserve to have confidence in their health care system. A system that delivers the right care to every person every time is the way to achieve that goal. The QIO Program—with a national network of knowledgeable and skilled independent organizations under contract with Medicare, is charged with identifying and spreading evidence based best healthcare practices. The work of the QIO Program has been, and will continue to be, a major contributing factor for improvements in American healthcare.

Utilizing the 18th month results, this report demonstrates the success of the QIOs in carrying out the contract while tremendously improving the care provided to the Medicare beneficiaries and preserving the Medicare Trust Fund.

Table 9 below illustrates the QIO results for the 18th Month Evaluation Contract Performance under the 9th Statement of Work.

Projects	States with Project	Total 18th Month Projects Evaluated	Total 18th Month Project Failures(1)	Total Passing 18th Month
Beneficiary Protection	53	0	N/A	N/A
Pressure Ulcers Nursing Home	53	53	0	53
Physical Restraints Nursing Home	50	50	0	50
SCIP/HF	53	53	0	53
MRSA	53	53	0	53
Drug Safety	53	53	0	53
Care Transitions	14	14	0	14
Disparities	6	6	0	6
Core Prevention	53	53	1	52
CKD	11	11	10	1
NHIN	52	52	11	41

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Total	504	451	22	429
Percent failed and passed of evaluated			5%	95%

(1) Note that ACE/ARB and AVF Fistula
Failures are counted as only one project

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