

REPORT TO CONGRESS

**PHYSICIAN GROUP PRACTICE DEMONSTRATION
FIRST EVALUATION REPORT**

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CHAPTER 1 EXECUTIVE SUMMARY

The Physician Group Practice (PGP) Demonstration is Medicare's first physician pay-for-performance initiative, and establishes incentives for quality improvement and cost efficiency at the level of the physician group practice. The demonstration was mandated by the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act (BIPA) of 2000 with the goals of (1) testing the use of incentives for health care groups; (2) encouraging coordination of health care furnished under Medicare Parts A and B; (3) encouraging investment in care management infrastructure and processes for efficient service delivery; and (4) rewarding physicians for improving health care processes and outcomes.

BIPA requires a Report to Congress every two years that shows the impact of the demonstration on expenditures, access, and quality. This is the third Report to Congress. Earlier reports provided an update of the design and pre-implementation status of the demonstration. This report covers the base year and first performance year. The report focuses on the qualitative results of the first performance year since quantitative data that will show the impacts on expenditures, access, and quality resulting from the demonstration are not available at the time of this writing.

Ten physician groups agreed to participate in the 3-year demonstration, which started April 1, 2005 and is in its second performance year. Together, the 10 groups represent 5,000 physicians and over 220,000 assigned Medicare fee-for-service (FFS) patients. The demonstration participants represent large physician-driven organizations with diverse organizational structures including free-standing multi-specialty group practices, faculty group practices, integrated delivery systems, and a physician network made up of small and individual

physician practices. In general, physician groups report their main reasons for participation are due to their interest in improving and managing patient care, their belief that this is the “right thing to do” for patients, and the alignment with their missions and vision of the future of health care.

Physician groups continue to be paid on a fee-for-service basis and are eligible for performance payments if the growth in Medicare spending for the population assigned to the physician group is less than growth rate of Medicare spending in their local market by more than 2 percentage points. Performance payments will be allocated between efficiency and quality with an increasing emphasis placed on quality during the demonstration.

Because the PGP Demonstration retains the structure of the Medicare FFS system, there is no enrollment process whereby beneficiaries accept or reject involvement. Beneficiaries are assigned to the physician group if they receive the plurality of their office or other outpatient evaluation and management visits at the PGP. Assigned beneficiaries average between five and six outpatient E&M visits at the PGP annually, and the PGP participants account for between 80 and 90 percent of their allowed outpatient E&M charges. Consequently, the PGP participants should be well positioned to influence the care and services provided to their assigned patients. In general, PGP participants found the assignment algorithm to be a reasonable approach that resulted in a set of assigned patients for whom they should be held accountable for cost and quality performance despite its retrospective nature.

PGP participants are implementing a variety of care management programs to improve the efficiency and quality of health care for Medicare FFS patients. The opportunity to share in savings has provided the necessary incentive for implementation of these programs, and Medicare FFS beneficiaries are benefiting from programs previously offered only to other payer

populations. These programs include chronic disease management programs, high risk/high cost care management, transitional care management, end-of-life/palliative care programs, and initiatives designed to standardize and improve the quality of care.

It is expected that care management programs will generate cost savings by reducing avoidable hospital admissions, readmissions, and emergency department visits. Initially, PGP participants focused on reducing avoidable admissions and readmissions among congestive heart failure patients and increasing influenza and pneumovax vaccine rates because of the potential for short-term payback. In addition, PGP participants are focusing on a small number of very expensive patients, usually those who are hospitalized multiple times since these patients can show the largest effect from care management interventions by reducing avoidable readmissions.

PGP participants have been able to respond to the financial incentives under the demonstration, in many instances, through the enhancement and application of existing care management and information technology infrastructure and applying it to the Medicare FFS population. PGP participants are relying mostly on in-house personnel, expertise, and enhancements to existing information technology infrastructure to implement their care management strategies, although some are partnering with, or have purchased systems from, outside vendors.

Demonstration participants feel that attainment of quality and efficiency goals is a function of the *system* of care and the efforts of the entire care *team*, so performance payments should be used to improve systems, not to incentivize individual physicians. Consequently, if they earn performance payments, PGP participants have indicated they will first seek to recoup their investment in infrastructure necessary to generate savings under the demonstration, and in

most instances reinvest it in care management programs rather than share it with individual physicians.

A key innovation of the PGP Demonstration is linking payment to improving and delivering high-quality care. Quality is measured and rewarded using 32 ambulatory care quality measures covering five condition modules: (1) diabetes mellitus; (2) heart failure; (3) coronary artery disease; (4) hypertension; and (5) preventive care. The 32 quality measures are a subset of those developed for CMS' Doctors Office Quality (DOQ) Project. As a result, they have been well established and validated through the extensive review process included as part of the DOQ project.

PGP participants have indicated they view the demonstration quality measure methods used to assess and reward high performance and improvement as generally appropriate. However, most PGP participants commented that the additional resources required to collect data for medical-record-based measures were more than expected. It is expected that the cost will decline somewhat in future years as the initial costs of developing systems and processes for collecting chart based measures on a flow basis were borne in the base year effort.

The PGP participants' main strategies to improve their performance on the quality indicators are (1) provider education and feedback including data profile reports comparing individual providers to their peers or other benchmarks; (2) better adherence to quality of care protocols on the part of both patients and physicians through disease management interventions; and (3) implementation of standardized, evidence-based care models and protocols. The PGP participants are making major efforts to promote knowledge of and adherence to standardized, evidence-based "best practice" models among their physicians through redesigning workflow processes, adding health-maintenance modules to existing electronic medical records, and

developing patient registries with the ability to provide reminders and prompt physicians to provide or act on information at the point of care. It is expected that widespread adoption of these standard care models will both improve quality and lead to cost savings.

Overall, the PGP participants believe the provider-based demonstration design provides potential rewards for high-quality, efficient provision of health care, unlike the current Medicare FFS payment system that rewards higher volume regardless of quality. The design creates incentives for integration of health care over all sites of care, including inpatient and outpatient settings; allows for innovation, flexibility, and a broad perspective in developing patient care interventions for the demonstration; and does not require groups to take any insurance risk. However, the lack of upfront payment for demonstration investment costs and requirements to exceed the 2-percent savings threshold before sharing in savings have made for an uncertain future with respect to any payments under the demonstration.

CHAPTER 2 INTRODUCTION

The Centers for Medicare & Medicaid Services (CMS) initiated the Physician Group Practice (PGP) Demonstration in April 2005. This 3-year demonstration offers PGP participants the opportunity to earn performance payments for improving the quality and efficiency of health care delivered to Medicare fee-for-service (FFS) beneficiaries. Ten large PGPs are participating in the demonstration.

2.1 Overview of the Demonstration

The PGP demonstration employs a unique reimbursement mechanism through which providers are rewarded for coordinating and managing the overall health care needs of a non-enrolled, FFS patient population. The PGP Demonstration offers an opportunity to test whether a different financial incentive structure can improve service delivery and quality for Medicare patients and ultimately prove cost-effective.

The PGP Demonstration superimposes new incentives on traditional FFS reimbursement that are more in line with capitated payment. PGP participants have an incentive to reduce unnecessary utilization for Medicare FFS patients. However, organizations that do not reduce utilization are not penalized. The demonstration includes explicit incentives for quality improvement. In addition to their standard Medicare FFS reimbursement, which they continue to receive, PGP participants are eligible to earn annual performance payments. Performance on both quality indicators and efficiency is used in the calculation of performance payments.

A legislative mandate for the PGP Demonstration was included in the Medicare, Medicaid, and SCHIP Improvement and Protection Act (BIPA) of 2000. As stated in the text of BIPA 2000, the goals of the PGP Demonstration include the following:

1. Test the use of incentives for health care groups.
2. Improve coordination of health care furnished under Medicare Parts A and B.
3. Encourage investment in care management infrastructure and processes for efficient service delivery.
4. Reward physicians for improving health care processes and outcomes.

The PGP Demonstration seeks to align incentives for physician groups to manage the overall care of their patients, especially beneficiaries with chronic illnesses or high-risk patients who account for a significant portion of Medicare expenditures. The demonstration provides a financial incentive similar to those used by managed care organizations and other commercial payers to reward quality improvement and encourage efficiency. In addition to encouraging physician groups to attract, retain, and coordinate care for chronically ill and high risk patients while efficiently providing services to their patients, CMS aims to promote active use of utilization and clinical data for the purposes of improving efficiency and outcomes.

The PGP Demonstration began on April 1, 2005 and will run for three years. The PGP Demonstration's "base year" for measuring quality and efficiency improvements is calendar year 2004, and the three "performance years" are April 2005 to March 2006; April 2006 to March 2007; and April 2007 to March 2008.

2.2 Purpose of the Report and Overview

The purpose of this report is to summarize the design, implementation, early operational experience, and status of the PGP Demonstration. After this introductory chapter, Chapter 3 of the report summarizes the demonstration design, including comments from the PGP participants. Chapter 4 discusses the demonstration's method of attributing patients to PGP participants, and PGP participants' comments on the attribution algorithm. Chapter 5 describes how performance

payments are calculated, results of 2004 base year patient assignment, and Medicare data provided to the PGP participants. Chapter 6 describes the 10 PGP participants and explains (1) why they are participating in the demonstration; (2) their overall strategy for meeting the goals of the demonstration and; (3) the implementation and operational challenges they have faced. Chapter 7 describes the patient care management interventions of the PGP participants and the demonstration's impact on these programs. Chapter 8 discusses the role of PGP providers (physicians) in the demonstration, including their education about the demonstration, performance support and feedback, and compensation and incentives. Chapter 9 describes the specification, measurement, and reporting of quality indicators under the demonstration, including participating PGP comments on this process, as well as results for 2004 base year quality measurement. Chapter 10 documents the role of information technology in the demonstration as reported by the participating PGPs, including strategies, and systems and initiatives. Chapter 11 discusses the plan for evaluation of the demonstration.

2.3 Sources of Information

To support and evaluate the PGP Demonstration, CMS contracted with RTI International, an independent, not-for-profit research organization. Working with CMS, RTI produced reports that specify the demonstration's design and a plan for its evaluation. The primary source for the PGP Demonstration design is the *Physician Group Practice Demonstration Design Report* (Pope et al., 2002). Revisions, clarifications, and additional detailed specifications are contained in the *Physician Group Practice Demonstration Bonus Methodology Specifications* (Kautter et al., 2004) and *Physician Group Practice Demonstration Quality Measurement and Reporting Specifications, Version 2* (Trisolini et al., 2005).

As the initial major task of its evaluation, RTI conducted site visits at each of the 10 PGP participants in the Fall/Winter of 2005–2006. The purpose of these site visits was to understand the decisions of the PGPs to participate in the demonstration and their early implementation and operational experience with the demonstration. RTI is producing a site visit report for each of the 10 PGP participants. RTI interviewed the PGP participants about the following topics:

1. **Demonstration Participation and Strategy**—Their motivation for participating in the demonstration, overall demonstration strategy, and how the demonstration relates to the PGP’s goals.
2. **Patient Care Interventions**—What programs have been implemented due to the demonstration to improve disease management and coordination of care and how these interventions have improved patient care quality and efficiency.
3. **Provider Participation and Relations**—The extent of provider participation in demonstration activities and the financial and non-financial incentives that may exist for providers due to the demonstration.
4. **Quality Improvement and Measurement**—The measurement and reporting of demonstration quality indicators, and processes for their improvement.
5. **Information Technology**—How information technology has been used to further the quality and efficiency of patient care.

Site visit interviewees typically included PGP Chief Executive Officers, Chief Financial Officers, Medical Directors, Directors of Quality Improvement, Chief Information Officers, clinicians and patient care staff, and demonstration coordinators and managers. In addition to the interviews, RTI’s evaluation of the implementation and early operational experience of the PGP participants drew on written materials provided by the PGP participants, including demonstration

implementation protocols, baseline and quarterly demonstration reports, web sites, and materials provided during the site visits. Finally, information on each participating PGP's assigned and comparison group Medicare beneficiary populations was obtained from RTI's analysis of 2004 Medicare claims and enrollment data.

CHAPTER 3

PGP DEMONSTRATION DESIGN

This chapter describes the design of the PGP Demonstration (Pope et al., 2002; Kautter et al., 2004; Trisolini et al., 2005). After an overview of demonstration goals and objectives, several of the demonstration's key design elements are explained including beneficiary assignment, comparison population, and measurement of demonstration savings. Next, the determination of performance payments in the PGP Demonstration is discussed and additional design elements are outlined. Quality measurement and reporting in the demonstration is then described. Finally, comments from PGP participants on the demonstration design are provided.

3.1 Demonstration Goals and Objectives

The PGP Demonstration is Medicare's first physician pay-for-performance initiative, and establishes incentives for quality improvement and cost efficiency at the level of the physician group practice. A legislative mandate for the PGP Demonstration was included in the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act (BIPA) of 2000. There are several goals of the PGP Demonstration: (1) testing the use of incentives for health care groups; (2) encouraging coordination of health care furnished under Medicare Parts A and B; (3) encouraging investment in care management infrastructure and processes for efficient service delivery; (4) rewarding physicians for improving health care processes and outcomes.

3.2 Key Design Elements

The point of the PGP Demonstration is to effect changes in cost efficiency and quality through incentive payments. Identifying the patients whose Medicare program expenditures and quality of care will be used for evaluating the PGPs, determining whether there have been any

changes in efficiency and quality of care, and assessing whether those changes are due to the incentive payments must be addressed by the demonstration design.

3.2.1 Assignment of Beneficiaries to PGPs

A PGP's ability to coordinate and manage the health care of a beneficiary depends on the type of services the PGP provides the beneficiary and the overall control the PGP has over the beneficiary's utilization of services. Because the PGP Demonstration retains the structure of the Medicare FFS system, there is no enrollment process whereby beneficiaries accept or reject involvement. Therefore, beneficiaries are "assigned" to PGP participants based on utilization of Medicare-covered services. A beneficiary who receives at least one "office or other outpatient" evaluation and management (E&M) service from a PGP during a year is eligible for assignment to the PGP that year. If the beneficiary received more office or other outpatient E&M services (as measured by Medicare allowed charges) from the PGP than from any other physician practice (group or solo)—in other words, if a plurality of E&M services were provided by the demonstration PGP—then the beneficiary is assigned to that PGP. Therefore, no beneficiary is assigned to multiple PGPs in a particular year. PGP assigned beneficiaries are identified retrospectively after the end of the year (whether base or performance) since only after the year ends can a plurality of a beneficiary's E&M services in that year be known.

3.2.2 Demonstration Comparison Group

The comparison group for each PGP, whose changes in Medicare expenditures are used to distinguish the effect of demonstration incentive payments from unrelated trends among Medicare beneficiaries is drawn from the PGP's service area. The PGP's service area consists of all counties in which the PGP derives at least 1 percent of its assigned beneficiaries. These counties are combined to form the service area for the PGP. The service area is defined for the

base year and redefined for each performance year, and may differ between years to reflect changes in the geographic scope of the group's practice.

The comparison group assignment criteria are very similar to those for the PGP assigned beneficiaries. The goal of the comparison group assignment criteria is to ensure that beneficiaries assigned to the comparison group are similar to those assigned to the participating PGP. For example, to be assigned to the PGP's comparison group, a beneficiary must have received at least one "office or other outpatient" E&M service. Finally, beneficiaries assigned to the PGP in the current or any prior performance year, or beneficiaries that have received any "office or other outpatient" E&M services at the PGP in the current performance year, are not eligible for assignment to the comparison group. This is because these beneficiaries' expenditures are likely to be affected by the demonstration incentives. For a given year (base or performance), the PGP's comparison population is identified retrospectively after the end of the year.

3.2.3 Measurement of Demonstration Savings

Demonstration savings, termed "Medicare savings" in the PGP Demonstration, measures the cost savings impact of the PGP Demonstration, defining the pool of savings that the participating physician groups and the Medicare program share. To calculate Medicare savings in a performance year, first the participating PGP's annual per capita expenditure target, which has a PGP-specific expenditure base, is calculated as follows (all expenditures are on a per capita basis):

Target Expenditures = PGP Base Year Expenditures \times (1 + Comparison Group Growth Rate).

PGP base year per capita expenditures are calculated for beneficiaries assigned to the PGP in the base year. The comparison group growth rate is defined as the growth in per capita

expenditures in the PGP's comparison population between the base and performance years. Both the PGP base year expenditures and the comparison group expenditure growth rate are adjusted for casemix change between the base and performance years using a modification of the CMS-Hierarchical Condition Categories (HCC), or CMS-HCC, risk adjustment model (Pope, Kautter, Ellis, et al, 2004; Olmsted, Pope, Kautter, 2006).

Medicare savings are computed as the difference between the per capita expenditure target and the PGP's per capita expenditures in the performance year (for beneficiaries assigned to the PGP in the performance year),¹ multiplied by the number of beneficiaries (person years) assigned to the PGP in the performance year:²

Medicare Savings = (Target Expenditures – PGP Performance Year Actual Expenditures)
× Assigned Beneficiary Person Years.

This is a retrospective calculation, since neither actual nor target expenditures are known until after the end of the performance year.

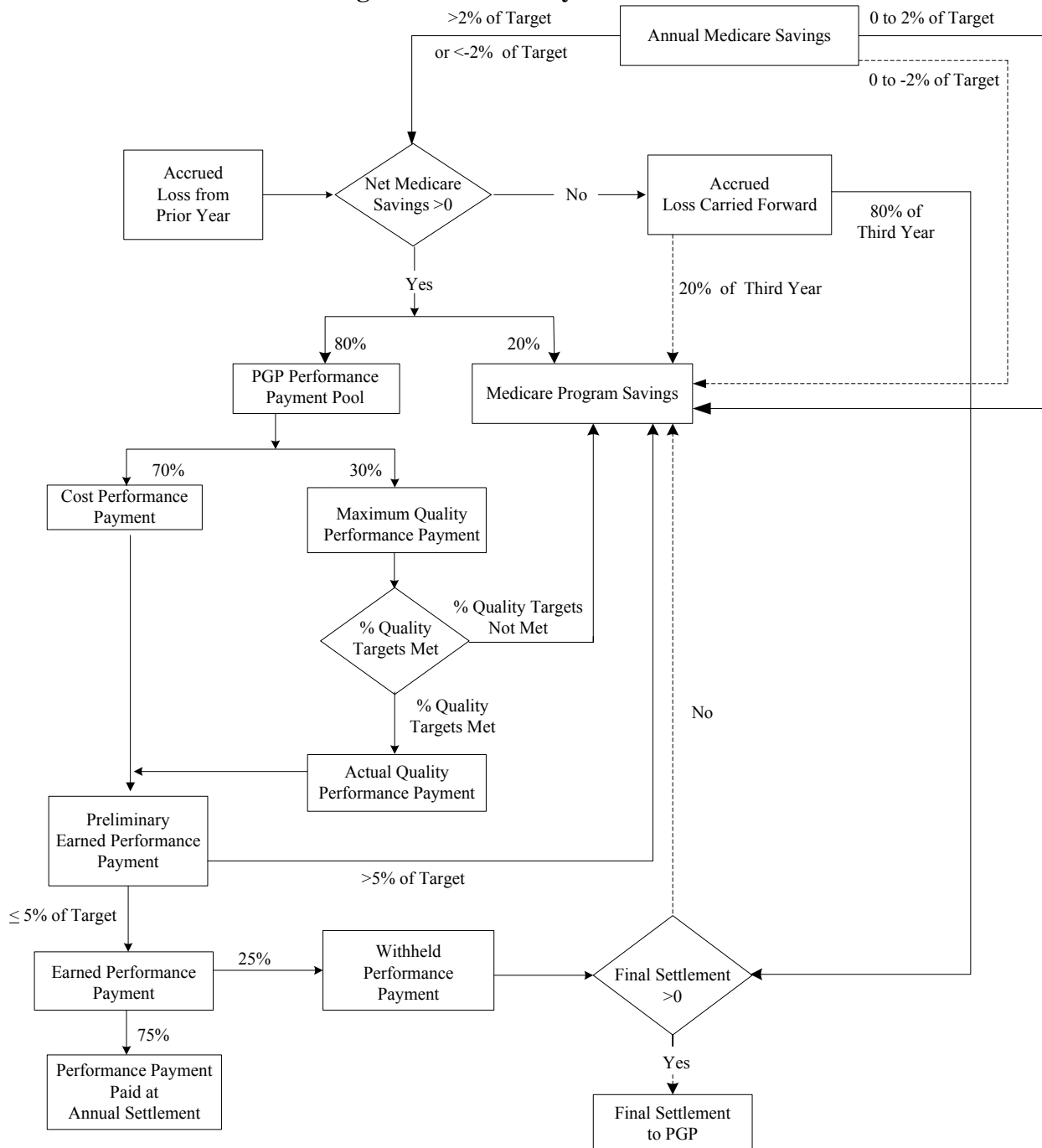
3.3 Performance Payments and Additional Design Features

The flowchart in *Figure 3-1* shows the process of calculating performance payments in the PGP Demonstration. The first step involves calculating whether or not a PGP generated annual Medicare savings greater than two percent of its target expenditures. The two-percent performance payment threshold is used to account for the possibility of random fluctuations in expenditures. Actual observed expenditure growth rates are a combination of changes due to a

¹ For each beneficiary assigned to the PGP in the performance year, performance-year expenditures are annualized by dividing expenditures by the fraction of the year they were alive and enrolled in Medicare. Performance year per capita expenditures are then weighted by this fraction.

² Person years is determined as follows. For each beneficiary assigned to the PGP in the performance year, the fraction of the year the beneficiary was alive and enrolled in Medicare is calculated. Person years equal the sum of these fractions.

Figure 3-1
Process for Calculating Performance Payments in the PGP Demonstration



NOTE: Dotted lines represent negative contribution to Medicare program savings.

¹ Annual Medicare Savings between -2% and 2% of target expenditures are not included in performance payment computations because they may result from random fluctuations. They are included in Medicare Program Savings.

² In Performance Year 1, the cost performance payment and maximum quality performance payment shares of the PGP performance payment pool are 70% and 30%, respectively. In Performance Year 2, the shares are 60% and 40%, respectively, and in Performance Year 3, the shares are 50% and 50%, respectively.

SOURCE: RTI International.

PGP's efforts and those due to events specific to individual patients and entirely outside of a PGP's control. When observed expenditure growth rates are close to zero (both positive and negative), there is a large likelihood that the PGP-driven change is zero. As the observed expenditure growth rates move away from zero, the likelihood that the PGP-driven change is zero diminishes. The two-percent performance payment threshold represents a reasonable balance between paying deserved performance payments and not paying undeserved performance payments (Pope and Chromy, 1997). If the PGP holds the expenditures for its assigned beneficiaries more than two percent below its target, it is eligible to earn a performance payment for that performance year (assuming there are no accrued losses from previous years). The portion of annual Medicare savings greater than the two percent performance payment threshold, termed "Net Medicare savings," is then used to compute the incentive payment.

The "sharing rate" for Net Medicare savings is the proportion that CMS shares with a participating PGP. The sharing rate was set high enough (80 percent) to give PGPs sufficient incentive to participate in the demonstration, and yet allow for significant savings for the Medicare program. The 80 percent shared Net Medicare savings contributes to the PGP's performance payment pool; the remaining 20 percent is retained by Medicare as program savings. The PGP performance payment pool is then divided between the cost performance payment and the maximum quality performance payment. The actual quality performance payment is then determined, based on the percentage of the PGP Demonstration's quality targets the PGP met in the performance year.³ If all of the quality targets are met, then the entire maximum quality performance payment is earned by the PGP. However, if some of the quality targets are not met, then a portion of the maximum quality performance payment is retained by

³ See Section 3.4 for a description of the PGP Demonstration's quality measurement and reporting methodology.

the Medicare program. In performance year one, the cost performance payment and maximum quality performance payment shares of the PGP performance payment pool are 70 percent and 30 percent, respectively. In performance year two the respective shares are 60 percent and 40 percent, and in performance year three the shares are 50 percent and 50 percent. These percentages were set to gradually increase the importance of quality performance in the PGP Demonstration.

Once the actual quality performance payment has been determined, it is added to the cost performance payment to identify the preliminary earned performance payment. However, to avoid incentives for excessive cost cutting, a five percentage point performance payment cap is employed. The actual earned performance payment cannot be greater than five percent of the PGP's target expenditures, which includes both Part A and Part B expenditures; the final earned performance payment is capped at that five percent level if the preliminary earned performance payment is higher.

Finally, the performance payment paid to the PGP at the annual settlement will equal 75 percent of the earned performance payment amount. The remaining 25 percent of the earned performance payment will be withheld until the end of the PGP Demonstration to protect Medicare against losses the PGP may generate in subsequent years. At the end of the PGP Demonstration, the cumulative amount of the withheld performance payment will be paid to the PGP, net of any accrued losses.

In any given performance year, PGP participants may underperform their comparison group and generate "losses" to their performance payment pool. That is, assigned beneficiary expenditures may exceed target expenditures, in which case Medicare savings are negative. Losses are defined as Medicare *negative* savings beyond two percent of target expenditures.

Participating PGPs are not at risk for reimbursing the Medicare program for either annual losses or an accrued net loss at final settlement. However, annual losses are carried forward to the subsequent performance year and are used to offset any positive Medicare savings generated in that year. No performance payments can be earned in a performance year unless Medicare savings are sufficient to offset accrued losses from earlier performance years.

As a result, annual Medicare savings within two percent of target expenditures generate neither losses to be carried forward nor performance payments to be paid (*Figure 3-1*). This portion of the annual Medicare savings (between negative and positive two percent) is assumed to be caused by random fluctuations in expenditure levels, not by the PGP's performance.

Because of the relatively short period of the PGP Demonstration (three years), cost savings are measured cumulatively from the original demonstration base year. Rebasing—updating the base year for setting targets for the annual performance payment computation—does not occur. By not rebasing, CMS gives participating PGPs the maximum incentive to generate savings during the demonstration period. However, were this demonstration to become the model for an official Medicare program or to be extended, CMS would want to rebase, so as not to indefinitely pay for “past performance” and to capture more of the cost savings over time.

¹ The DOQ project is designed to develop and test a comprehensive, integrated approach to measuring the quality of care for chronic disease and preventive services in the doctor's offices. The goals of the DOQ project are: (1) to provide information for informed decision making, and (2) to support and stimulate the adoption of quality improvement strategies by practitioners in doctor's offices. See <http://www.cms.hhs.gov/PhysicianFocusedQualInits/> for more information on this project.

3.4 Quality Measurement and Reporting

Table 3-1 lists the 32 specific quality measures used in the PGP Demonstration. The quality measures for the PGP demonstration are a subset of the measures developed by CMS's Quality Measurement and Health Assessment Group for the Doctors Office Quality (DOQ) project.⁴ They include measures from different DOQ condition modules, including diabetes (DM), congestive heart failure (CHF), coronary artery disease (CAD), hypertension (HTN) and preventive care (PC). As a result, they cover a broad range of conditions and indicated treatments, and benefit from the extensive review and validation of measures conducted for the DOQ project.

The quality measures are phased-in under the following time frame:

Performance Year 1: Diabetes measures, including influenza and pneumonia vaccine measures for the diabetic population.

Performance Year 2: Year 1 measures plus the CHF and CAD measures, including influenza and pneumonia vaccine measures for the CHF population.

Performance Year 3: Year 2 measures plus the HTN and PC measures.

⁴ The DOQ project is designed to develop and test a comprehensive, integrated approach to measuring the quality of care for chronic disease and preventive services in the doctor's offices. The goals of the DOQ project are: (1) to provide information for informed decision making, and (2) to support and stimulate the adoption of quality improvement strategies by practitioners in doctor's offices. See <http://www.cms.hhs.gov/physicianFocusedQuality/> for more information on this project.

Table 3-1
Quality Measures, Weights and Total Quality Points by Module for the PGP Demonstration

| Diabetes Mellitus | Weight | Congestive Heart Failure | Weight | Coronary Artery Disease | Weight | Hypertension / Preventive Care | Weight |
|--------------------------------|---------------|---|---------------|---|---------------|---------------------------------------|---------------|
| DM-1 HbA1c Management | 4 | HF-1 Left Ventricular Function Assessment | 1 | CAD-1 Antiplatelet Therapy | 1 | HTN-1 Blood Pressure Screening | 1 |
| DM-2 HbA1c Control | 1 | HF-2 Left Ventricular Ejection Fraction Testing | 4 | CAD-2 Drug Therapy for Lowering LDL Cholesterol | 1 | HTN-2 Blood Pressure Control | 1 |
| DM-3 Blood Pressure Management | 1 | HF-3 Weight Measurement | 1 | CAD-3 Beta-Blocker Therapy – Prior MI | 1 | HTN-3 Plan of Care | 1 |
| DM-4 Lipid Measurement | 4 | HF-4 Blood Pressure Screening | 1 | CAD-4 Blood Pressure | 1 | PC-5 Breast Cancer Screening | 4 |
| DM-5 LDL Cholesterol Level | 1 | HF-5 Patient Education | 1 | CAD-5 Lipid Profile | 4 | PC-6 Colorectal Cancer Screening | 1 |
| DM-6 Urine Protein Testing | 4 | HF-6 Beta-Blocker Therapy | 1 | CAD-6 LDL Cholesterol Level | 1 | | |
| DM-7 Eye Exam | 4 | HF-7 Ace Inhibitor Therapy | 1 | CAD-7 Ace Inhibitor Therapy | 1 | | |
| DM-8 Foot Exam | 1 | HF-8 Warfarin Therapy for Patients HF | 1 | | | | |
| DM-9 Influenza Vaccination | 1 | HF-9 Influenza Vaccination | 1 | | | | |
| DM-10 Pneumonia Vaccination | 1 | HF-10 Pneumonia Vaccination | 1 | | | | |
| Total Points | 22 | | 13 | | 10 | | 8 |

SOURCE: RTI International

Two types of measurement processes are used to calculate quality performance in the PGP Demonstration: claims-based (seven quality measures), and medical records-based (25 measures). As shown in *Table 3-1*, the claims-based measures are weighted by a factor of four relative to the medical record-based measures. The weights reflect the administrative burden associated with reporting medical record based measures versus those measures that may be derived from claims data. Since claims-based measures data is more easily accessible and allows for larger denominators, they were given a higher weight compared with medical record based measures, which require additional resources to report and utilize a statistically valid sampling methodology.

Both threshold and improvement targets are available for PGPs to demonstrate they have met the quality performance goals of the PGP Demonstration. For each quality measure, PGPs must achieve at least one of the following three targets (the first two targets are threshold targets; the third target is an improvement target):

- (1) The higher of 75 percent compliance or the Medicare HEDIS mean for the measure (for those measures where HEDIS indicators are also available); or
- (2) achieve the 70th percentile Medicare HEDIS level (for those measures where HEDIS indicators are also available); or
- (3) demonstrate a 10 percent or greater reduction in the gap between the administrative baseline and 100 percent compliance.

As described above, for a given performance year, the percentage of quality targets achieved by a PGP is used to determine performance payments (*Figure 3-1*). Total quality measure points earned in a given performance year are calculated, with claims-based measures counting four points each and medical records-based measures counting one point each. Points earned are divided by total points possible to determine the percentage of quality targets

achieved by the PGP for the given performance year. The ratio is applied to the maximum quality performance payment pool to derive the portion of the performance payment for quality.

3.5 PGP Comments on Design

During RTI site visits to the participating PGPs during the Fall/Winter 2005–2006, the PGPs were asked for feedback on the PGP Demonstration design. The groups identified several desirable features about the design. First, the design provides potential rewards for high-quality, efficient provision of health care. Unlike the current Medicare FFS payment system, the PGP Demonstration design allows for the possibility of earning a performance payment through care management and coordination. The design offers PGPs the opportunity to extend care management and coordination programs to their Medicare FFS patients. Second, the design creates incentives for integration of health care over all sites of care, including inpatient and outpatient settings. Third, the design is not narrowly focused—it allows for innovation, flexibility, and a broad perspective in developing patient care interventions for the demonstration. Fourth, the design maintains the strengths of Medicare FFS, in particular, beneficiary freedom of provider choice. Fifth, the design is provider-based; it includes direct incentives for providers to improve quality and efficiency, and allows providers the opportunity to prove that provider-based care management and coordination can be successful. Finally, the design does not have explicit downside financial risk. If a participating PGP underperforms relative to its comparison population, it is not penalized.

The participating PGPs also thought there were some disadvantages to the PGP Demonstration design. First, the design does not allow for upfront payments for demonstration investment costs; because of this, current investments have been made for an uncertain future payoff (performance payment). Second, mainly because of the two percent performance payment

threshold, PGPs projected a low rate of return on their demonstration investments and also scaled back on their demonstration investments. Third, the design is retrospective. For a given performance year, PGP assigned beneficiaries and comparison populations are determined after the end of the performance year. This makes “real time” care management and coordination difficult to achieve. In addition, the beneficiary assignment methodology used to retrospectively link patients to physician groups does not distinguish between services provided by specialists versus primary care physicians, which presents additional challenges in coordinating care for faculty group practices that provide a large amount of specialty referral care. Fourth, the design calls for a three year demonstration, which the PGPs generally felt is too short to observe the effects of their patient care interventions on efficiency and cost savings. Finally, the design includes 32 quality measures, including 25 measures that require medical chart abstraction. The measures are more expansive than PGPs originally anticipated and discussed in the solicitation. Consequently, collection and reporting of the quality measures requires additional resources.

CHAPTER 4 PATIENT ATTRIBUTION

The key to determination of demonstration savings and PGP performance payments in the PGP Demonstration is a comparison of PGP assigned beneficiaries with its comparison population (see Chapter 3 for details). PGP Participants can earn performance payments in the demonstration if they are able to keep the expenditure growth rate for their assigned beneficiary population below their comparison population. Thus, patient attribution is an important element in the PGP Demonstration, and is discussed in this chapter, including: criteria for establishing accountability, patient assignment algorithm, and PGP comments on the assignment methodology (profiles of PGP assigned beneficiaries and comparison populations are provided in Chapter 5).

4.1 Criteria for Establishing Accountability

PGP Assigned Beneficiary Population. A PGP's ability to coordinate and manage the health care of a beneficiary depends on the type of services the PGP provides to the beneficiary and the overall control the PGP has over the beneficiary's utilization of services. Because the PGP Demonstration is a fee-for-service innovation, there is no enrollment process whereby beneficiaries accept or reject involvement with a particular provider and the provider becomes responsible for the beneficiary's care. Therefore, for the PGP Demonstration, beneficiaries are assigned to PGPs based on utilization of Medicare-covered services.

A beneficiary who receives at least one office or other outpatient E&M service from a participating PGP during a given year is eligible for assignment to the PGP in that year. This provision ensures that the PGP has an opportunity to coordinate the beneficiary's care, since E&M services involve that type of service.

However, a given beneficiary may receive services from more than one PGP in a given year. As a result, a second provision for assignment is that a beneficiary must have received more outpatient E&M services as measured by Medicare allowed charges from the participating PGP than from any other physician practice (group or solo). This means that no beneficiary can be assigned to more than one PGP under the demonstration. As a result, a beneficiary is assigned to a PGP based on the largest share or plurality of E&M services. This indicates that the PGP has some control over the beneficiary's utilization of services and is in the best position to manage the health care of the beneficiary. This also prevents CMS from making performance payments more than once when multiple PGPs serve overlapping Medicare populations.

PGP Comparison Population. A PGP's comparison group has similar assignment criteria. The goal of the comparison group is to ensure that beneficiaries assigned to the comparison group are similar to those assigned to the participating PGP. The first criterion for the comparison group is that beneficiaries must reside in the PGP's service area, which is defined as all counties from which the PGP derives at least one percent of its assigned beneficiaries. This provision ensures that the comparison group is drawn from an area with similar local medical practice patterns and medical care accessibility.

The second criterion for the comparison group is that the beneficiary must have received at least one office or other outpatient E&M service from a physician in the given year. This means their medical service utilization is similar to that of the PGP's assigned beneficiaries. The third criterion is that a comparison group beneficiary cannot have received any E&M services from the participating PGP during that year, or have been assigned to the PGP in any demonstration year. This ensures that the beneficiaries are not affected by the demonstration incentives.

4.2 PGP Beneficiary Assignment Methodology

The goal of the beneficiary assignment criteria is to identify Medicare beneficiaries that had the plurality of their office or other outpatient E&M services at a participating PGP during the year, to indicate that the PGP is in the best position to manage and coordinate the health care of the beneficiary. However, to implement this assignment process it is necessary to exclude any beneficiaries for whom a complete set of Medicare Part A and B claims does not exist. The following criteria describe the specific beneficiary inclusion and exclusion criteria that are applied under the demonstration to implement the PGP assignment process:

A) Beneficiary must have a record in the Medicare Enrollment Data Base

The Medicare Enrollment Database contains information about the beneficiary's Medicare enrollment status and location of residence which is needed to determine if the beneficiary meets other criteria below.

B) Beneficiary must have at least one month of Part A and Part B enrollment in the given year, and cannot have any months of Part A only or Part B only enrollment

Because the purpose of this demonstration is to align incentives between Part A and Part B, beneficiaries are not included if they only have coverage for one of these parts.

C) Beneficiary cannot have any months of Medicare managed care enrollment

Only beneficiaries enrolled in Medicare fee-for-service are eligible for the demonstration, to ensure that claims data are available.

D) Beneficiary cannot be working aged

Medicare may not have a complete set of claims for working aged beneficiaries because it is not the primary payer.

E) Beneficiary must reside in the United States

This criterion excludes beneficiaries who might have received care outside of the United States for whom claims are not available.

F) Beneficiary cannot be enrolled in Hospice on the first day of the year

A PGP cannot be expected to actively manage the health care of a beneficiary in hospice because their care is controlled by their hospice program, not by the PGP.

G) Beneficiaries included in the BBA Medicare Coordinated Care Demonstration, BIPA Disease Management Demonstration, or any other Medicare fee-for-service demonstration will also be excluded from this demonstration.

The PGP Demonstration is intended to provide efficiency and quality incentives to participating PGPs in the absence of other interventions (e.g., the BBA Medicare Coordinated Care and BIPA Disease Management demonstrations).

H) A PGP must provide to the beneficiary 1) at least one office or other outpatient E&M service, and 2) more office or other outpatient E&M services (measured by Medicare allowed charges) than any other physician practice (EIN).

The CPT codes used to identify the E&M services included in the assignment process are 99201-99205 (New Patient codes) and 99211-99215 (Established Patient codes).

A beneficiary must satisfy all of these criteria to be assigned to a participating PGP.

4.2.1 Comparison Group Assignment

Comparison group beneficiaries must satisfy the same criteria as PGP assigned beneficiaries, with two differences. First, instead of receiving a plurality of office or other outpatient E&M services from the participating PGP, the comparison group beneficiaries must not have received any outpatient E&M services from the PGP that year, and must not have been assigned to the PGP in any Demonstration year. Second, the beneficiary must reside in one of the PGP's service area counties.

4.3 PGP Comments on the Assignment Algorithm

PGPs were consulted during the pre-implementation phase to finalize the assignment algorithm that resulted in only using outpatient E&M services provided in physician offices to assign patients to the physician groups. Participating PGPs were interviewed regarding their views on the appropriateness of the PGP beneficiary assignment methodology during a series of site visits conducted to all 10 PGPs during the Fall/Winter of 2005–2006. In general, PGPs found the assignment methodology to be a reasonable approach that resulted in a set of assigned beneficiaries for whom they could be held accountable for cost and quality performance.

The two PGPs that are academic medical centers had some reservations, however. They found that office or other outpatient E&M services provided by specialists and surgeons accounted for a significant number of their assigned beneficiaries, due to the high proportion of referral services that they provide. As a result, they did not believe they had overall control of the care for a number of their assigned beneficiaries. They recommended that CMS consider revising the assignment algorithm for future demonstrations, to focus on E&M services provided by primary care physicians only.

CHAPTER 5 CALCULATING DEMONSTRATION SAVINGS

This chapter discusses activities that facilitate the operation and implementation of the PGP Demonstration by the participating PGPs. The chapter describes some of the technical assistance activities conducted by RTI, including calculation of performance payments, and Medicare data provided to the participating PGPs. In addition, results of 2004 base year patient assignment are presented. Quality measurement and reporting is discussed in Chapter 9.

5.1 Determination and Distribution of Demonstration Savings

Chapter 3 described the determination and distribution of demonstration savings, termed “Medicare savings” in the PGP Demonstration. RTI, using Medicare claims and enrollment data, will calculate Medicare savings, PGP performance payments, and savings for the Medicare program for each performance year of the demonstration. This section explains the methodology for determining and distributing Medicare savings.

A comprehensive methodology has been developed to calculate PGP performance payments during the demonstration. As described in detail in Kautter et al. (2004), the procedures and the underlying programming methods to determine PGP performance payments involve: (1) the Medicare data files that provide the data used to calculate the PGP performance payments, (2) the method for assigning beneficiaries to a PGP, (3) the procedures for identifying a PGP’s comparison group, (4) PGP per-capita expenditure calculation, and risk adjustment of those figures to account for casemix changes between years, (5) comparison group per-capita expenditure calculations and risk adjustments, and (6) PGP performance payment calculations. This comprehensive methodology will be used to determine Medicare savings, PGP performance

payments, and savings for the Medicare program during each performance year of the demonstration.

5.2 Methodology Review Process

RTI has developed several computer programs to perform financial and quality measure calculations for the PGP Demonstration. The programs passed a rigorous review process to ensure the completeness, accuracy and timeliness of all data used in the development of the savings calculations. The review included both a software and a data audit. The software audit began with a thorough documentation of the computer programs. Then an auditor not involved in the development of the computer programs reviewed the documentation against the computer programs for any errors in syntax, logic, design, and methodology. Data audits and control measures ensure that the correct data is used and that the results are consistent over time. The review process also requires the maintenance of all program logs and programs. Once the program has passed through the audit procedures it is locked, so that no edits may be made to the program.

In addition to the computer program review process, the results from the programs undergo a series of data quality checks. One of the most important data checks involves examining results for consistency across years and within PGPs. Significant variations in statistics are thoroughly investigated.

5.3 Annual Assigned Beneficiary Profiles and Datasets

Under the PGP Demonstration, the individual PGPs are only held accountable for managing the care of beneficiaries for whom they provide more office or other outpatient E&M care than any other provider. To assist the PGPs with gauging their demonstration progress, they are provided annual profiles of their assigned beneficiaries that include a memorandum, tables,

and a service area map. The assigned beneficiary profiles are derived from the same data sources used to calculate demonstration performance payments. They include Medicare claims files and Medicare enrollment datasets. The assigned beneficiary profile is intended to provide the PGPs with information to better understand the characteristics and utilization patterns of its assigned beneficiaries so that they can participate more effectively in the PGP Demonstration.

In addition to providing the PGPs with summary data on patient characteristics and utilization statistics, the PGPs are provided annually with assigned beneficiary datasets. These datasets include Medicare Part A and Part B claims files and a beneficiary-level file for all beneficiaries assigned to the PGP. These datasets allow PGPs to understand the expenditure and utilization patterns of their assigned patients so that they can plan and monitor demonstration interventions and better understand the types of patients that they are held accountable for financial and quality results.

5.4 Annual Comparison Group Profiles

Because performance payments under the PGP Demonstration are determined through comparison of a PGP participant's assigned beneficiaries with its comparison group, each PGP also receives a profile describing its comparison group. The comparison group profiles summarize beneficiary characteristics and service utilization for its comparison group. The profile is intended to provide information to the PGP so that they can better understand the characteristics and utilization patterns of its comparison group beneficiaries and thus participate more effectively in the demonstration. PGPs only receive aggregate data on their comparison groups and do not receive more detailed data sets as provided for their assigned beneficiaries.

5.5 Assigned Beneficiary and Comparison Group Profiles for 2004

5.5.1 Assigned Beneficiaries for 2004

Table 5-1 presents results from the 2004 Assigned Beneficiary Profiles. These data indicate that the number of assigned beneficiaries per PGP in 2004 ranged from 8,383 to 44,609. Across all 10 PGPs, the total number of assigned beneficiaries in 2004 was 223,203. The assigned beneficiaries represent a subset of all the beneficiaries who had at least one office or other outpatient E&M visit at the PGP. The total number of beneficiaries with at least one E&M visit ranged from 11,713 to 59,273. The differences between these numbers and the assigned beneficiaries represents the effects of the exclusion criteria discussed in Chapter 4 and the effect of the requirement of a plurality of outpatient E&M services for assignment. Overall, the percentage of beneficiaries with at least one E&M service at a participating PGP who were also assigned to their PGP ranged from 46 to 78 percent.

PGPs provided a high level of office or other outpatient E&M services to their assigned beneficiaries in 2004. The proportion of total E&M allowed charges received by assigned beneficiaries that were provided by participating PGPs averaged from 74 to 90 percent across all beneficiaries served by the PGPs. The average number of E&M visits provided to beneficiaries ranged from 4.8 to 6.6. These data indicate that the participating PGPs had significant opportunities to manage and coordinate the care provided to their assigned beneficiaries.

The Assigned Beneficiary Profile also collect data on the numbers of beneficiaries in selected disease groups referred to as Hierarchical Condition Categories (HCCs). These are categories that combine similar sets of ICD-9 diagnoses for purposes of risk adjustment. The top five HCCs for each PGP in 2004 included the following:

- HCC10 Breast, Prostate, Colorectal and Other Cancers and Tumors
- HCC19 Diabetes without Complication

- HCC80 Congestive Heart Failure
- HCC92 Specified Heart Arrhythmias
- HCC104 Vascular Disease with Complications
- HCC105 Vascular Disease
- HCC108 Chronic Obstructive Pulmonary Disease

5.5.2 Comparison Group Beneficiaries for 2004

Table 5-2 presents results from the 2004 Comparison Group Profiles. These data show that the number of service area beneficiaries that were provided at least one office or other outpatient E&M visit ranged from 34,853 to 639,959. The percentage of these patients that were assigned to the comparison group for the PGPs ranged from 50 to 92 percent. One of the main criteria for not assigning patients to the comparison group was the presence of at least one office or other outpatient E&M visit at the PGP. Five to 48 percent of the beneficiaries were excluded from the comparison group for this reason. Finally, the percentage of PGP assigned beneficiaries who reside in the designated service areas, i.e., counties having more than 1% of PGP patients, ranged from 86 to 97 percent of the total Medicare beneficiaries served by a PGP.

5.5.3 Assigned Beneficiary and Comparison Group Characteristics, 2004

The Assigned Beneficiary and Comparison Group Profiles also include a series of tables describing the characteristics of the assigned beneficiaries and comparison group beneficiaries. *Table 5-3* presents a comparison of several of these characteristics. The percentage of beneficiaries included in the assigned beneficiary group that had two or more discharges per year ranged from 7 to 12 percent; for the comparison group this percentage ranged from 6 to 10 percent.

Annualized Medicare expenditures per assigned beneficiary ranged from \$6,149 to \$11,705, with inpatient expenditures ranging from \$2,704 to \$6,784. Comparison group beneficiaries' expenditures ranged from \$5,457 to \$7,958, with inpatient expenditures ranging from \$2,334 to \$3,640.

The percentage of assigned beneficiaries with annualized Medicare expenditures of \$10,000 or more ranged from 17 to 27 percent, and the percentage of assigned beneficiaries with two or more discharges ranged from 7 to 12 percent. These statistics suggest that there are opportunities for PGP participants to improve cost efficiency.

The 2004 demographic and eligibility characteristics indicate that the majority of the assigned and comparison group beneficiaries are eligible for Medicare by reason of age. The percentage of assigned patients eligible for Medicare by reason of age ranged from 75 to 89 percent and from 78 to 87 percent for the comparison group beneficiaries.

The Assigned Beneficiary and Comparison Group Profiles also include information on CMS Hierarchical Condition Categories (HCCs), which are broad diagnostic categories used for the risk adjustment of expenditures. In 2004, the percentage of assigned beneficiaries and comparison group beneficiaries having five or more CMS HCCs each ranged from 7 to 12 percent. Additional assigned beneficiary and comparison group beneficiary characteristics are summarized and presented in *Tables 5-1 through 5-3*.

Table 5-1
Beneficiary Assignment for PGP Demonstration Participants, 2004

| | Range Across the 10 PGP Demonstration Participants | |
|---|---|---------|
| | Minimum | Maximum |
| Beneficiary Assignment and Exclusions | | |
| Beneficiaries Provided At Least One Office or Other Outpatient Evaluation and Management Visit at the PGP | 11,713 | 59,273 |
| Number of Assigned Beneficiaries | 8,383 | 44,609 |
| Percent of Beneficiaries Provided At Least One Office or Other Outpatient Evaluation and Management Visit Assigned to PGP | 46.2% | 77.8% |
| Proportion of Allowed Charges for Office or Other Outpatient E&M Visits Provided at the PGP | | |
| Mean Proportion per Beneficiary | 0.74 | 0.90 |
| Percent of Beneficiaries with Proportion 0.80 to 1.00 | 43.4% | 77.8% |
| Office or Other Outpatient E&M Visits | | |
| Mean Number of E&M Visits per Beneficiary | 4.80 | 6.59 |
| <i>Percent of Beneficiaries Having:</i> | | |
| 7 or more E&M visits | 23.8% | 37.5% |
| 4 or more | 51.3% | 66.9% |

SOURCE: RTI Analysis of Calendar Year 2004 100% Medicare Claims Files and Enrollment Datasets.

Table 5-2
Beneficiary Assignment for PGP Comparison Groups, 2004

| | Range Across the 10 PGP Demonstration Participants | |
|--|---|---------|
| | Minimum | Maximum |
| Comparison Group Assignment and Exclusions | | |
| Service Area Beneficiaries Provided At Least One Office or Other Outpatient Evaluation and Management Visit | 34,853 | 639,959 |
| Percent of Beneficiaries Provided At Least One Office or Other Outpatient Evaluation and Management Visit Assigned to Comparison Group | 50.3% | 92.2% |
| Percent of Beneficiaries Excluded Due to At Least One Office or Other Outpatient Evaluation and Management Visit At the PGP | 5.2% | 47.5% |
| Percent of PGP Assigned Beneficiaries Residing in the Designated Service Area (>1% patients) | 85.6% | 97.2% |

SOURCE: RTI Analysis of Calendar Year 2004 100% Medicare Claims Files and Enrollment Dataset.

Table 5-3
Characteristics of Beneficiaries Assigned to PGP Demonstration Participants and Comparison Groups, 2004

| | Range Across the 10 PGP Demonstration Participants | | | |
|--|---|----------|---|---------|
| | Assigned Beneficiaries | | Comparison Group Beneficiaries¹ | |
| | Minimum | Maximum | Minimum | Maximum |
| Hospital Discharges | | | | |
| <i>Percent of Beneficiaries Having:</i> | | | | |
| 2 or more discharges per year | 6.7% | 11.9% | 6.0% | 9.9% |
| 1 | 12.7% | 15.8% | 10.9% | 15.1% |
| None | 73.4% | 80.2% | 76.7% | 83.1% |
| Annualized Medicare Expenditures | | | | |
| <i>Mean Expenditures by Type of Service per Beneficiary²:</i> | | | | |
| Total ³ | \$6,149 | \$11,705 | \$5,457 | \$7,958 |
| Inpatient ⁴ | \$2,704 | \$6,784 | \$2,334 | \$3,640 |
| Hospital Outpatient ⁴ | \$589 | \$2,790 | \$788 | \$1,130 |
| Part B Physician/Supplier ⁴ | \$1,482 | \$2,414 | \$1,364 | \$2,353 |
| <i>Percent of Beneficiaries by Total Amount of Expenditures:</i> | | | | |
| \$10,000 or more | 16.8% | 26.5% | 14.1% | 20.0% |
| <i>Percent of Total Expenditures by Component:</i> | | | | |
| Inpatient | 38.7% | 52.2% | 40.5% | 46.6% |
| Hospital Outpatient | 8.4% | 24.1% | 11.6% | 16.7% |
| Part B Physician/Supplier | 16.3% | 34.4% | 23.7% | 30.3% |
| Demographic and Eligibility Characteristics | | | | |
| <i>Percent of Beneficiaries by Age:</i> | | | | |
| <65 | 11.1% | 24.7% | 13.3% | 21.6% |
| 65-74 | 38.6% | 46.8% | 38.0% | 42.3% |
| 75-84 | 27.2% | 36.7% | 29.0% | 34.0% |
| 85 or older | 7.9% | 13.7% | 9.2% | 12.8% |

(continued)

Table 5-3 (continued)
Characteristics of Beneficiaries Assigned to PGP Demonstration Participants and Comparison Groups, 2004

| | Range Across the 10 PGP Demonstration Participants | | | |
|--|---|----------------|---|----------------|
| | Assigned Beneficiaries | | Comparison Group Beneficiaries¹ | |
| | Minimum | Maximum | Minimum | Maximum |
| Demographic and Eligibility Characteristics (continued) | | | | |
| <i>Percent of Beneficiaries by Medicare Eligibility:</i> | | | | |
| Aged | 74.9% | 88.8% | 78.3% | 86.6% |
| ESRD | 0.2% | 3.3% | 0.1% | 1.1% |
| Disabled | 10.9% | 21.8% | 13.0% | 20.7% |
| <i>Percent of Beneficiaries by Medicaid Eligibility:</i> | | | | |
| Medicaid eligible at least 1 month in 2004 | 10.3% | 17.6% | 9.9% | 22.9% |
| <i>Percent of Beneficiaries Hospice Status:</i> | | | | |
| Enrolled in hospice ⁵ | 1.1% | 2.3% | 1.0% | 1.7% |
| CMS-HCCs⁶ | | | | |
| <i>Percent of Beneficiaries Having:</i> | | | | |
| 5 or more CMS-HCCs | 6.8% | 12.4% | 6.6% | 12.0% |
| 3 or more | 17.5% | 28.6% | 18.8% | 28.0% |
| 1 or more | 59.4% | 72.6% | 60.4% | 71.0% |

¹ Weighted by percentage of assigned beneficiaries in each service area county.

² Annualized Medicare expenditures per beneficiary are calculated by dividing actual expenditures by the fraction of the year the beneficiary is alive and eligible for Medicare (eligibility fraction).

³ Total expenditures are capped at \$100,000 per person per year.

⁴ Component expenditures are not capped at \$100,000.

⁵ Entered hospice enrollment during 2004.

⁶ CMS Hierarchical Condition Categories (HCCs) are broad diagnostic categories used for risk adjustment of expenditures.

SOURCE: RTI Analysis of Calendar Year 2004 100% Medicare Claims Files and Enrollment Datasets.

CHAPTER 6 PGP DEMONSTRATION PARTICIPANTS

There are ten PGP participants in the demonstration. This chapter describes CMS' demonstration solicitation, application, and site selection process; pre-implementation activities; characteristics of the 10 PGP participants; their reasons for participating in the demonstration and their strategies to be successful; and implementation and operational challenges that PGP participants have reported.

6.1 Site Selection and Pre-Implementation Activities

CMS published the solicitation requesting proposals for the PGP Demonstration from large health care groups in the *Federal Register* on September 27, 2002. CMS was especially interested in proposals from health care groups with well-developed information, clinical, and management systems.

CMS received 26 applications from a variety of organizations, including physician group practices, faculty practices, integrated delivery systems, physician hospital organizations, independent practice associations, and management services organizations. Applicants' proposals focused on applying managed care infrastructure, processes, and lessons learned to the Medicare fee-for-service population; these included the following:

1. **Care Coordination**—Using disease management, case management, and hospitalists to coordinate inpatient services.
2. **Access-to-Care Enhancements**—Emphasizing the roles of primary care physicians, geriatricians, nurse call lines, and improved access to physician offices and staff so that patients can be more proactive in their care.

3. **Infrastructure to Improve Patient Tracking and Quality of Care**—Utilizing electronic medical records, disease registries, and expansion of process and outcome improvement activities using evidence-based guidelines targeted at the Medicare fee-for-service population.

In mid-February 2003, CMS convened three review panels consisting of internal and external experts in physician group clinical improvement, finance and operations, and management. Panelists evaluated the proposals using the criteria outlined in the *Federal Register* notice, addressing organizational structure, leadership and management, quality assurance, process and outcome improvement, financial stability, and demonstration implementation strategy.

In August 2003, the CMS Administrator selected 11 organizations to participate in the demonstration. The organizations were selected to achieve the following goals:

1. Geographic diversity through a mix of urban and rural settings and West Coast, Midwest, and East Coast variation.
2. Diversity of organizational models, including free-standing group practices, integrated delivery systems, faculty practices and a management service organization with an affiliated independent practice association.
3. Providing for large sample sizes for computing expenditure and quality measure changes.
4. Selecting demonstration participants that are well organized and can “hit the ground running” with existing infrastructure and programs required to be successful under the demonstration during the 3-year performance period.
5. Including organizations that may benefit from the additional incentive the demonstration offers to develop or expand infrastructure and programs.

6. A range of innovative models that provide insight on alternative approaches that could be used to improve the Medicare program.
7. Technically acceptable by the expert review panels.
8. Avoid geographic overlap of PGP participants to prevent Medicare beneficiaries from enrolling or being assigned to multiple PGP participants resulting in paying twice for the same or similar interventions and contamination of treatment and control groups.
9. Availability of CMS resources to administer and implement the demonstration.

As required under the statute authorizing the demonstration, CMS prepared a waiver package projecting that aggregate expenditures under the demonstration for patients within the scope of the demonstration do not exceed the estimated amount that would be expended in the absence of the demonstration. The Office of Management and Budget approved the waivers required to implement the demonstration in August 2004.

During this pre-implementation period, CMS worked with the physician groups to prepare them for the demonstration. This included sharing historical claims data with the groups on their assigned beneficiary population so that they could better understand the utilization and expenditure patterns of patients assigned to their group as well as to develop and refine interventions to be successful under the demonstration; and working with the groups to identify and resolve any discrepancies with physician claims data. CMS also engaged the physician groups to develop a more robust set of quality measures that targeted conditions prevalent in the Medicare population and involved both claims- and chart-based quality measures.

In December 2004, CMS convened a two day pre-implementation meeting with the groups in Baltimore. The first day focused on educating and answering questions about the final financial model to be used to calculate savings, and PGP presentations about their implementation

strategies. The second day of the meeting focused on reaching consensus on the 32 ambulatory care quality measures to use under the demonstration, the phase-in plan, performance thresholds and quality improvement targets, and the relative weights to place on quality measures.

In early 2005, 10 organizations returned signed terms and conditions contracts to proceed with the demonstration. The demonstration began on April 1, 2005, and will run through March 31, 2008.

6.2 PGP Participant Characteristics

Table 6-1 identifies the 10 PGP participants and shows key characteristics of their organizations. *Table 6-2* characterizes PGP participants' geographic locations, and their service areas are shown on the *Figure 6-1* map.

6.2.1 Geographic Characteristics

Together, the 10 PGP participants span all four Census regions. Four are located in the Midwest, three in the Northeast, two in the West, and one in the South region. Half of the PGP participants are located in predominantly rural areas, which include scattered small cities or towns. Three PGP participants are located in small city suburban areas, one is located in a smaller urban area, and one is located in a suburb adjacent to a large city. No participant is located in a large urban core city.

6.2.2 Organizational Characteristics

Nine of the 10 PGP participants are traditional integrated physician group practices. One participant is a physician network supported by a management services organization and hospital partner. The management services organization provides quality improvement, medical management, public reporting, contracting, and information management services to multiple

Table 6-1
PGP Demonstration Participants: Organizational Characteristics

| Participant | Organizational Structure | Part Of Integrated Delivery System? | Includes Academic Medical Center? | Owns Or Owned An HMO?¹ | Not For Profit? | Number Of Providers |
|---|----------------------------------|--|--|--|------------------------|----------------------------|
| Dartmouth-Hitchcock Clinic | Faculty/Community Group Practice | Yes | Yes | Yes | Yes | 907 |
| Billings Clinic | Group Practice | Yes | No | No | Yes | 232 |
| Geisinger Clinic | Group Practice | Yes | No | Yes | Yes | 833 |
| Middlesex Health System | Network Model | Yes | No | No | No ² | 293 |
| Marshfield Clinic | Group Practice | No | No | Yes | Yes | 1039 |
| Forsyth Medical Group | Group Practice | Yes | No | Yes | Yes | 250 |
| Park Nicollet Clinic | Group Practice | Yes | No | Yes | Yes | 648 |
| St. John's Clinic | Group Practice | Yes | No | Yes | Yes | 522 |
| The Everett Clinic | Group Practice | No | No | No | No | 250 |
| University of Michigan Faculty Group Practice | Faculty Practice | Yes | Yes | Yes | Yes | 1,291 |

¹ HMO may be owned by associated health system, not demonstration participant per se.

² For profit subsidiary of not for profit health system.

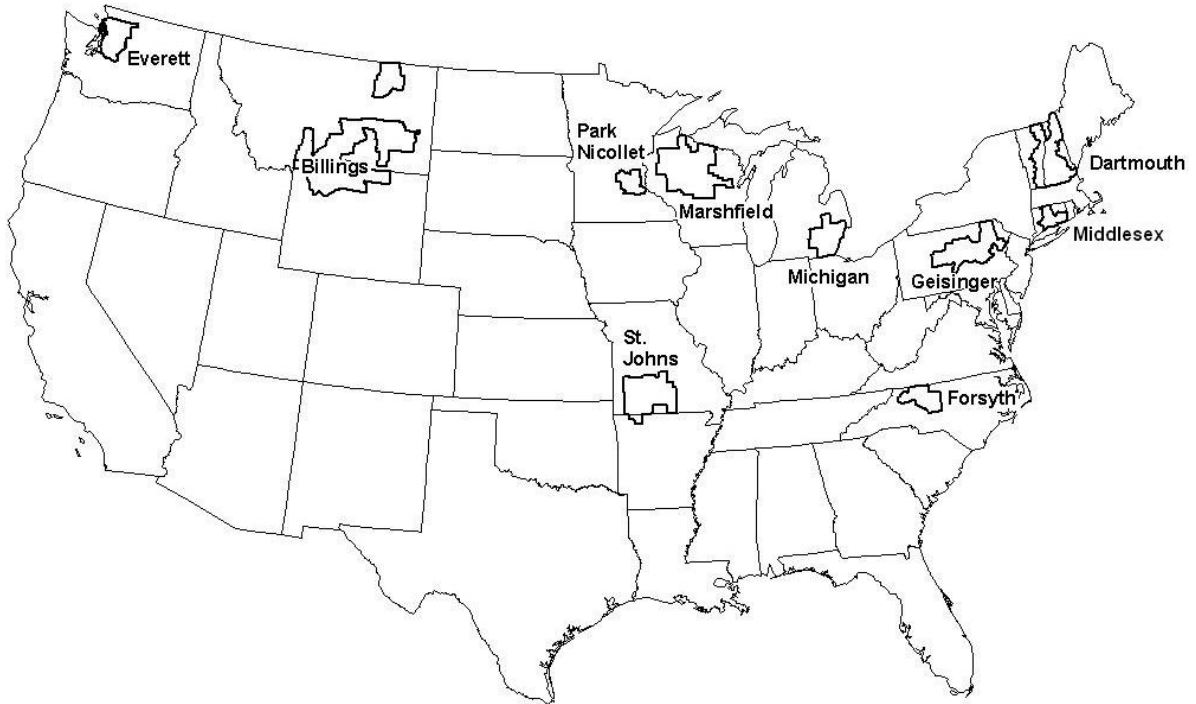
SOURCE: RTI International

Table 6-2
PGP Demonstration Participants: Geographic Characteristics

| Participant | Service Area | Urbanicity of Service Area | Region |
|---|---|-----------------------------------|---------------|
| Dartmouth-Hitchcock Clinic | New Hampshire / Eastern Vermont | Rural, small city | Northeast |
| Billings Clinic | South-Central Montana/Northwestern Wyoming | Rural, small city | West |
| Geisinger Clinic | Central-Northeast Pennsylvania | Rural, small city | Northeast |
| Middlesex Health System | South-Central Connecticut | Suburban, small city | Northeast |
| Marshfield Clinic | North-Central Wisconsin | Rural, small city | Midwest |
| Forsyth Medical Group | Northwest North Carolina | Small city | South |
| Park Nicollet Clinic | South-Central Minnesota | Suburban, large metropolitan | Midwest |
| St. John's Clinic | South-Central Missouri / Northwest Arkansas | Rural, small city | Midwest |
| The Everett Clinic | West-Central Washington | Small city, suburban | West |
| University of Michigan Faculty Group Practice | Southeastern Michigan | Small city, suburban | Midwest |

SOURCE: RTI International

Figure 6-1
Service Areas of PGP Demonstration Participants



SOURCE: RTI International

independent physician practices, each of which was offered the choice to join the demonstration. Its participation as a network model provides an opportunity to test the generalizability of the demonstration model to the majority of physicians who do not practice in large, traditional integrated medical groups.

Two of the 10 participants involve faculty group practices. Faculty practices and academic medical centers treat a higher proportion of cases referred for specialty care, and tend to treat a sicker mix of patients. These characteristics provide an opportunity to test the applicability of the demonstration patient attribution algorithm to referral practices, and the ability of the demonstration risk adjustment method to account for sicker referral patients.

Eight of the 10 participants belong to an integrated delivery system, a health system that includes at least one hospital in addition to the physician group (and may include other health

care providers such as home health agencies or nursing homes). Two are freestanding physician group practices. The presence of a hospital within the same organization facilitates care management and coordination, for example, discharge planning and coordination of inpatient and outpatient care. But, hospitals may be concerned about the loss of inpatient admissions and associated revenues from outpatient care management activities that are encouraged by the demonstration, which could result in intra-organization tensions that may make continued participation more challenging. Alternatively, high occupancy hospitals may have an opportunity to free up capacity by working with physician groups to provide proactive care management interventions to patients in ambulatory settings thereby reducing avoidable admissions for patients and improving the quality of care and services they receive in alternative settings.

Seven of the 10 participants currently or previously owned a health maintenance organization (HMO), a managed care insurer. This experience promoted an interest in care management and pre-demonstration development of managed care infrastructure among the participants. Eight of the participants are not-for-profit organizations, and one is a for-profit subsidiary of a not-for-profit health system. All of the participants plan to initially reinvest any demonstration performance payments in their care management infrastructure, as opposed to sharing it with individual providers. The participating organizations are all large, ranging from 232 to 1,291 affiliated physicians, but their size dispersion does allow testing of the demonstration model's applicability across a range of large practice sizes.

6.3 Reasons for Participation

The PGPs are participating because of their interest in improving and managing patient care and their belief that this is the “right thing to do” for patients. Many also believe that the demonstration is consistent with their missions and their vision of the future of health care.

Most of them have current or past experience with capitated managed care. As noted, seven of 10 PGP participants either currently or in the past owned an HMO. Also, some of the participating provider groups have been delegated care management responsibilities by managed care insurers. The PGP participants built care management infrastructures prior to the demonstration in response to these roles. The PGP Demonstration is a means for them to continue and expand their interest and expertise in care management, and apply it to a new population, Medicare FFS beneficiaries. Although the participants do not expect the demonstration to be highly profitable, they see it as a means to obtain at least some reimbursement for performing care management functions that are not paid for under traditional Medicare FFS. Most of the participants are part of integrated delivery systems, an organizational structure that provides both the means and the motivation to manage care. Managing care is also seen as consistent with the provider groups' missions to provide comprehensive and integrated care for the populations they serve. Some hoped that the demonstration would confirm the virtues of provider-based care management.

Participating in the demonstration is also seen by the participants as a good business decision. They have a business strategy of providing value to private sector purchasers of health care, who have been implementing "value-based purchasing" and "pay for performance" initiatives. These purchasing strategies are seen by the PGP participants as the wave of the future in both the private sector and in government health programs. Getting early experience with such an initiative through participation in the PGP Demonstration is seen as advantageous. Participants also believe—to varying degrees—that participation in a major national Medicare care improvement demonstration is prestigious and marketable.

Certain features of the demonstration design facilitated participation by the PGP participants. One is the lack of penalties for underperforming their comparison group. The participants pointed out that even without this form of downside risk, they face the business risk of making investments in care management for an uncertain return, and the loss of Medicare FFS revenue if, for example, care management succeeds in reducing hospitalizations. If the groups also faced the possibility of paying penalties for underperforming their comparison group, the demonstration would be financially unattractive and they would not participate. The provider-specific base cost used to judge performance was also important in gaining participation. Participants are judged by their cost growth from a base of their current costs, which incorporates the illness severity of their patients and their style/intensity of care. Neither being penalized nor rewarded for their current costs, but rather being judged on their cost increases over the demonstration period was an attractive feature promoting participation.

Finally, some participants are relatively unconcerned about the loss of FFS revenue, especially reduced admissions to their health system hospitals. Some participants' hospitals are enjoying high occupancy rates, with excess demand such that beds freed up by reducing admissions under the demonstration can quickly and easily be filled. For example, beds released by reducing the census of Medicare congestive heart failure patients can be filled by commercial surgical patients, who are more financially remunerative. On the other hand, some groups have faced challenges in getting hospitals to support participation or continue to face challenges in working with hospitals under the demonstration due to the perception that the hospital may lose revenue from admissions.

6.4 Participant Demonstration Strategies

As noted in the previous section, the demonstration participants have existing care management and information technology infrastructure (in fact, having such an infrastructure was a criterion for selection into the demonstration). A major strategic thrust of many of them is to apply their existing infrastructure to the Medicare FFS population. New programs and initiatives that are specifically in response to the demonstration are also being implemented. Strategies include chronic disease management programs, high-cost case management, care coordination and transition management, and better end of life and other palliative care. Patient care and provider interventions are discussed in greater detail in subsequent chapters of this report.

The participants plan to achieve cost saving goals under the demonstration by reducing avoidable hospital admissions and readmissions, since the highest care costs are related to these services. Care management strategies are the means the participants plan to use to reduce avoidable admissions. They are placing a particular focus on reducing avoidable admissions and readmissions among congestive heart failure patients because of the potential for short-term payback, as well as increasing influenza and pneumovax vaccine rates within the demonstration performance period. Improvements in diabetes care are also a focus for many of the groups, but most saw the payback from diabetes care as long-term and mostly post-demonstration.

Although demonstration participants' cost control will be judged based on assigned patients, they are focusing their interventions on a small number of very expensive patients, usually those who are hospitalized, especially multiple times. These patients can show the largest effect from care interventions (reducing avoidable rehospitalization rates can significantly reduce Medicare program expenditures). The demonstration participants are relying mostly on in-house

personnel and expertise to implement their care management strategies, although some are partnering with or have purchased systems from outside vendors.

The PGP participants' main strategies to improve their performance on demonstration quality indicators are provider education and feedback, including data profile reports comparing individual providers to their peers or other benchmarks; implementation of standardized, evidence-based care models and protocols; and better adherence to quality of care protocols on the part of both patients and providers through disease management interventions.

6.5 Implementation and Operational Challenges

The demonstration participants cited several challenges in implementing the demonstration. The lack of upfront payments from Medicare to expand programs or improve infrastructure means that the participants must self-finance these improvements. Acquiring organizational resources and funding for demonstration activities can be difficult. Even if resources are available, rapidly marshalling them for the demonstration has been challenging. Medicare claims data are available only with a substantial lag, which makes it difficult to assess the success of interventions and to make corrections or changes. Many of the PGP participants have numerous physical sites of care. Outreach and education of all care sites about the demonstration—especially remote or satellite clinics—has been challenging as well. More resources than expected have been needed for information technology initiatives in many cases. In particular, reporting demonstration quality indicators that are acquired from medical records has required more additional resources than originally planned.

CHAPTER 7

CARE MANAGEMENT INTERVENTIONS

Care management has many objectives including supporting physicians and treatment plans and emphasizing prevention. Care management interventions require significant commitment and investment from health care groups. They require the development of a population identification process, the development and promotion of evidence-based practice guidelines for the standardization of processes, the education of patients on self-management, and the promulgation of practice models to physicians and other clinical staff.

PGP participants have engaged in a wide variety of care management interventions to improve the efficiency and quality of health care for Medicare FFS patients. These interventions have included: chronic disease management programs, high risk/high cost care management, transitional care management, end-of-life/palliative care programs, practice standardization, diagnostic coding initiatives, and quality improvement programs. It is expected that appropriate implementation of care management initiatives will generate cost savings under the demonstration by reducing avoidable hospital admissions, readmissions and emergency department visits.

This chapter discusses the care management interventions being used by PGP participants to improve the quality and efficiency of health care for Medicare FFS patients. In particular, the focus is on care management interventions that have been implemented or expanded due to the PGP Demonstration. However, it must be stressed that it is too early in the demonstration to evaluate how successful the care management interventions have been in generating demonstration savings and improving quality of care. Therefore, this report does not attempt to evaluate the success of the care management interventions being used in the demonstration.

7.1 Disease Management

Disease management provides a mechanism to better coordinate and manage complex chronic illnesses as well as a means for educating patients regarding disease self-management skills. Disease management activities may include individual training with certified educators or may be as general as community based classes. Appropriate follow-up education by trained educators ensures proper treatment compliance and allows patients the opportunity to empower themselves with respect to their own health care.

All PGP participants offered some form of disease management program prior to the start of the demonstration. The most common programs included those targeting patients with diabetes, congestive heart failure (CHF) and pulmonary disease (e.g., asthma, chronic obstructive pulmonary disease (COPD)). Diabetes programs often are fairly large and may include a few thousand Medicare FFS patients. CHF and pulmonary disease programs have included several hundred Medicare FFS patients. Other disease management programs offered at various PGP participants prior to the demonstration have included anticoagulation medication management, cancer, and depression programs.

Most PGP Demonstration participants have implemented or expanded chronic disease management programs for the demonstration. Expansion of disease management programs has required several PGP participants to hire new case management staff, as well as to reallocate resources from other activities. At least four groups made significant expansions to their CHF disease management programs and three groups introduced new CHF or coronary artery disease (CAD) disease management programs. Groups have focused on CHF or other cardiac conditions, due to the substantial potential for cost savings during the 3-year demonstration period. Although several groups have also expanded their diabetes disease management programs for the

demonstration, most groups are concerned that cost savings from the management of diabetes patients would not be realized until after the demonstration has ended.

All PGP participants are engaged in some method of education of patients with chronic diseases. For example, one PGP uses several patient education programs (e.g., the Lipid Management Program and the Healthy Living Program) that are primarily used to improve the management of chronic illness. Each of the programs target at least one risk factor for chronic disease. Another PGP is using a new “health coaching” model that was implemented specifically for the PGP Demonstration. Health coaching programs are designed to motivate behavior change in patients by providing them with materials, training information, videos, and other education materials. The main focus of patient interventions for another PGP has been case management systems, which provide a means for educating patients regarding disease self-management skills, as well as a mechanism to better coordinate and manage complex chronic illnesses. This PGP is working to reduce admissions for patients with certain chronic conditions such as CHF.

Several PGP participants operated disease management programs for their managed care populations prior to the demonstration. At least four PGP participants extended the services already provided to other payer populations within their system to the Medicare FFS population. These programs had not previously been extended to the Medicare FFS population due to a lack of financial incentive or support. Potential performance payments under the demonstration have provided the necessary incentive for application of disease management programs to the Medicare FFS population. Under the demonstration, Medicare FFS patients are benefiting from programs previously offered only to other payer populations.

In general, the groups participating in the demonstration agreed that provider-based disease and care management programs are superior to those offered by third-party vendors for

several reasons. First, according to the PGP participants, care management programs developed internally can be more easily tailored for individual patients and their situations due to the detailed patient-level clinical information available only to providers (for example, medical records in addition to administrative billing data). Second, internally developed programs build on an existing patient/provider relationship, whereas third party programs may interfere with this relationship. Third, physician buy-in is crucial for the long term sustainability of the disease management programs and physicians are more likely to buy into internally developed programs. Patients are more likely to participate in programs that are developed and endorsed by their provider, compared to programs from an external party with limited knowledge of their overall health condition including their multiple comorbidities.

For these reasons, the majority of the PGP Demonstration participants have developed disease management programs internally. But some PGP participants have taken advantage of programs developed by external third-party vendors, while customizing them for the PGP's particular patient population and providers. One PGP has implemented a “health coaching” model developed by a leading national disease management company. Initially, this PGP is collaborating with staff from the third party vendor to implement the program, but the PGP expects that its own staff will exclusively operate the program once they are trained. Two PGP participants have licensed a packaged third-party telephonic CHF management system, which is described in Section 7.3.

7.2 High Cost/High Risk Care Management

Care management programs have primarily been targeted to patients defined as being high cost or at high risk. PGP participants generally have limited resources for care management activities, and focusing care management activities on high cost/high risk patients maximizes

cost savings in the demonstration. High cost/high risk patients are often defined as those who have multiple comorbidities, have recently been hospitalized, have high expenditures, or have had numerous physician visits in a defined period of time. In contrast to disease management, high cost care management focuses on high cost/risk patients regardless of diagnosis, not those with particular disease conditions. The stratification of patients by their level of cost/risk is thought to make care management more affordable and manageable. One of the challenges to appropriate stratification has been the identification of high cost/high risk patients. The groups have worked through these obstacles by establishing data repositories such as disease registries and by coordinating with local area hospitals for additional data on their assigned populations.

Several PGP Demonstration participants have formal high cost/high risk care management programs. In general, the design of each is to use a nurse care coordinator to coordinate the care of high cost patients. Care coordination activities can include educating patients on effective self-management, including proper use of their medications; monitoring and encouraging adherence to prescribed care regimens; encouraging regular follow-up care and primary care medical appointments; discharge planning following hospitalizations; referring patients to available resources within the PGP, other medical providers, and the community; and working with PGP and outside providers and services to implement best care practices and support for patients. High-cost patients are referred as appropriate to other PGP medical management programs, such as disease management.

For example, one PGP has defined subsets of patients who would benefit most from its focused care management activities. These “Gold Star” patients are defined as individuals with at least three major comorbid conditions or at least seven PGP “identified” evaluation and management visits or if the patient was hospitalized in the past year with charges of at least

\$10,000. Another PGP is using a survey of all Medicare FFS beneficiaries seen by the PGP to help determine the initial identification of patients for its care management programs. If these patients are hospitalized or have lab test results beyond disease management program-specific thresholds, they are targeted for enrollment in a care management program.

7.3 Telephonic Management/Home Monitoring Systems

Telephonic management and home monitoring systems are tools used by several groups to monitor chronically ill patients. As part of the demonstration, two PGP participants have implemented and sustained a telephonic management program. The groups have used this program to monitor CHF patients on a daily basis. The automated interactive voice response system allows for the follow up of additional patients at a low marginal cost and allows care managers to focus on high-risk/high cost patients. Currently, the telephonic monitoring systems have enrolled over 500 patients at each site; enrollment is not limited to Medicare FFS patients.

Three additional PGP participants have introduced similar home monitoring programs. These involve the distribution of home monitoring devices or the use of interactive voice response systems that allow patients to monitor their vital signs at home. Data from these medical devices are automatically sent to case managers located at the PGP participants who, in turn, have direct access to the patients medical records and physicians. Currently, the home monitoring programs are being used for CHF patients; however, at least one PGP is planning to introduce a similar program for diabetes patients. One PGP indicated an enrollment increase in their home monitoring program of approximately 200 Medicare FFS patients during the first three quarters of the first demonstration year.

7.4 Transitional Care Management

Transitional care management interventions have generally emphasized improved inpatient to outpatient care transitions, achieved through discharge planning and ensuring that appropriate follow-up care is received, and in some instances the introduction of home monitoring systems. Appropriate transitional care management is thought to be a useful strategy for avoiding hospital readmissions.

Several PGP participants highlighted transitional care management as an important intervention in improving the coordination of patient care. At least six PGP participants have substantially enhanced their transitional management or discharge protocols as a part of the demonstration. The transitional care management strategies have varied among the PGP participants. Some groups have introduced new patient care coordination staff, implementing strategies to improve communication between specialists and primary care providers, or using nurse call programs to facilitate follow-up appointment scheduling post-discharge. A nurse call line at one of the PGP participants helps facilitate up to 350 post-discharge appointments each month. Another PGP has hired a full-time patient care coordinator for their transitional care program, who acts as a “transition coach.” Responsibilities of the transition coach include initiating contact with the patient; using screening tools to identify clinical improvement, home safety, medication use, and follow-up appointments; and, provision of guidelines for future visits.

7.5 Palliative Care/End-of-life Programs

Three PGP participants have focused some of their resources on the development and promotion of palliative care/end-of-life programs under the PGP Demonstration. Other groups have expressed a desire to introduce this type of program. In general, the PGP participants

believe that managing advanced illness and end-of-life events supports opportunities to align patient quality of care and organizational and consumer costs. According to the PGP participants, when physical or cognitive function declines result in significant frailty, efforts should be made to minimize further loss and maximize function and independence. Also at this stage, it is important to have informed directives by patient or surrogate family members (i.e., advanced directives or a living will). Patients may wish to withhold or withdraw treatments or interventions because in the patient's own judgment the quality of his/her life as he/she values it is no longer worth preserving. When frail elderly patients perceive loss of quality of life, medical management generally shifts to one of maintaining dignity and comfort in recognition of patients' wishes. Developing an organized system-wide approach to the management of the frail elderly and "end-of-life" care should improve quality of care for these individuals, minimize use of undesired or unnecessary health care resources, and avoid unnecessary—for example, emergency—hospital admissions.

Over an 11-month period one of the participating PGP participants made over 250 palliative care program referrals for patients who were predominantly over 75 years of age. A second PGP estimates 150 referrals in a year and a reduction of approximately 90 overall admissions.

7.6 Diagnostic Coding Initiatives

Several groups are focusing on ensuring that all appropriate patient diagnoses are recorded on Medicare claims. The reasons are twofold, and both relate to improving measured Medicare savings relative to their comparison group. First, reporting all appropriate diagnoses, including those not necessarily relevant for payment of the claim, will help ensure that the diabetes, congestive heart failure, chronic obstructive pulmonary disease, and asthma disease

registries are populated correctly. If the disease registries are incomplete, there may be patients who would benefit from participating in a disease management program who go unidentified, resulting in lower savings than possible.

The second reason for making sure all appropriate diagnoses are reported on their Medicare claims is to ensure that measured risk-adjusted expenditure growth for Medicare FFS beneficiaries reflects as much as possible the patients' true case-mix. The CMS-HCC risk adjustment methodology relies on diagnoses reported on claims to estimate patients' expected expenditures—if groups do not report conditions that patients' actually have, they would be unnecessarily disadvantaging themselves with respect to demonstration measured savings performance.

While such initiatives have the potential to improve coding accuracy and care management, they can also affect measured savings under the demonstration (since demonstration risk adjustment relies on claims diagnoses). An attempt will be made to monitor the effects of PGP coding initiatives on PGP performance payments.

7.7 Quality Improvement Programs

Given that the financial incentives in the PGP Demonstration include quality performance (Chapter 3), all PGP participants have quality improvement programs in place for the demonstration. Strategies for improving quality of care include: documentation of quality performance; provider education and feedback; incorporating evidence-based medicine in everyday care; and use of information technology. Many PGP participants believe that their care management interventions have synergies with quality improvement, especially those involving patient education and monitoring, and that the key to quality improvement is enrollment of patients in care management programs.

Some groups are using quality measure “report cards” to encourage physicians to improve their quality measure performance by comparing their performance to their peers’ and appealing to their pride in their professionalism. Also several groups are providing “flowsheets” or automated reminders to physicians to help them track care that has already been provided and care that still needs to be provided to patients, as well as to prompt them at the point of care to provide the service. These methods will assist providers in monitoring their patients, ensuring patients get evidence based care, and contributing to the quality improvement goals of the group.

Finally, some PGP participants believe that their quality improvement initiatives will not only improve quality of care, but will result in cost savings as well. For example, one PGP expects that improved efficiencies and cost savings generated through their PGP Demonstration care management interventions will primarily be the direct result of improved quality of care.

7.8 Standardizing Care

One of the major participating PGP strategies for improving quality and efficiency in patient care is to standardize care across the system around evidence-based best practice models. These models are defined by internal PGP committees and workgroups, which rely on the published literature and the PGP's own experience to identify best practice models. The models are promulgated through multiple means, including internal handbooks and "storyboards", nurse educators, electronic bulletin boards, published documentation, departmental meetings, and management/peer reviews of provider performance. It is believed that as a larger proportion of PGP patients receive standardized evidence-based care, the average quality, outcomes, and efficiency of care delivered to all patients will improve.

7.9 Implementation and Operational Challenges

Given their size, organizational structure, and delivery system barriers, PGP participants have experienced a variety of operational challenges that they have had to address in implementing their care management strategies.

Because PGP participants have multiple locations throughout a large geographic region, there are challenges in rolling out care management interventions to patients in outlying locations. At least four of the PGP participants mentioned that it is difficult to extend programs to the rural areas. These groups are attempting to improve outreach to these centers.

Several groups have highlighted challenges in targeting specific patients for care management programs. They have indicated the lack of data about care and services provided outside the PGP available to identify patients who would benefit from care management in a timely manner. Timely data would permit better care management and earlier opportunities for course correction.

Two of the PGP participants are standalone group practices, which means they are not part of a larger integrated delivery system including a hospital. One of these groups has been successful in collaborating with a nearby hospital to receive timely discharge data so they can follow-up with patients regarding their future care and provide adequate transitional care management services. The second standalone PGP has encountered some challenges in working with a nearby hospital for the purposes of discharge planning and transitional care management. In particular, the PGP has had difficulty in identifying hospitalized patients in real time, gaining access to inpatient financial data, and in developing interventions focusing on end-of-life care, and improved discharge processes, including medication review.

CHAPTER 8 PROVIDER PARTICIPATION AND RELATIONS

Physicians (and, more generally, non-physician practitioners, who we collectively refer to as “providers”) have a great deal of influence over patients’ utilization of health care. This fact was a motivating factor behind the PGP Demonstration—it is reasonable to believe that direct incentives to physician groups to control expenditure growth and improve quality might be particularly effective. As a result, the participating groups’ relations with and incentives to its member physicians are vitally important to the groups’ success with the demonstration.

The demonstration-related provider relations activities to member physicians can be divided into two categories: activities conducted prior to the demonstration to build support and achieve buy-in for the demonstration goals and requirements among member physicians; and incentives and other activities directed toward physicians during the demonstration. The latter category can be further divided into financial and non-financial incentives. This chapter discusses each category in turn.

8.1 Pre-Demonstration Provider Relations

The PGP Demonstration participants engaged in a number of activities intended to educate physicians on the expenditure-control and quality-improvement goals of the demonstration and the requirements that participants must fulfill to earn a demonstration performance payment. Prior to the start of the demonstration, all of the participants provided physicians with information regarding the demonstration goals and the reporting requirements. At a minimum, the groups provided information via electronic mail and through the organizations’ intranet systems. However, most groups conducted meetings, with question-and-answer sessions, with their physicians. These meetings and other informational materials also

generally included information on how the demonstration quality measures would be collected as well as how performance payments would be distributed and details of any demonstration-related incentive programs. The participating groups generally developed standardized “best practices” care models to complement their care management programs (described in Chapter 7), and the content of these models was an important part of the pre-demonstration information disseminated to group physicians.

Despite the fact that many of the PGP participants have relatively centralized management and decision-making power, physician “buy-in” along with the commitment of the organization’s executive leadership was critical to moving forward with and being successful under the demonstration.

8.2 Information about the Demonstration Provided During the Demonstration

Education about the demonstration has continued during the first demonstration performance year. Most of the participating groups plan on phasing-in quality measure collection in parallel with the demonstration quality measure reporting requirements. As a result, the groups need to educate their physicians about the quality measures, performing the services on eligible patients, and documenting services for data collection and reporting. The participants have also continued to educate their physicians on the “best practices” care models they have developed to improve quality, and about the incentives of the demonstration. Most of the groups also plan on informing physicians on any performance payments earned as that information becomes available.

8.3 Physician Incentives

Although the PGP Demonstration participants plan on reducing Medicare expenditure growth and improving quality through changing the systems that physicians use daily for

providing patient care (e.g., creating disease management programs or improving information technology systems), they are not solely relying on systems improvements to meet the demonstration's terms and conditions. The second major component of their plans for success in the demonstration is through incentives to the physicians or physician offices. These incentives take both financial and non-financial forms—somewhat surprisingly, the participants have relied much more heavily on non-financial incentives rather than financial incentives.

8.3.1 Physician Financial Incentives

Most PGP participants do not plan to give demonstration-related incentive payments to individual physicians, in part due to the uncertainty of any performance payment under the financial model. By and large, physician compensation in the groups focuses on service productivity, or so-called “RVU efficiency.” RVU (relative value unit) efficiency is the sum of the volume and intensity of services that a physician generates in a certain period of time (month, year, etc.). Productivity-based incentive schemes tend to run counter to the goal of the demonstration to reduce Medicare program expenditure growth. Incorporating incentives that *discourage* expenditures or service volume would be difficult to incorporate into the groups' overall productivity-based physician compensation.

Furthermore, whereas the RVUs for a physician, or physician practice, are easily measurable, improvements in quality indicators are not so readily measured at the physician, or even practice (office or small subgroup) level due to small sample sizes of patients and the complexity of gathering data. Demonstration participants feel that attainment of quality goals is a function of the *system* of care and the efforts of the entire care *team*, so performance payments should be used to improve systems, not to incentivize individual physicians. Also, incentivizing individual physicians may cause them to avoid difficult or non-compliant patients. As a result,

most groups do not plan to make payments to individual physicians based on physician-specific quality measures or contribution to any performance payments received, rather most plan to recoup their investment and reinvest the remainder in care management infrastructure.

8.3.2 Physician Non-Financial Incentives

The demonstration participants generally relied on dissemination of performance data and non-financial incentives to encourage physicians to engage in quality improvement activities. The participants provided physicians, or groups of physicians, with confidential “report cards” on their quality measure performance relative to that of other physicians in the PGP. The main purpose is to appeal to physicians’ sense of professionalism to improve performance if they are lagging behind their peers. Some groups keep these results confidential over concern that some events may be outside the physicians’ control.

In addition to appealing to professional pride, several groups stated that the purpose of providing feed-back reports is to help encourage poor-performing physicians to improve. While some groups take a more passive approach by making performance results available, other groups take a more active stance, with formal group or management review of individual provider performance. In these reviews, there is a particular emphasis on asking providers who are performance “outliers” to justify or explain their performance, and if there is no justification, to improve. Consequently, physician groups may be well positioned to encourage “self-policing” of poor quality.

The PGP participants are also making major efforts to promote knowledge of and adherence to standardized, evidence-based “best practice” models among their providers. It is expected that widespread adoption of these standard care models will both improve quality and reduce costs. Adoption of these best practice models is a major way that demonstration

participants expect their providers to help the organization achieve the goals of the demonstration and improve patient care.

CHAPTER 9 QUALITY MEASUREMENT AND REPORTING

9.1 Development of Consensus Agreement with PGP Participants on Selection of Quality Measures

CMS worked with the PGP participants to reach consensus on the appropriate measures to use for performance assessment. A pre-implementation conference was held on December 10, 2004 with representatives from the PGP participants. The result of that conference was a consensus agreement between CMS and the PGP participants that outlined the plans for quality measurement.

A summary table that describes the consensus agreement was presented as *Table 3-1* in Chapter 3. It calls for the PGP demonstration to include 32 quality measures covering five condition modules. The modules include the following: (1) diabetes mellitus; (2) heart failure; (3) coronary artery disease; (4) hypertension; and (5) preventive care. As a result, the overall set of measures includes a broad range of measures covering a diverse set of diseases and interventions. To demonstrate a high level of performance on quality of care for the demonstration, PGP participants will need to work actively to improve or maintain quality across a broad range of diseases and conditions.

The 32 quality measures are a subset of those developed by CMS' Quality Measurement and Health Assessment Group for the Doctors Office Quality (DOQ) Project. As a result, they have been well established and validated through the extensive review process included as part of the DOQ project. Contributors to the development of the DOQ measure set included the American Medical Association's Physician Consortium for Performance Improvement, the American College of Cardiology, the American Heart Association, the National Diabetes Quality Improvement Alliance, the National Committee for Quality Assurance, and the Veterans Health

Administration. The DOQ measures are also focused on care provided in ambulatory settings, which is emphasized in the PGP demonstration.

The consensus agreement also specifies that the 32 quality measures will not all be used to assess performance in the first or second years of the demonstration. This will reduce the administrative burden faced by the PGP participants in collecting the medical records data needed for the 25 measures that require that type of data. The schedule for phasing in the quality measures across the demonstration performance years is as follows:

Performance Year 1: Diabetes measures, including flu and pneumonia vaccine measures for the diabetic population.

Performance Year 2: Year 1 measures plus the CHF and CAD measures, including flu and pneumonia vaccine measures for the CHF population.

Performance Year 3: Year 2 measures plus the hypertension measures and colorectal and breast cancer screening measures.

9.2 Quality Performance Targets and Performance Payment Calculations

Under the consensus agreement, PGP participants are eligible to earn separate quality performance payments if they meet quality performance targets for each of the quality measures. For each measure, PGP participants must achieve at least one of three targets. The first two are threshold targets and the third is an improvement target:

1) Achieve the higher of 75% compliance or the Medicare HEDIS mean for the measure (for those measures where HEDIS indicators are also available);

OR

2) Achieve the 70th percentile Medicare HEDIS level (for those measures where HEDIS indicators are also available);

OR

3) Demonstrate a 10% or greater reduction in the gap between the administrative baseline and 100% compliance.

An example of how the improvement target is calculated is as follows. If a PGP achieves 40% compliance for a quality measure in the base year (2004), then the gap between that level and 100% is 60%. As a result, the PGP must reduce the gap by 10% of 60% or 6 percentage points, so its quality improvement target is 46%. If the PGP achieves 46% compliance with the quality measure in any of the three performance years of the demonstration, then it will be judged as having met the quality improvement target for that measure for that year.

The consensus agreement also defines how data will be collected to calculate each of the quality measures, and how the data collection method used will define weights to be applied in calculating the overall performance and performance payment eligibility for each PGP. Claims data analysis is used to calculate 7 of the 32 quality measures. They are given a weight of 4 in the overall performance calculation, as indicated in *Table 3-1*. The other 25 quality measures are calculated using only data from medical record abstraction or other internal PGP data systems. They are given a weight of 1 in the overall performance calculation, as also shown in *Table 3-1*.

The lower weight for medical record-based measures reflects the additional administrative burden to report these measures and the potential for larger variation since they are calculated from a random sample of eligible beneficiaries. In contrast, the claims-based measures are calculated on all of the beneficiaries eligible for a given quality measure at each PGP, since the data required to compute those rates are available from existing claims data. They have larger sample sizes, required data are easily available, and their results are subject to less

sampling variation; as a result, they receive higher weights in the overall performance calculation.

To calculate the overall quality performance for a given PGP, the number of quality measures for which the PGP has hit either a threshold or improvement target is first calculated. Then the total weighted quality score is calculated by adding the value for each quality measure where a target was reached, either 4 or 1, depending on the type of measurement. The weighted score for the PGP is then divided by the total possible score for the given performance year. The ratio is then applied to the quality portion of the performance payment pool to calculate the performance payment for quality.

9.3 Electronic Reporting Tool

RTI and Iowa Foundation for Medical Care (IFMC) are providing technical assistance to the PGP participants as part of the demonstration. The DOQ Computerized Medical Record Abstraction Tool, developed by IFMC for the DOQ project, is the basis for the electronic data collection tool used in the PGP demonstration. That tool was adapted by IFMC to fit the requirements of the PGP demonstration for abstracting data from medical records or PGP internal clinical data systems for quality measurement. Training on the measures and reporting processes using the abstraction tool is conducted via WebEx, an Internet-based global conferencing tool that allows remote sites to attend meetings and view demonstrations in real time.

The abstraction tool is designed for on-site medical record abstraction. It is pre-populated with each beneficiary's available demographic information, visit data, laboratory test data, vaccinations, and other data from Medicare claims information supplied by RTI. It includes a Visual Basic interface and an Access database to house the data. The abstraction tool also has a

number of additional features, including summary reports, data completeness and consistency checks, and help functions to assist with abstraction guidelines. The abstraction tool facilitates data entry by employing edits and skip logic to minimize entry time and errors. As a result, it aids the PGP participants by reducing the administrative burden of data collection through chart abstraction.

Although the abstraction tool will not support direct interface with an electronic medical record (EMR), or directly import data from other databases such as a patient registry, documentation of the database structure, expected values, lengths, types, and relationships is provided in detail to the PGP participants. This allows the PGP participants to write software programs to import data from their EMRs or other clinical systems into the abstraction database.

Most PGP participants were able to import data electronically for some of the quality measures for base year data collection. However, in most cases data for a number of the quality measures still had to be abstracted manually, since it was not already being collected in internal PGP systems. PGP participants are planning to upgrade their internal data systems over time, to enable data for more of the quality measures to be collected electronically during future years of the demonstration.

9.4 Overview of How the PGP Quality Measures are Calculated

The overall group of beneficiaries eligible for quality measurement are limited to full-year assigned beneficiaries for each PGP who have two or more visits at the physician group and who have qualifying diagnoses from any Medicare claim. In this way, all Medicare claims data on the health services received by beneficiaries will be available for the entire period represented by the base year and individual performance years of the demonstration. Without complete, full-year data, a beneficiary might be classified as not receiving a treatment or test required for a

quality indicator when in fact the service had been received, but not recorded in Medicare claims data if it was provided outside the time period covered by Medicare eligibility.

As a result, beneficiaries assigned to a PGP who became Medicare eligible after January 1st of the base year or after April 1st of a performance year will not be included in that year's quality measurement calculations. Similarly, beneficiaries who died in the middle of the base year or performance year will not be included in the quality performance calculations. In sum, the PGP participants' assigned beneficiaries included in the quality performance payment analysis will be a subset of those included in the financial performance payment calculations, since the latter will include all assigned beneficiaries (both full-year and part-year).

Denominator criteria for the quality measures include beneficiary disease status, demographics, and other factors identified in the clinical measure specification. Numerators for each quality measure include all beneficiaries in the denominator population who also satisfy the quality performance criteria for that measure.

9.5 Base Year Results for Claims and Chart Based Measures

This section reviews the results for the Diabetes Mellitus (DM) quality measures for the base year for each PGP.

Table 9-1 presents the minimum and maximum performance percentages achieved for each quality measure across the PGP participants during the base year (2004). It indicates that some measures had very high percentages achieved, such as DM-2 HbA1c Management Control ($HbA1c \leq 9.0\%$) with all scores above 90%. In contrast, DM-8 Complete Foot Exam has all of the percentages below 50%. Percentages achieved for the other measures fall between those extremes.

Table 9-1
Minimum and Maximum Achievement Percentages for Quality Measures During the Demonstration Base Year (2004)

| | | Minimum Denominator Sample Size | Maximum Denominator Sample Size | Minimum Achievement Percentage | Maximum Achievement Percentage |
|---------|---------------------------|---------------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|
| DM - 1 | HbA1c Management* | 911 | 4,986 | 85.22% | 97.15% |
| DM - 2 | HbA1c Control | 350 | 491 | 90.52 | 96.51 |
| DM - 3 | Blood Pressure Management | 411 | 580 | 45.23 | 77.18 |
| DM - 4 | Lipid Measurement* | 911 | 4,986 | 74.33 | 92.62 |
| DM - 5 | LDL Cholesterol Level | 307 | 451 | 74.50 | 90.88 |
| DM - 6 | Urine Protein Testing* | 911 | 4,986 | 61.73 | 87.60 |
| DM - 7 | Eye Exam* | 693 | 4,107 | 53.85 | 82.07 |
| DM - 8 | Complete Foot Exam | 401 | 577 | 7.89 | 47.86 |
| DM - 9 | Influenza Vaccination | 368 | 525 | 48.19 | 77.99 |
| DM - 10 | Pneumonia Vaccination | 270 | 413 | 30.25 | 78.88 |

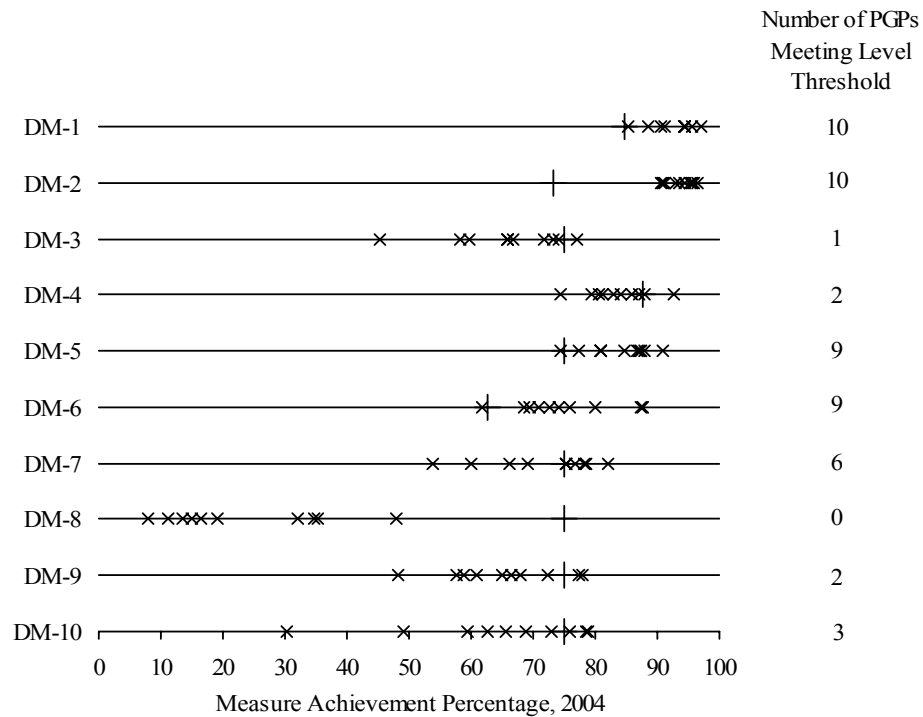
*Claims-based quality measure

Figure 9-1 graphically presents the distribution of the participants' achievement on each of the 10 DM quality measures. For each measure, an "X" denotes the level for a single PGP. For informational purposes, the vertical line intersecting each horizontal line denotes the threshold target level for the first performance year. The threshold levels vary among measures, since some measures have associated HEDIS values that contribute to defining the threshold and others do not. The thresholds are only benchmarks for comparison of demonstration base year performance, but they will play a critical role in determining participating PGP performance payments in the first demonstration performance year. PGP participants will have the additional option of more individualized improvement targets in the first performance year evaluation of demonstration quality indicator performance. The column at the right shows the number of PGPs that had already met the Performance Year 1 threshold target during the base year. It is important to note that they will need to maintain that performance during the first performance year in order to receive a performance payment.

The DM quality measures for which a first performance year threshold target was met by the most PGP participants in the demonstration base year were DM-1, HbA1c management and DM-2, HbA1c Control, with all 10 PGP participants already meeting those targets. In fact, all 10 PGP participants' performances on DM-2 were well above the target threshold. The quality measure already met by the fewest PGP participants was DM-8, Complete Foot Exam, with none of the PGP participants meeting that target in the demonstration base year. For two other quality measures (DM-9, Influenza Vaccination; and DM-10, Pneumonia Vaccination), some PGP participants would need to make significant improvement in this measure to meet the threshold target in the first demonstration performance year.

For audit and validation of medical record data collected by the PGP participants in the base year, a random sample was selected of 30 beneficiaries for each PGP. Their medical records were then abstracted by each PGP.

Figure 9-1
Distribution of PGP Demonstration Participants' Achievement of Diabetes Mellitus Performance Year 1 Threshold Targets in the Demonstration Base Year (2004)



NOTES: For each DM quality measure, an “X” is marked for the base year quality measure achievement for each participating PGP. Vertical lines give the level threshold for each measure.

SOURCE: RTI International analyses of chart-based diabetes mellitus quality measures reported by PGP Demonstration participants for 2004.

Although each sample included 30 beneficiaries per module (the DM module for the base year), only the first eight beneficiaries’ medical records were audited for mismatches during the first phase of the audit. Mismatches were defined as discrepancies between the data reported by the PGP participants in their abstraction tools and the audit copies of relevant portions of the beneficiary’s medical record sent to IFMC for audit purposes. If there were no mismatches, the

remaining 22 of the 30 beneficiaries' records are not audited. Six of the 10 PGP participants passed the audit for the base year in this first phase. However, four PGP participants had at least one mismatch, which meant the other 22 beneficiaries' records were also audited. All of those four PGP participants met the 90 percent correct criterion for the full 30 sampled beneficiaries, however, so they passed the base year audit in this second phase.

9.6 Site Feedback and Administrative Burden

In site visits and conference calls, PGP participants have indicated that they view the demonstration quality measures as generally appropriate. A few PGP participants have questioned whether all the measures have been fully validated in aged, frail populations, and whether some measures especially appropriate for these populations could be substituted or added. There have been specific concerns raised about a few of the 32 measures, focused mainly on the measure that assesses blood pressure management using a single measurement. Some physicians commented that the average of several measurements should be used to gain a more reliable average figure. However, PGP participants agreed to proceed with that measure, recognizing that all of the measures had been reviewed extensively by clinical panels before being finalized.

In addition, many of the PGP demonstration measures are very similar to HEDIS measures that PGP participants are already familiar. This type of consistency between measurement systems increased their comfort level with the PGP quality measures.

PGP participants also viewed the methods used to assess performance on the quality measures as appropriate. For example, the use of both threshold and improvement targets was viewed as a good approach. In this way, PGP participants starting at a lower quality level on a particular measure can aim for an improvement target and not be discouraged at the difficulty of

reaching a threshold target. Conversely, PGP participants already performing at high levels on a given measure are not asked to make additional improvements that may be difficult at that level, and can aim to maintain their performance above the threshold level.

Most PGP participants did comment that the cost and administrative burden of conducting medical record abstraction was significant, especially for certain of the quality measures such as the diabetic foot exam. While the computerized chart abstraction tool helped to reduce the workload, it still required a significant investment of staff time by the PGP participants. It is hoped that the cost will decline somewhat in future years, as the initial costs of developing systems and procedures for the chart abstraction were borne in the base year effort. Nonetheless, the costs are expected to remain significant for all of the PGP participants.

Several PGP participants commented that maintaining consistency of measures between Medicare and other payers will be important to prevent them from becoming burdensome to providers. While the DOQ measures are similar to many HEDIS measures, they indicated that they have experienced a general proliferation of quality measures being applied by different payers. This increases the complexity and cost of data collection borne by the PGP participants

CHAPTER 10

ROLE OF INFORMATION TECHNOLOGY

In the PGP Demonstration, information technology (IT) plays a critical role in disseminating information to providers for the participating PGP participants' quality and efficiency improvement initiatives. Most of the PGP participants have sophisticated information systems. Some are national leaders in IT and develop their systems extensively "in-house." Almost all have an electronic medical record (EMR) operational or in development. As a result of the PGP Demonstration, most PGP participants leveraged or expanded existing IT systems to meet the goals of the demonstration.

This section discusses the role of information technology in the PGP Demonstration. First, PGP strategies for development and use of IT for the demonstration are discussed followed by an explanation of specific IT systems and initiatives used by the PGP Demonstration participants.

10.1 Strategies

Information technology (IT) is seen as a key strategic area for PGP participants. Participation in the PGP demonstration has served as a catalyst in the implementation and acceleration of PGP participants' IT strategic plans. In general, the PGP participants think that the benefits from IT investment do not accrue under the current Medicare FFS payment system.

PGP participants are using IT systems such as EMR systems and patient registries to collect the information needed to compute the demonstration quality measures. In addition, IT systems are one of the pillars on which the participating PGP participants' care management and coordination programs stand, and are being used to improve practice efficiency, quality of care

delivered to patients and to better understand the utilization of services by the Medicare fee for service population.

One of the major strategies in improving work flow for the PGP participants has been to standardize clinical practices throughout their organization. PGP participants have introduced IT innovations with several different management capacities, and which allow physicians and other clinical staff to review care provided to patients and gaps in care that need to be filled. The standardization of processes shifts the focus from individual physician/patient relationships to a system-wide structure. This allows providers more time to focus on the patient during an encounter. Standardizing practices also leads to the automation of systems that frees up staff for other work. For example, automatic electronic systems can free up nurses from administrative work and provide them with more time to identify patients for care management interventions or educate patients in disease self-management.

In general, demonstration participants did not create any major IT initiatives specifically in response to participation in the PGP demonstration; rather, existing systems have generally been adapted and expanded. Although there were few totally new IT initiatives developed for the demonstration, some PGP participants developed patient registries for certain chronic diseases such as CHF. In addition, most PGP participants did not hire any new IT staff for the demonstration; however, the PGP Demonstration required a reallocation of IT resources to implement the care management interventions and quality improvement programs for the demonstration.

Most PGP participants do not engage in internal IT software development. Rather, many PGP participants prefer to purchase outside IT systems and then adapt them for their purposes. “In-house” development of IT systems is thought to be too complex and expensive for some PGP

participants. However, there are PGP participants that develop their core IT systems in-house. For these PGP participants, it is often a frustrating process to adapt external IT systems to fit their needs and objectives, and in-house development lends flexibility to the systems and allows them to be tailored to the PGP's needs.

10.2 Systems and Initiatives

PGP participants are using a wide variety of IT systems and initiatives to help with achieving quality improvement and efficiency gains in the PGP Demonstration. These IT systems and initiatives include EMR system enhancements, patient registries, interactive voice response systems for home monitoring, and e-prescribing. Below we describe selected examples of IT systems and initiatives being used by the PGP Demonstration participants.

Electronic Medical Record. The majority of PGP participants have an EMR already in place, and most of the remaining PGP participants are at various stages of implementation. The existence of an EMR has facilitated data collection for chart-based quality measures under the PGP demonstration. Several groups have incorporated health maintenance modules into their EMRs to assist them in collecting data required for reporting quality measures. The modules integrate patient information already contained in the EMR and give physicians reminders at the point of care that prompt them to conduct tests, screenings, vaccines or refer patients for education about their condition and self-management.

PGP participants with EMRs are also able to push data from their EMR into the abstraction tools used to report quality measures. This avoids a lot of manual data entry from paper-based medical records. Some of the measures, however, still require manual abstraction. It is expected that while the first run through with data collection has some fixed costs and was more resource intensive than initially anticipated, the process to collect data will be less costly

and more efficient in future years due to EMR enhancements that collect data going forward on a flow basis..

In addition to facilitating data collection for chart-based quality measures under the demonstration, several groups employ their EMR in their care management interventions. Some PGP care managers are, for example, using their EMRs to send alerts to physicians on their patients' needs and changes in their condition. One physician group offers a service which allows patients limited access to parts of their EMR, aiding patients' self-management of their disease, particularly those with chronic conditions. This service is accessed via a secure web site, and patients can access it from any computer with Internet access. In addition to giving patients access to medical record information (including lab test results), patients can also renew prescriptions, schedule office appointments, and ask non-urgent questions of their physicians.

Finally, PGP participants have had some challenges with using EHR systems and other IT solutions. Training providers to use IT systems, and modifying provider behavior, has been challenging for several groups. Some groups have also been challenged with integration of their IT systems across all providers in their organization, especially when providers are geographically dispersed.

Patient Registry. Most PGP participants have patient registries for one or more chronic diseases. Patient registries typically capture disease information for patients that can be used to help support care management programs and to track improvements in quality of care. PGP participants generally believe that patient registries are critical for their success in the PGP Demonstration.

Most PGP participants have an existing disease registry for diabetes patients, and most have either an existing registry for CHF patients or one under development for the

demonstration. The registries typically include patient demographic, clinical information, such as lab test results, and claims data. They are generally updated regularly and available to providers treating patients that are the focus of the registry as well as developers of care management programs. Practices frequently assign someone to manage the list of patients in the registry. The reports generated from the patient registries show individual providers how their patients are progressing, and whether the patient has any outstanding or overdue tests. The registries have allowed providers and practice managers to track improvements in quality measures.

One PGP developed and manages a patient registry which is a health outcomes database that contains over 100,000 Medicare patients. The registry draws from a series of data sources throughout the PGP's system including the clinic registries, billing systems, scheduling systems, lab data and claims data. Individual providers can access the database and create reports using a web-based application. One very useful feature of the registry is its ability to generate a "visit planner." The visit planner allows providers to create lists of patients who will be seen during the course of the day. The provider receives a one page summary for each patient showing test dates and results. It also highlights tests and services for which the patient is due. In general, providers have found the visit planner very useful for organizing and collecting patient data and it has helped to boost usage of the registry by physicians.

Interactive Voice Response Systems. Two PGP participants have implemented a new interactive voice recognition system for proactive monitoring of their heart failure (HF) patients. Through the use of an IVR telecommunications platform, the physician groups can monitor patient's HF conditions (e.g. changes in weight symptoms) and patients can receive reminders and learn about their condition on a daily basis. By delivering daily information back to nurses at

the PGP, nurses or physicians can intervene in a timely manner to prevent a patient from deteriorating or being unnecessarily hospitalized.

Electronic Prescribing. Participation in the PGP Demonstration significantly accelerated the development of one physician group's electronic prescribing software. Another physician group's goal is to have 100 percent of medication prescribing completed online; they have currently reached about 75 percent. Electronic prescribing is used by these groups to understand and ultimately decrease the occurrence of medication errors within the group, and to provide physicians with the ability to write new prescriptions, refill prescriptions, optimize medication choice, generate medication lists, and assist with dosing.

CHAPTER 11 EVALUATION DESIGN

11.1 Goals of the Evaluation

The goals of the PGP Demonstration are to encourage both Medicare program expenditure savings and to improve the quality of care for Medicare FFS beneficiaries by providing financial incentives to participating physician groups. The evaluation therefore focuses on whether these goals have been met. In particular, the evaluation is concerned with the following:

- **Characteristics of the Demonstration Participants and Their Patients.** What are the characteristics (e.g., formal links to hospitals or other providers, range of specialties, previous experience with disease or care management, etc.) of groups that decided to participate? What are the case mix and demographic characteristics of their assigned beneficiaries?
- **Impacts on Medicare Program Expenditures.** Does the demonstration reduce the growth of Medicare program FFS expenditures? Was any expenditure growth reduction the same for all patients or concentrated on particular patients? How would changes to the quality measure specifications have affected performance payments?
- **Impacts on Providers.** What is the change in total Medicare revenues, including performance payments, for PGP participants, affiliated providers, and non-affiliated providers? Do these changes differ by type of PGP?
- **Impacts on Beneficiaries.** Did patterns of services provided to beneficiaries change during the demonstration? Did these changes result in improved quality of care or lower out-of-pocket costs? Were these changes isolated to selected groups of

chronically ill or high risk beneficiaries or instead shared by all beneficiaries? To what extent were beneficiaries aware that their PGP was participating in the demonstration, and did they notice any changes in access to specialists or other providers or in quality of care?

- **Generalizability.** How does the demonstration compare to other FFS and managed care models for cost savings and quality improvements (e.g., through the use of third-party disease management companies)? What is the applicability of the demonstration model across types and sizes of physician groups and geographic areas?

These research questions will be addressed through the use of both quantitative and qualitative data, as described below. Analysis of Medicare claims data are the core source for determining the demonstration impacts. However, these must be supplemented by information on participants' demonstration implementation and operational experience (e.g., what new programs have been developed, what internal discussions were held when deciding to participate, and what staff have been involved in implementing the demonstration) to understand:

- *Why* groups decided to participate.
- *How* the groups were able to achieve the impacts on quality and cost.
- *Whether* the demonstration could be generalized to a larger set of providers.

11.2 Demonstration Evaluation Design

The evaluation design uses a quasi-experimental approach in which PGP participants' outcomes (expenditure growth, quality measures, etc.) are contrasted to beneficiary outcomes in the comparison groups, which are composed of beneficiaries in the same geographic areas as the PGP participants, but for whom the PGP does not provide the plurality of services. The evaluation design uses the existing assignment methodology (plurality of outpatient E&M

services) to define the PGP and comparison groups. The results from a quasi-experimental research design cannot be interpreted as strongly as a randomized design, which uses a control group as the point of comparison.

The design should be robust enough to test the research questions and the effects of the demonstration. For example, if it is observed that participants' Medicare beneficiaries' program expenditures or quality measures improve relative to the comparison group, it may not necessarily be due to the demonstration incentives, but due to other factors. Statistical analysis will be used to control or account for such factors.

A number of the demonstration effects on policy questions addressed by this evaluation are best measured by quantitative data. These variables of interest can be separated into two basic categories: changes in expenditures and changes in quality measures. The changes for the PGP participants will be compared to similar statistics for their comparison group, so that the demonstration effects can be determined.

Total Medicare FFS expenditures is the basic expenditure quantity that will be analyzed since the PGP Demonstration incentives are based on overall expenditure growth. Changes in expenditures will be analyzed with and without the demonstration performance payments added to estimate the overall effect of the demonstration on the Medicare program. Medicare expenditures will be stratified by type of service (physician visits, inpatient stays, hospital outpatient visits, and post acute stays) to determine whether any demonstration-related expenditure reductions are similar across all types of care or whether they result from changes in place of service. Expenditures will also be stratified by patient case mix categories (e.g., by whether having a chronic disease such as congestive heart failure, chronic obstructive pulmonary

disease, or diabetes; by CMS-HCC risk score categories; etc.) to determine whether participants' disease or other case management programs have been effective in reducing utilization.

For quality of care measures under the demonstration, all claims-based measures will be incorporated into the evaluation. Unfortunately, chart based measures will not be available for comparison group beneficiaries or beneficiaries associated with PGP participants not subject to the demonstration incentives. These quality of care measures that are available from claims data include the measure for coronary artery disease (lipid profile test); the four for diabetes (HbA1c management, Lipid measurement, Urine Protein testing, and Eye exam); the one for heart failure (left ventricular ejection fraction testing during hospitalization); and the one preventive care measure for breast cancer screening. In addition, two additional claims-based quality measures not used in any performance payment criteria will be used: the percentage of inpatient admissions with an ambulatory care-sensitive condition as the principal diagnosis; and the percentage of patients with any of four chronic diseases (CHF, CAD, COPD, or diabetes) who had at least one physician visit every six months during the year.

11.3 Control Variables in the Statistical Analysis

The evaluation will use sensitivity analysis to test the effect of changes resulting from the demonstration by controlling for differences in the groups and their beneficiaries. For example, PGP participants that are more formally related to another provider (as in an integrated delivery system) may be able to more easily reduce their patients' expenditure growth than a stand-alone PGP. Or, if the demonstration assignment algorithm assigns more severely or chronically ill beneficiaries to a particular group, that group's expenditure growth may more naturally be greater than for the comparison group. *Table 11-1* gives several of the important controls, their purposes, and their data sources. For each control, the table provides the purpose of the control

and the data source for operationalizing the control. For example, the CMS-HCC risk score identifies whether demonstration participants were able to reduce expenditures or improve quality for patients generally in poor health (rather than having one of the targeted chronic conditions), and can be obtained from Medicare claims.

Table 11-1
PGP Demonstration — Control, Purpose, Data

| Control | Purpose | Data Source |
|--|---|---|
| Type of PGP (IDS, Stand-Alone); group size(number of physicians); and specialty scope (percentage of specialists) in group | Identifies whether certain types of groups are more successful in reducing Medicare expenditures or improving or maintaining quality—reflects generalizability of demonstration | Demonstration applications; site visits |
| Whether groups provide financial incentives to individual physicians/offices based on demonstration indicators | Identifies whether providing financial incentives at the individual physician or office level improves demonstration performance | Demonstration applications; site visits |
| Chronic disease indicators (CAD, CHF, diabetes, vaccines, screenings) | Identifies whether expenditures or claims based measures of quality for patients with chronic diseases frequently targeted by demonstration participants for disease management were successfully improved | Claims |
| CMS-HCC risk score | Identifies whether demonstration participants were able to reduce expenditures or improve quality for patients generally in poor health (rather than having one of the targeted chronic conditions) | Claims |
| Proportion of patient’s care provided by the group or affiliated provider | Identifies whether having a greater proportion of care provided by the participating group is associated with improved demonstration outcomes (for unassigned beneficiaries, identifies a demonstration “spillover” effect) | Claims |
| Patient demographics (age, gender, etc.) | Controls for differences among groups and between assigned and comparison groups that may affect expenditures | Claims and other Medicare administrative data |
| Area managed care penetration | Identifies whether groups in areas with greater managed care penetration may be more familiar with disease management programs and better able to create similar programs for the demonstration | Medicare administrative data |
| Time periods (annual) | To adjust for trends over time. | Dates / periods covered |

SOURCE: RTI International.

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