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Physician Group Practice Demonstration Bonus Methodology Specifications

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PHYSICIAN GROUP PRACTICE DEMONSTRATION
BONUS METHODOLOGY SPECIFICATIONS

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PREFACE

Based on the Physician Group Practice (PGP) Quality Consensus Agreement dated December 20, 2004, RTI has revised the Physician Group Practice Bonus Methodology Specifications report. The revised report, dated December 20, 2004, supersedes the prior report, dated October 29, 2004.

A summary of the report revisions is provided below.

1) The timeline for the demonstration will be:

- Base Year: January 1, 2004 – December 31, 2004
- Performance Year One: April 1, 2005 – March 31, 2006
- Performance Year Two: April 1, 2006 – March 31, 2007
- Performance Year Three: April 1, 2007 – March 31, 2008

In this report the term "year" is defined as a time period consisting of 12 consecutive months. The term "year" applies to both the base year, which is a calendar year, and to the performance years, which are not calendar years.

2) The cost bonus and maximum quality bonus shares of the bonus pool will be:

- Performance year 1: Cost Bonus 70%, Maximum Quality Bonus 30%
- Performance year 2: Cost Bonus 60%, Maximum Quality Bonus 40%
- Performance year 3: Cost Bonus 50%, Maximum Quality Bonus 50%

3) For the calculation of the percentage of quality targets met in a performance year, claims-based quality targets will be weighted four times as much as chart-based and hybrid quality targets.

4) The term "Medicare enrollment files" is used to refer to the Medicare Enrollment Data Base (EDB) and the Medicare Denominator File. This was an editorial decision and was not based on a change in methodology.

5) The sections on Hospice enrollment have been edited. January 1 has been changed to "the beginning of the year", which is January 1 for the base year, and April 1 for the performance years. December 31 has been changed to the "the end of the year", which is December 31 for the base year, and March 31 for the performance years.

6) The example in Section 7 (Table 7-1) has been changed as follows. First, the cost and maximum quality bonus shares of the bonus pool have been changed to reflect 2) above. Second, the assumed percentage of quality targets met has been changed to 100%.

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SECTION 1
INTRODUCTION

The physician group practice (PGP) demonstration is a unique reimbursement mechanism that rewards providers for coordinating and managing the overall health care needs of a non-enrolled, fee-for-service (FFS) Medicare patient population. It offers an opportunity to test whether a new 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 capitation incentives. PGP organizations will have an incentive to reduce utilization for Medicare FFS patients. However, organizations that do not reduce utilization are not penalized under the PGP demonstration. The PGP demonstration also includes explicit incentives for quality improvement.

PGPs participating in the demonstration will continue to receive their standard Medicare FFS reimbursement, but they will also be eligible to earn annual performance bonus payments. Performance on both cost savings and quality indicators will be used in the calculation of performance bonuses. The timeline for the demonstration will be:

- Base Year: January 1, 2004 – December 31, 2004
- Performance Year One: April 1, 2005 – March 31, 2006
- Performance Year Two: April 1, 2006 – March 31, 2007
- Performance Year Three: April 1, 2007 – March 31, 2008

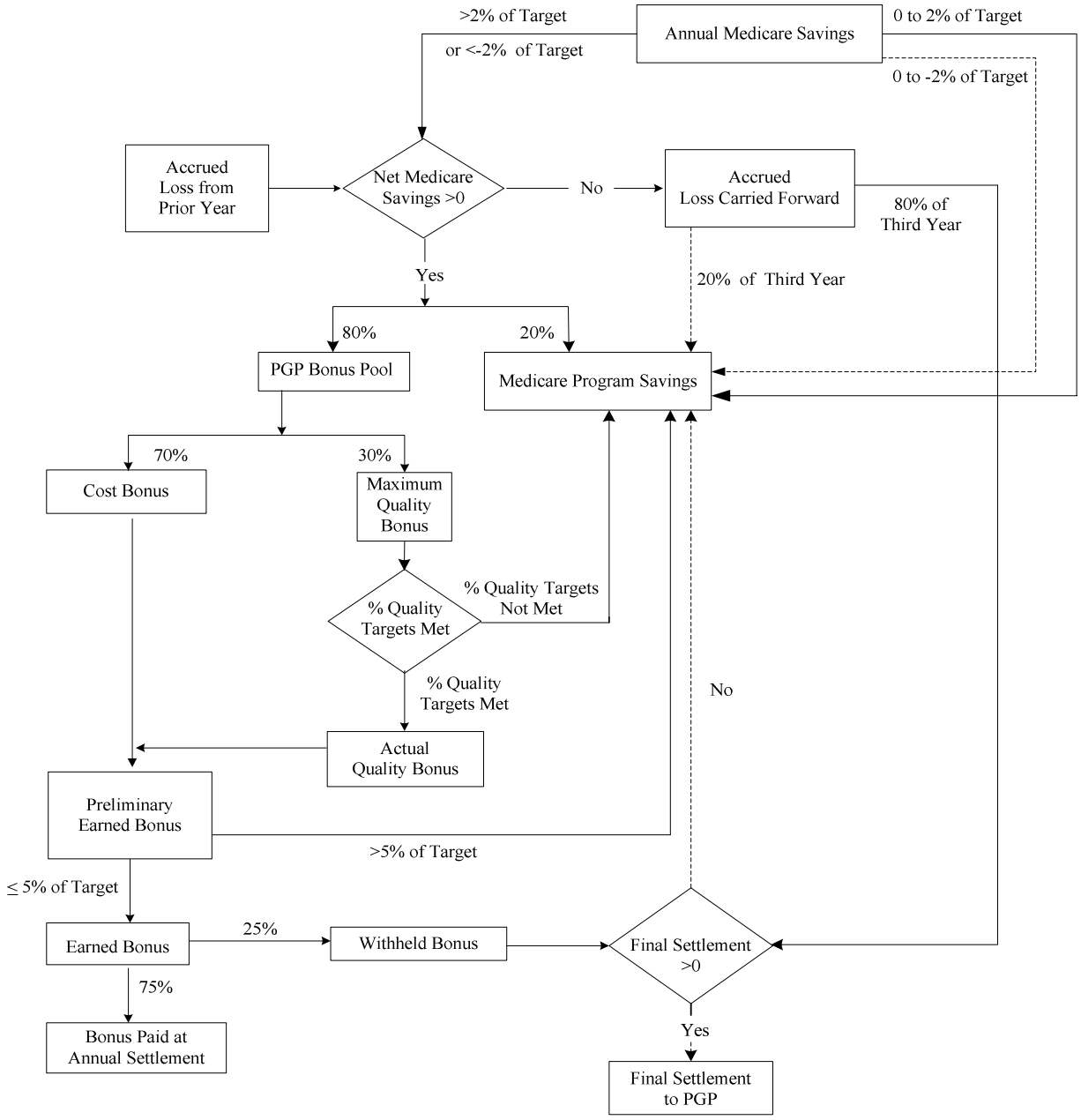
In this report the term "year" is defined as a time period consisting of 12 consecutive months. The term "year" applies to both the base year, which is a calendar year, and to the performance years, which are not calendar years.

The rest of this Section includes an overview of the process of calculating the bonus payments. More detailed specifications are included in the following Sections.

Figure 1-1 on the following page shows the steps involved in calculating PGP bonus payments. The first step involves calculating whether or not a PGP generated annual Medicare cost savings greater than 2% of its target expenditures. The 2% threshold is used to account for the possibility of random fluctuations in expenditures.

A PGP's target is calculated by first identifying a comparison group of Medicare beneficiaries treated in the surrounding community. The rate of growth in per-capita expenditures for those beneficiaries is calculated from a base year to the current performance year. The comparison group growth rate is then applied to the base year per capita expenditures for the PGP's own beneficiaries, to set the PGP's target expenditure level. (Risk adjustments are applied in these calculations to account for casemix changes between years.)

Figure 1-1
Process for calculating bonus 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 bonus computations because they may result from random fluctuations. They are included in Medicare Program Savings.

[2] In Performance Year 1, the cost bonus and maximum quality bonus shares of the PGP bonus 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.

[3] For the calculation of the percentage of quality targets met in a performance year, claims-based quality targets will be weighted four times as much as chart-based and hybrid quality targets.

SOURCE: RTI International

If the PGP holds the expenditures for its assigned beneficiaries more than 2% below that target, it is eligible to earn a bonus payment for that performance year (assuming there are no accrued losses from previous years). Assigned beneficiaries are those for whom the PGP has provided more primary care services than any other provider. The Net Medicare Savings are calculated as the amount Annual Medicare Savings greater than the 2% threshold.

The Net Medicare Savings are next divided, with 80% going to a PGP bonus pool and 20% retained by Medicare as program savings. The PGP bonus pool is then itself divided between a cost bonus and a maximum quality bonus. In performance year one of the demonstration the cost bonus and maximum quality bonus shares of the PGP bonus pool are 70% and 30%, respectively. In performance year two the respective shares are 60% and 40%, and in performance year three 50% and 50%. The actual quality bonus is then determined, based on the percentage of the demonstration's quality targets[1] the PGP has met in that year. If all of the quality targets are met, then the entire maximum quality bonus is earned by the PGP. However, if some of the quality targets are not met, then a portion of the maximum quality bonus is retained by Medicare.

Once the actual quality bonus has been determined, it is added to the cost bonus to identify the preliminary earned bonus amount. However, the actual earned bonus cannot be greater than 5% of the PGP's original target; the final earned bonus will be reduced to that 5% level if the preliminary earned bonus is higher.

Finally, the bonus paid to the PGP that year at the annual settlement will equal 75% of the earned bonus amount. The other 25% of the earned bonus will be withheld until the end of the demonstration to protect Medicare against losses the PGP may generate in subsequent years. At the final settlement, at the end of the demonstration, the cumulative amount of the withheld bonus payments will be paid to the PGP, after accounting for any accrued losses.

Under a different scenario, for PGPs that generate Annual Medicare Savings between -2 percent and 2 percent of their target expenditures, neither are losses carried forward nor are bonuses paid. As noted, this portion of the Annual Medicare Savings (between negative or positive 2%) is assumed to be caused by random fluctuations in expenditure levels, not by the PGP's performance.

The following Sections of this report describe these procedures and the underlying programming methods in more detail. The Medicare data files that provide the data used to calculate the PGP bonus payments are described in Section 2. The method for assigning beneficiaries to a PGP is presented in Section 3. Procedures for identifying a PGP's comparison group are described in Section 4. Section 5 indicates how PGP per-capita expenditures are calculated, and how those figures are risk adjusted to account for casemix changes between years. Comparison group per-capita expenditure calculations and risk adjustments are described in Section 6. Finally, Section 7 provides additional details on how PGP bonus payments are calculated.

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[1] As per the *Physician Group Practice Quality Consensus* dated December 20, 2004, for the calculation of the percentage of quality targets met in a performance year, claims-based quality targets will be weighted four times as much as chart-based and hybrid quality targets.

SECTION 2
MEDICARE DATA USED TO CALCULATE BONUS PAYMENTS

This Section describes the Medicare data RTI uses to calculate the bonus payments for each physician group practice (PGP) participating in the demonstration. Two main Medicare data sources are used: the Medicare enrollment files (including the Enrollment Data Base [EDB] and the Denominator File), and the National Claims History files (NCH claims). These Medicare data sources are described in Section 2.1.

RTI will work within CMS system constraints to expeditiously process data and calculate bonus payments for the demonstration. Assuming timely data availability from the CMS data center, these system constraints will result in an estimated time delay of up to one year between the end of a performance year and the completion of bonus payment calculations for that performance year. Acquiring and processing data for bonus payment calculations is discussed in Section 2.2.

2.1 Data Files Used in Demonstration

Two main Medicare data sources are used to calculate bonus payments for the demonstration. The Medicare enrollment files are described in Section 2.1.1, and the NCH claims files in Section 2.1.2.

2.1.1 Medicare Enrollment Files

The Medicare enrollment files contain enrollment information for all beneficiaries ever entitled to Medicare, including demographic information, enrollment dates, third party buy-in information, and Medicare managed care enrollment.

2.1.2 National Claims History Files

The NCH claims files contain all of the claims for beneficiaries in Medicare fee-for-service. There are seven components of NCH claims files: Inpatient, Hospital Outpatient; Physician/Supplier Part B; Skilled Nursing Facility (SNF); Home Health Agency (HHA); Durable Medical Equipment (DME); and Hospice.[2]

Claims for a given time period are ninety-eight percent complete six months after the end of that time period. For example, for the first performance year (4/1/05 – 3/31/06), claims will be ninety-eight percent complete by October 1, 2006.

NCH files are obtained from CMS through the Data Extract System (DESY). Once a request for claims is completed by DESY, RTI receives two data files. One contains all claims considered complete by Medicare and the other contains all intermediary claims (those submitted in error and claims subsequently submitted to cancel out the incorrect claims). RTI uses only the file of complete claims for calculation of bonus payments for the demonstration.

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[2] Hospice claims will not be used in expenditure calculations (see Sections 5 and 6).

For a given year, NCH claims will be restricted to claims with a claim "through date" during that year. For example, for performance year one (4/1/05 – 3/31/06), NCH claims will be restricted to claims with a claim "through date" between April 1, 2005 and March 31, 2006.

2.2 Acquiring and Processing Demonstration Data

There are several data steps involved in calculating bonus payments for the demonstration. This Section describes what the major steps are from a data processing standpoint.

Before any of the data processing can begin, the claims files used to calculate beneficiary expenditures must accumulate at the CMS data center. Assuming no delays, the claims data files for a year are ninety-eight percent complete six months after the end of the year. Therefore, for each performance year in the demonstration, RTI estimates that data steps for acquiring and processing demonstration data will begin six months after the end of the performance year.

After the end of a performance year, RTI must wait six months for claims data files to become complete. After waiting these six months, the major data steps involved in acquiring and processing data for calculating bonus payments begins. The major steps in acquiring and processing data are described below. Steps that can be performed concurrently are identified by letters after the step number (Steps 4a and 4b). The data steps involve three separate DESY data pulls, each of which can take from a few weeks to a few months. Assuming timely data availability from the CMS data center, RTI estimates that acquiring and processing data for bonus payment calculations to be completed in six months. Thus, assuming timely data availability from the CMS data center, RTI estimates a time delay of up to one year between the end of a performance year and the completion of bonus payment calculations for that performance year.

Step 1: DESY pull of all Part B claims for Employer Identification Number(s) (EINs) of PGP.

Step 2: Pull Beneficiary Claim Account Numbers (HIC numbers) from Part B claims returned by DESY. Create a finder file of these HIC numbers.

Step 3: DESY pull of all Medicare claims for all beneficiaries with at least one claim at the PGP.

Step 4a: Assign beneficiaries to PGP; determine service area for PGP. Pull HIC numbers of beneficiaries residing in service area counties from the Denominator file. Create a finder file of these HIC numbers.

Step 4b: Calculate PGP performance year per capita expenditures and mean risk score, and base year 'risk adjusted' per capita expenditures.[3]

3 Base year PGP and comparison group per capita expenditure and mean risk score calculations are estimated to be completed by the end of the first performance year of the demonstration.

Step 5: DESY pull of all Medicare claims for all beneficiaries residing in the service area.

Step 6: Calculate Comparison Group performance year per capita expenditures and mean risk score, and base year 'risk adjusted' per capita expenditures. Calculate comparison group 'risk adjusted' expenditure growth rate between the base and performance year. Calculate PGP per capita target expenditures. Calculate annual Medicare savings.

Step 7: Calculate PGP bonus payment, if any.

SECTION 3
BENEFICIARY ASSIGNMENT

The first step in calculating physician group practice (PGP) bonus payments is to determine which beneficiaries are assigned to the PGP. Beneficiary assignment is determined in the base year of the demonstration and then re-determined in each of the performance years. Thus, a beneficiary assigned in one year of the demonstration may or may not be assigned in the following or preceding years.

In Section 3.1, we describe the criteria that a beneficiary must meet to be assigned to a PGP. The next three Sections describe the steps taken to identify which beneficiaries should be assigned to a PGP. Section 3.2 describes how RTI obtains demographic and Medicare enrollment information and claims for all beneficiaries that had a physician visit at the participating PGP. Section 3.3 describes how total allowed charges are calculated for these beneficiaries to determine if they meet the expenditure portion of the assignment criteria. Section 3.4 describes how RTI applies the other assignment criteria to determine the final PGP beneficiary assignment.

3.1 Assignment Criteria

The goal of the beneficiary assignment criteria is to identify Medicare beneficiaries that had the plurality of their 'Office or Other Outpatient' Evaluation and Management (E&M) services[4] at a participating PGP during the year. To ensure this, we exclude any beneficiaries for whom we do not have a complete set of Part A and B claims.

For each year, a beneficiary will be assigned to a participating PGP if the following PGP beneficiary assignment criteria are satisfied:

A) Beneficiary must have a record in the Medicare Enrollment Files

The Medicare Enrollment Files contain 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, 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 who 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.

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[4] For the remainder of this Section, when we refer to Evaluation and Management (E&M) services, we mean 'Office or Other Outpatient' E&M services.

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 E&M service[5], and 2) more E&M services (measured by Medicare allowed charges) than any other physician practice (EIN).[6,7]

A beneficiary is assigned to a PGP based on largest share of E&M services because this shows 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. Beneficiaries are assigned to only one PGP to prevent CMS from paying bonuses more than once when multiple PGPs serve overlapping Medicare patient populations.

3.2 Steps in Assigning Beneficiaries to PGPs

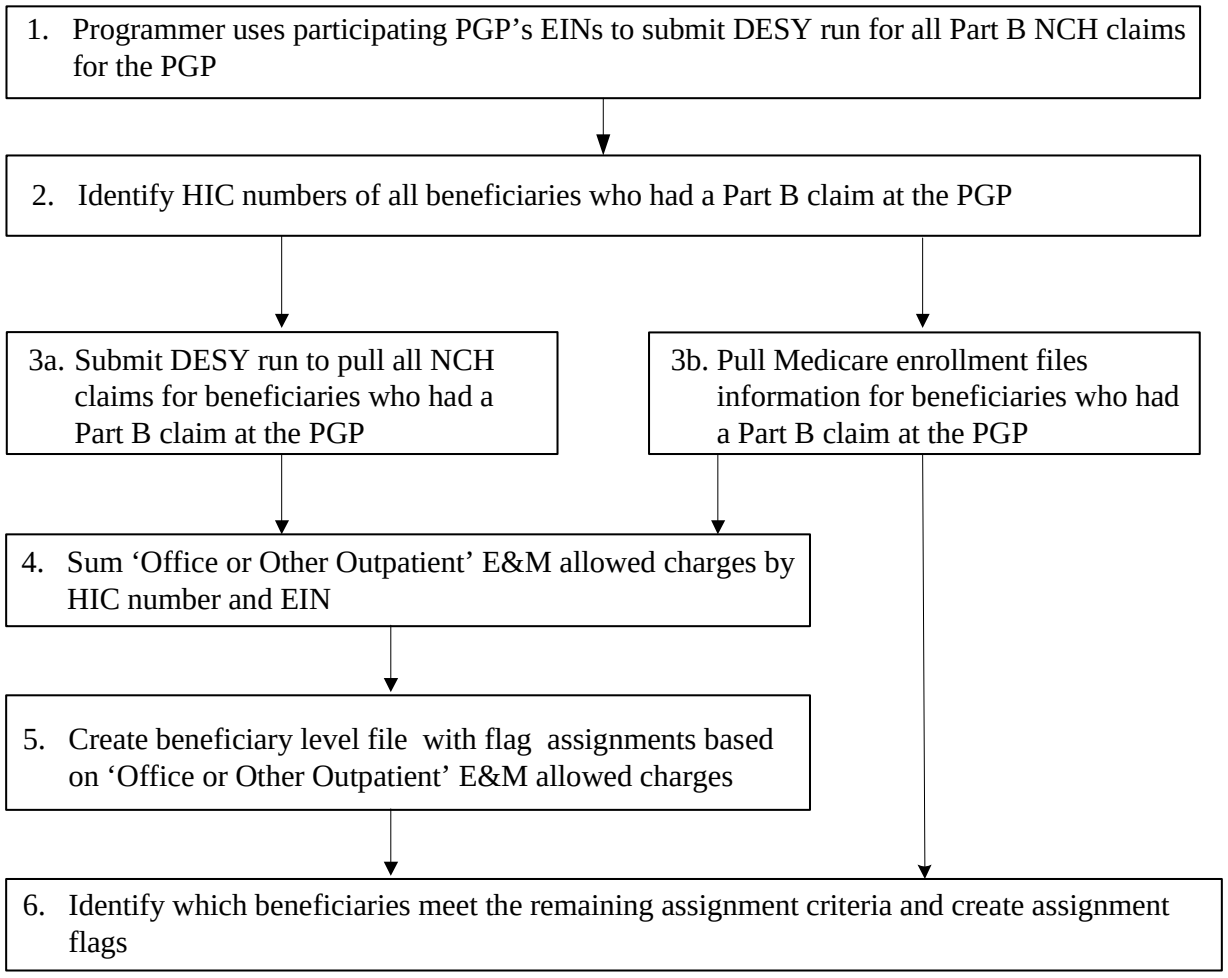
As shown in Figure 3-1, there are six steps involved in assigning beneficiaries to a PGP. The first three steps involve identifying beneficiaries with a Part B claim at a participating PGP and obtaining claims, enrollment and demographic information for these beneficiaries. These three steps are outlined in detail below.

5 See Table 3-1 for list of 'Office or Other Outpatient' E&M services.

6 For beneficiaries enrolling in Hospice after the first day of the year, E&M services provided between the first month after the first date of Hospice enrollment and the end of the year will not be used for beneficiary assignment.

7 In case of a tie, total Part B allowed charges are used as the tie-breaker.

Figure 3-1
Program steps to assign beneficiaries to a PGP



Gvps/docprep/del/graphics.vsd/lmt

Step 1: RTI computer programmer uses participating PGP's Employer Identification Numbers (EINs) to submit a CMS Data Extract System (DESY) run for all Part B National Claims History (NCH) file claims with an EIN from the PGP.

A participating PGP's EINs will be used each year to identify beneficiaries that had a Part B claim at the PGP. An RTI programmer submits the participant's EINs in a DESY request of all Part B claims for those EINs.

Step 2: Identify Beneficiary Claim Account Number (HIC number) of all beneficiaries who had a Part B claim at the PGP.

Once the DESY run is completed, RTI pulls the HIC numbers from the Part B claims for the PGP. This list of HIC numbers is all beneficiaries who had a Part B claim at the participating PGP within the year.

Step 3a: Pull NCH claims for beneficiaries who had any Part B claim at the PGP.

RTI submits the HIC numbers from the Part B claims to DESY to pull all of the Inpatient, SNF, Outpatient, Physician/Supplier Part B, DME, and HHA claims for beneficiaries who had a Part B claim at the PGP within the year.[8] This pull includes all claims from any provider, not just those from the participating PGP.

Step 3b: Pull information from the Medicare Enrollment Files for beneficiaries who had a Part B claim at the PGP.

RTI pulls county of residence,[9] age, sex, Medicaid status, and other enrollment information from the Medicare enrollment files for all beneficiaries that had a Part B claim at the PGP. RTI identifies when the beneficiary entered hospice and if they had any working aged eligibility during the year. In a future step, for each hospice beneficiary, RTI excludes all claims starting the first month after the first date of hospice admission. This is done because beneficiaries in hospice care receive different benefits than beneficiaries in Medicare fee-for-service. Beneficiaries with any time as working aged during the year will be excluded from assignment.

3.3 Beneficiary Allowed Charge Calculation

As discussed in detail in Section 3.1, to be eligible for assignment to a participating PGP in a given year, that PGP must provide to the beneficiary i) at least one E&M service, and ii) more E&M services (measured by Medicare allowed charges) than any other physician practice (EIN).

To determine if a beneficiary meets this criterion, we first sum allowed charges for E&M services for each Part B provider that the beneficiary visited (identified by EINs), then we determine if the provider with the greatest allowed charges is a participant. Allowed charges are used for assignment because they include the one hundred dollar deductible[10] and will allow low utilization beneficiaries (with only one physician visit) to be assigned to a PGP. These are shown as Steps 4 and 5 in Figure 3-1.

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8 Hospice claims will not be used in expenditures calculations because RTI does not include services provided between the first month after the first date of Hospice enrollment and the end of the year when determining beneficiary assignment.

9 County of residence as of three months after the end of the year (or date of death for decedents) will be used.

10 Beginning January 1, 2005, the Medicare Part B deductible will be $110.

Step 4: Sum allowed charges by HIC number and EIN.

RTI sums E&M allowed charges[11] for each beneficiary at each Part B provider, as identified by EIN. E&M charges are identified by the "Line HCPCS Code"[12] on the claim. For a list of the categories of E&M codes that are included and excluded from assignment, see Table 3-1. This list of E&M codes will be reviewed and updated annually.

Allowed charges are used for assignment because, unlike expenditures, they include the Medicare deductible, the first 100 dollars of Medicare Part B payments by a beneficiary within the year. By using allowed charges rather than expenditures, we are able to assign some low-utilization beneficiaries who would not have been assigned by expenditures because they never exceeded the 100 dollar deductible.

RTI also sums all Part B allowed charges for each beneficiary at each provider as identified by EIN. The same exclusions are made as above, except that allowed charges with any "Line HCPCS Code" are included in the total. Total Part B allowed charges are used in the assignment as a tiebreaker when a beneficiary has the same E&M allowed charges at two or more physician practices.

Step 5: Create beneficiary level file with flag for assignment based on allowed charges.

RTI compares the E&M allowed charges of each beneficiary at various physician practices that he or she visited within the year. If the EIN with the greatest E&M allowed charges for the beneficiary is the PGP, the beneficiary is flagged as meeting the "plurality of E&M allowed charges" criterion. If two physician practices (defined by EIN numbers) have provided the same level of E&M services to a beneficiary, RTI compares the level of Part B services (allowed charges) at the two practices. The beneficiary is then flagged as meeting the "plurality of E&M allowed charges" criterion at the practice with the greater Part B allowed charges.

The RTI programmer creates a new file with one record for each beneficiary with a flag to show if the beneficiary had more E&M allowed charges at the PGP than any other physician practice, and a variable containing the EIN(s) of the practice with the greatest E&M allowed charges.

11 Allowed charges are identified by the variable 'Line Allowed Charge Amount' in the Part B Physician/Supplier claim. Line items that do not have 'line processing code indicator' equal to A, R, or S and/or do not have 'carrier claim payment denial code' equal to A, B, or 1-9 are not included when calculating total allowed charges.

12 HCPCS stands for the American Medical Association Healthcare Common Procedure Coding System.

Table 3-1
Evaluation & management service codes included in beneficiary assignment criteria

Included	Codes	Labels[1]
Office or Other Outpatient Services	99201	New Patient, brief
	99202	New Patient, limited
	99203	New Patient, moderate
	99204	New Patient, comprehensive
	99205	New Patient, extensive
	99211	Established Patient, brief
	99212	Established Patient, limited
	99213	Established Patient, moderate
	99214	Established Patient, comprehensive
	99215	Established Patient, extensive
Excluded		
Hospital Inpatient Services		
Nursing Facility Services		
Care Plan Oversight Services		
Home Care Services		
Domiciliary, Rest Home, or Custodial Care Services		
Consultations		
Emergency Department Services		
Patient Transport		
Critical Care Services		
Neonatal Intensive Services		
Newborn Care		
Special Evaluation and Management Services		
Other Evaluation and Management Services		
Preventive Medicine Services		
Case Management Services		
Prolonged Services		
Hospital Observation Services		

[1] Labels are approximate. See AMA, Current Procedural Terminology for detailed definitions.

SOURCE: RTI International.

3.4 Completing Assignment

In addition to meeting criterion H), "the plurality of E&M allowed charges," for assignment to the PGP, a beneficiary must meet several additional assignment criteria. The variables used to determine which beneficiaries meet the additional criteria are listed below.

Step 6: Identify which beneficiaries meet the remaining assignment criteria and create assignment flags.

For all beneficiaries who have more E&M allowed charges at the PGP than at any other physician practice, the following list describes which variables are used to identify beneficiaries that meet the other criteria, A) through G):

A) Beneficiary must have a record in the Medicare enrollment files

All beneficiaries that have a Part B claim at a participating PGP are identified in these files by their HIC number.

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

Beneficiaries are excluded from assignment if the Medicare Entitlement/Buy-in Indicator is not 3 or C (Part A and Part B; or Parts A and B, State Buy-In) for all months of Medicare enrollment.

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

Beneficiary cannot have a Medicare managed care enrollment period that indicates one or more months of Medicare managed care enrollment during the year.

D) Beneficiary cannot be working aged

Beneficiary Primary Payer Code is not equal to A (Working Aged Beneficiary/ Spouse with Employer Group Health Plan [EGHP]) for any month of the year. This excludes beneficiaries for whom a private group health insurance plan was the primary payer instead of Medicare.

E) Beneficiary must reside in the United States

Beneficiaries with a State Code that is greater than 53 in the Denominator file are excluded from assignment. State Codes 01-53 includes the fifty states, District of Columbia, U.S. Virgin Islands, and Puerto Rico.

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

For beneficiaries to be assigned, their Hospice Coverage Start Date cannot be on the first day of the year, or before the first day of the year with Hospice Coverage End Date after the first day of the year.

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.

CMS will provide a list of beneficiaries participating in these demonstrations.

Those beneficiaries that meet these criteria in addition to having more E&M allowed charges at the PGP than at any other physician practice are flagged as being assigned to the PGP.

SECTION 4
COMPARISON GROUP CREATION

Once beneficiaries have been assigned to a PGP, RTI uses the assigned beneficiaries to determine the PGP's service area. A PGP's service area is defined as all counties where one percent or more of assigned PGP beneficiaries reside. RTI then identifies which beneficiaries residing in each service area meet the comparison group assignment criteria and assigns them to the PGP comparison group. The service area and comparison group for the PGP are redetermined each year to account for changes in the PGP's assigned beneficiaries. The expenditure growth rate for the PGP's comparison group is calculated and used as the target growth rate for the PGP's bonus calculations (see Sections 6 and 7).

Section 4 outlines the steps involved in identifying the PGP comparison group and pulling its claims data. Section 4.1 describes the assignment criteria that comparison group beneficiaries must satisfy. Section 4.2 describes how service area counties are identified. Section 4.3 explains how comparison group beneficiaries are identified from the beneficiaries residing in the service area counties, and how comparison group beneficiaries' claims are pulled.

4.1 Comparison Group Assignment Criteria

The comparison group assignment criteria are very similar to the PGP assignment criteria outlined in Section 3. The goal of these assignment criteria is to ensure that beneficiaries assigned to comparison groups are similar to those assigned to PGPs. Beneficiaries are excluded from assignment to a comparison group if they are enrolled in Medicare managed care, working aged, or if they do not meet one or more of the several other criteria that would also have excluded them from assignment to a PGP. The only difference between PGP assigned beneficiaries and comparison group beneficiaries is that PGP beneficiaries must have more 'Office or Other Outpatient' Evaluation and Management (E&M) services[13] (measured by Medicare allowed charges) at the PGP than at any other physician practice (see Section 3), whereas comparison group beneficiaries must have received at least one E&M service at any physician practice (EIN) other than the participating PGP. Beneficiaries assigned to the PGP in the current year or any prior performance year, or beneficiaries with at least one E&M service at the PGP in the current year, are excluded from assignment to the PGP's comparison group.

For each year, a beneficiary will be assigned to a participating PGP's comparison group if the following comparison group assignment criteria are satisfied. After each criterion, an explanation of the reasoning behind its inclusion is given.

A) Beneficiary must have a record in the Medicare Enrollment Files.

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

[13] For the remainder of this Section, when we refer to Evaluation and Management (E&M) services, we mean 'Office or Other Outpatient' E&M services.

B) Beneficiary must have at least one month of Part A and Part B enrollment, 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, we are not including beneficiaries who 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.

D) Beneficiary cannot be working aged.

Medicare may not have a complete set of claims for working aged beneficiaries since 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 which Medicare would not have claims.

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

This criterion is included to ensure that the same set of beneficiaries is eligible for inclusion in the comparison group as is eligible for assignment to 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 participating PGPs efficiency and quality incentives in the absence of other interventions (e.g., the BBA Medicare Coordinated Care and BIPA Disease Management demonstrations).

H) Beneficiary cannot be assigned to the PGP in the current year or any prior performance year, and beneficiary cannot have any E&M services at the PGP during the current year.

The comparison group is intended to measure the PGP's target expenditure growth rate in the absence of an intervention (i.e., the PGP demonstration bonus incentive).

I) Beneficiary must have at least one Evaluation and Management (E&M) service.

This criterion is included to ensure that beneficiaries eligible for inclusion in the comparison group are similar to those assigned to a PGP. In particular, non-users of E&M services cannot be members of the comparison group.

J) Beneficiary must reside in a service area county.

To compare the PGP's performance with its service area, we include beneficiaries in the comparison group only if they are located in the PGP's service area.[14]

4.2 Determine Service Area Counties

As shown in Figure 4-1, there are six steps in creating a PGP's comparison group. The first step uses assigned beneficiaries to determine service area counties, so these steps cannot occur until after the PGP beneficiary assignment has taken place. This Section describes the first step, determining service area counties. Service area counties are defined as all counties in which one percent or more of PGP assigned beneficiaries resided. The PGP's service area will be redetermined each year of the demonstration.

Step 1: Determine service area counties and create a finder file of these counties.

For each year, RTI uses county of residence[15] from the Medicare enrollment files for the year of PGP assignment to identify in which county each PGP assigned beneficiary lives. For every county with at least one beneficiary, RTI counts the number of PGP assigned beneficiaries that live in that county. RTI then calculates the percentage of the PGP's assigned beneficiaries residing in each county using the following formula:

$$\text{Percentage of PGP's Beneficiaries in County} = \frac{\text{Number of PGP's Assigned Beneficiaries in County}}{\text{Total Number of Beneficiaries Assigned to PGP}} * 100\%$$

RTI then identifies all counties with one percent or more of beneficiaries assigned to the PGP and creates a finder file of these county codes. The PGP's service area consists of all counties with one percent or more of the PGP's assigned beneficiaries.[16] Service area counties are not required to be contiguous. However, counties with one percent or more of the PGP's assigned beneficiaries located in states that are not adjacent to the state in which the PGP is located are not included in the service area. This helps give the service area face validity by making it more contiguous. If the PGP has service locations staffed by physicians in more than one state, then counties in all states adjacent to each state with a PGP service location are eligible for inclusion in the service area.

4.3 Identify and Pull Comparison Group Claims

The PGP comparison group consists of beneficiaries residing in the PGP's service area counties that meet the assignment criteria outlined in Section 4.1. RTI identifies these beneficiaries in steps 2-4 as shown in Figure 4-1, and pulls their claims in step 5.

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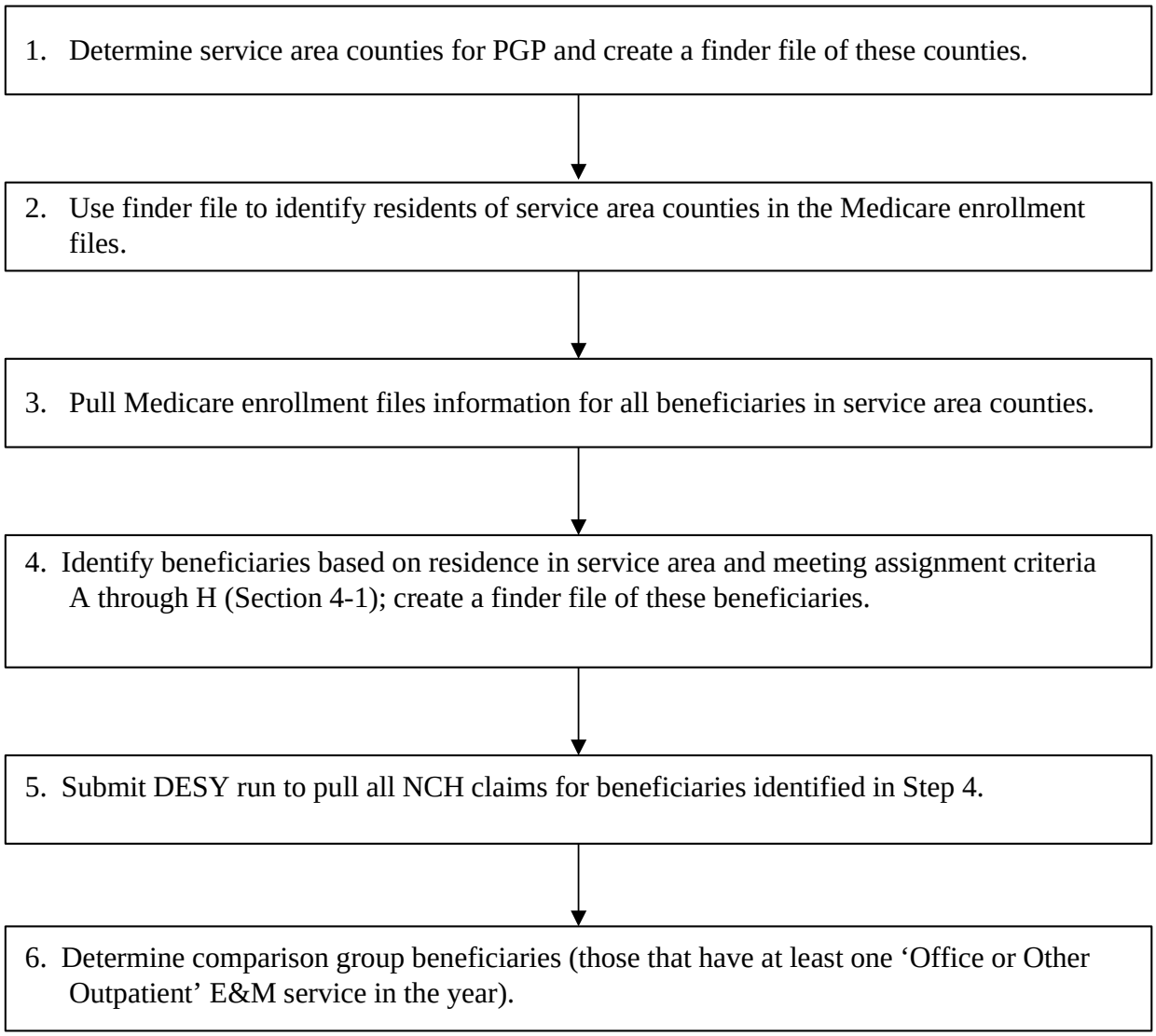
14 Beneficiaries assigned to the PGP but not residing in the service area will be included in the PGP's bonus calculations.

15 County of residence as of three months after the end of the year (or date of death for decedents) will be used.

16 The percentage of beneficiaries assigned to a PGP will not be rounded for this calculation; e.g., a county with 0.8 percent of assigned beneficiaries will not be included in the PGP's comparison group.

Figure 4-1
Comparison group creation for a PGP



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Step 2: Use finder file to identify residents of service area counties in the Medicare enrollment files.

The finder file of service area counties created for the PGP in step 1 above is used to pull the Beneficiary Claim Account Numbers (HIC numbers) of all beneficiaries residing in the service area counties[17] within the year from the Medicare enrollment files. These beneficiaries all satisfy criterion J) as identified in Section 4.1 above, i.e., beneficiary must reside in a service area county.

[17] County of residence as of three months after the end of the year (or date of death for decedents) will be used.

Step 3: Pull Medicare enrollment files information for beneficiaries in service area counties.

After using the Medicare enrollment files to identify which beneficiaries reside in service area counties, RTI pulls information about these beneficiaries from the files. Variables from the files are used in step 4 to identify which service area residents meet assignment criteria A through H (Section 4.1).

Step 4: Identify beneficiaries based on residence in service area and meeting assignment criteria A through H (Section 4.1). Create a finder file of these beneficiaries.

RTI next uses Medicare enrollment files information for the set of beneficiaries residing in service area counties during the year to identify which beneficiaries meet the comparison group assignment criteria A) through H). The following list describes which variables are used to identify beneficiaries meeting these comparison group assignment criteria:

A) Beneficiary must have a record in the Medicare Enrollment Files.

The beneficiary is identified by the HIC number.

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

Beneficiary is excluded if Medicare Entitlement/Buy-in Indicator is not 3 or C (Part A and Part B; or Parts A and B, State Buy-In) for all months of Medicare enrollment.

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

Beneficiary cannot have a Medicare managed care enrollment period that indicates one or more months of Medicare managed care enrollment during the year.

D) Beneficiary cannot be working aged.

Beneficiary Primary Payer Code is not equal to A (Working Aged Bene/Spouse with Employer Group Health Plan [EGHP]) for any of the year. This excludes beneficiaries for whom a private group health insurance plan was the primary payer instead of Medicare.

E) Beneficiary must reside in the United States.

Beneficiaries with State Code that is greater than 53 in the Denominator file are excluded from assignment.

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

Hospice Coverage Start Date is not on the first day of the year or before the first day of the year with Hospice Coverage End Date after the first day of the year.

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.

CMS will provide a list of beneficiaries participating in these demonstrations.

H) Beneficiary cannot be assigned to the PGP in the current year or any prior performance year, and beneficiary cannot have any E&M services at the PGP during the current year.

RTI next creates a finder file that contains beneficiaries in the PGP's comparison group.

Step 5: Submit CMS Data Extract System (DESY) run to pull all NCH claims for beneficiaries identified in Step 4.

RTI uses the finder file to pull all inpatient, skilled nursing facility (SNF), hospital outpatient, physician/supplier Part B, durable medical equipment (DME), and home health agency (HHA) claims[18] for all beneficiaries residing in the PGP's service area from DESY.

Step 6: Identify final set of comparison group beneficiaries.

Once the claims for beneficiaries residing in the PGP's service area are returned from DESY, RTI identifies which beneficiaries residing in the PGP's service area meet criteria A) through H) and have at least one E&M service during the year (criterion I -- see Section 4.1). These beneficiaries are included in the comparison group.

4.4 Comparison Group Validation

RTI calculates both a nominal and effective sample size for the PGP's comparison group. The nominal sample size is the total number of beneficiaries in the comparison group. The nominal sample size can however overstate the 'effective' sample size for the comparison group. This is because in calculating per capita comparison group expenditures for the nominal sample, county per capita expenditures are weighted by the share of PGP assigned beneficiaries in the service area residing in each county. For example, if a PGP's service area contains a county with a million Medicare beneficiaries but only a one percent share of PGP beneficiaries, the county's effective contribution to the comparison group sample size is much less than its nominal contribution. It is the effective sample size, not the nominal sample size, which determines the accuracy of per capita comparison group expenditures. The effective sample size is defined as the number of comparison group beneficiaries adjusted for the weighting by share of PGP assigned beneficiaries, and is by definition less than or equal to the nominal sample size.

18 Hospice claims will not be used in expenditures calculations because RTI does not include services provided between the first month after the first date of Hospice enrollment and the end of the year when determining beneficiary assignment.

After determining the effective sample size for the PGP's comparison group, RTI verifies that the comparison group contains an effective sample size of at least 15,000 to 20,000 beneficiaries. If so, the comparison group is complete. If not, the effective sample size will be increased by adding more counties to the PGP's service area and/or changing the weights on service area counties.

SECTION 5
PGP PER CAPITA EXPENDITURE AND RISK SCORE CALCULATIONS

This Section describes how per capita expenditures, risk scores, and adjusted per capita expenditures are calculated for a participating PGP. This process begins once the beneficiary assignment is completed, as described in Section 3, and it can happen simultaneously with the comparison group creation. These calculations are done separately for the base year and each performance year. There are three basic steps in calculating risk adjusted expenditures: calculating total Medicare expenditures for each beneficiary assigned to the PGP, Section 5.1; annualizing each assigned beneficiary's expenditures, Section 5.2; and calculating weighted mean annualized expenditures for the PGP's assigned beneficiaries, Section 5.3. Section 5.4 describes how the risk adjuster, i.e., risk score, is calculated for the PGP. Lastly, Section 5.5 describes how PGP base year per capita expenditures are risk adjusted using risk scores.

5.1 Calculating PGP Assigned Beneficiary Expenditures

After PGP beneficiary assignment is completed, expenditures are calculated for PGP assigned beneficiaries. This is outlined in Figure 5-1. This Section describes the first step in this process, step 1a.

Step 1a: Calculate total Medicare expenditures for each beneficiary assigned to the PGP.

For each beneficiary assigned to the PGP, RTI will calculate total Medicare expenditures from the Inpatient, Skilled Nursing Facility (SNF), Outpatient, Physician/Supplier Part B, Durable Medical Equipment (DME), and Home Health Agency (HHA) claims. For a hospice beneficiary, any claims between the first month after the beneficiary's 'hospice start date' and the end of the year are excluded from the beneficiary's total expenditures.[19] Because of this, no expenditures from hospice claims are included in total expenditures.

To calculate total Medicare expenditures for each beneficiary, RTI sums expenditures from all of the beneficiary's Inpatient, SNF, Outpatient, Part B, DME, and HHA claims at any provider. Denied payments and line items are excluded from the calculation. A list of the variables used to determine the expenditure amount, claim through date, and denied line items or claims are shown for the various claims in Table 5-1.

5.2 Annualizing PGP Assigned Beneficiary Expenditures

After PGP assigned beneficiary expenditures are summed, RTI annualizes the expenditures by dividing them by the fraction of months in the year each beneficiary was enrolled in Medicare (except for hospice). All further analyses weight the annualized expenditures by this same fraction. Annualization and weighting ensures that payments are correctly adjusted for months of beneficiary eligibility, including new Medicare enrollees and people that died.

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[19] A beneficiary's hospice enrollment is redetermined each year. If a beneficiary is enrolled in hospice at the beginning of the year, he or she is excluded from assignment to a PGP or comparison group. If a beneficiary is not enrolled in hospice at the beginning of the year, but enrolls in the hospice program during the year, all claims between the first month after the first enrollment date and the end of the year are excluded from the total expenditures, even if the beneficiary disenrolls from the Hospice program and returns to regular Medicare.

Figure 5-1
PGP per capita expenditure and risk score calculation

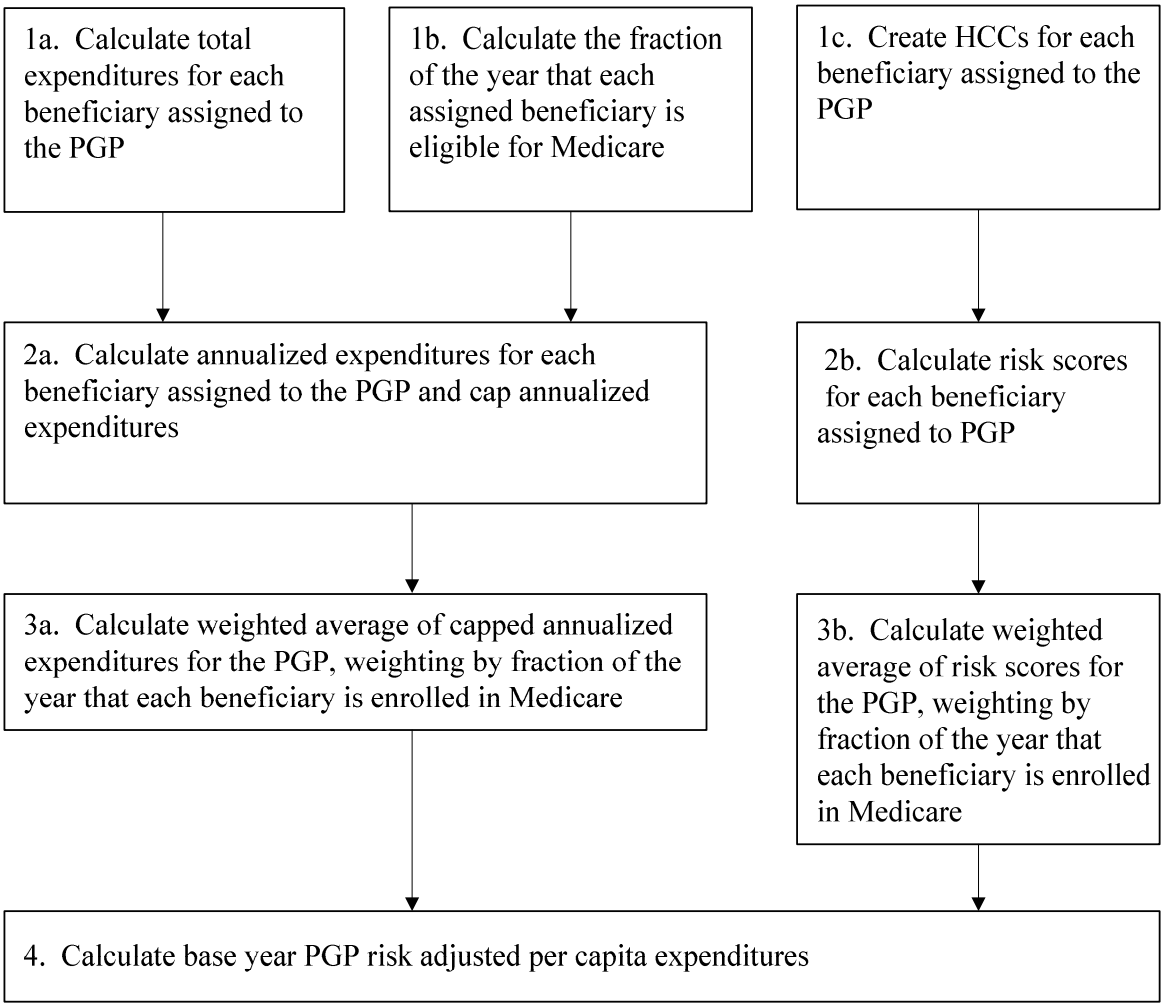


Table 5-1
Variables used in total beneficiary expenditure calculations

Type of Claim	Payment is equal to:	Claim denied if:	Line Item Denied if:	Through Date
SNF[1]	Claim Payment Amount	Any value for 'Claim Medicare Non-Payment reason code '	No exclusion	Claim Through Date
Inpatient[2]	Claim Payment Amount + (Claim Utilization Day Count Per Diem) * (Claim Pass Thru Per Diem costs)	Any value for 'Claim Medicare Non-Payment reason code '	No exclusion	Claim Through Date
Outpatient	Claim Payment Amount	Any value for 'Claim Medicare Non-Payment reason code '	No exclusion	Claim Through Date
Home Health	Claim Payment Amount	Any value for 'Claim Medicare Non-Payment reason code '	No exclusion	Claim Through Date
Physician/Supplier Part B	Line NCH Payment Amount	'Carrier Claim Payment Denial Code' = 0 or D throughY	Line Processing Indicator Code ≠ A, R, or S	Claim Through Date
DME	Line NCH Payment Amount	'Carrier Claim Payment Denial Code' = 0 or D through Y	Line Processing Indicator Code ≠ A, R, or S	Claim Through Date

NOTES:
[1] Inpatient and SNF claims are in the same claims file. SNF claims can be identified in this file by 'NCH Claim Type Code' = 20 or 30
[2] Inpatient and SNF claims are in the same claims file. Inpatient claims can be identified in this file by 'NCH Claim Type Code' = 60

To annualize beneficiary expenditures, RTI first calculates the fraction of the year that a beneficiary is enrolled in Medicare (except for hospice). RTI then divides each beneficiary's expenditures by this fraction.

Step 1b: Calculate the fraction of the year that each assigned beneficiary is enrolled in Medicare.

In this step RTI first calculates the number of non-hospice months that the beneficiary is enrolled in Medicare parts A and B. A beneficiary is enrolled in Medicare parts A and B when the Medicare entitlement/Buy-in Indicator for the month in the Medicare enrollment files is equal to 3 or C. If the beneficiary is not enrolled in hospice on the first of the month, that month is included in the count of months. [E.g. If a beneficiary is enrolled in Parts A and B in March and April and then is enrolled in Hospice on May 2nd, the number of months would be 3 (March, April, May).] RTI then takes the number of months that the beneficiary is enrolled in Medicare and divides it by 12 (the number of months in the year). This fraction will be used to annualize beneficiary expenditures in the next step.

When RTI sums the fraction of the year enrolled in Medicare for all the beneficiaries assigned to the PGP, the result is the total "person years" for the PGP's assigned beneficiaries within the year. Person years is used to calculate the PGP's bonus payment, if any (see Section 7).

Step 2a: Calculate annualized expenditures for each beneficiary assigned to the PGP and cap annualized expenditures.

To annualize a beneficiary's expenditures, RTI divides the total expenditures for the beneficiary by the fraction of the year the beneficiary is enrolled in Medicare. All annualized expenditures will then be capped by setting those greater than $100,000 equal to $100,000.[20] This is to prevent a small number of extremely costly beneficiaries from significantly affecting the PGP's per capita expenditures. In the next step, the mean annualized expenditures, weighted by the fraction of the year each beneficiary is enrolled in Medicare, are calculated for the PGP.

5.3 PGP per Capita Expenditures for Assigned Beneficiaries

Once expenditures have been annualized for each assigned beneficiary, weighted mean annualized expenditures are calculated, yielding per capita expenditures for the PGP. Beneficiary expenditures are weighted by the fraction of the year the beneficiary is enrolled in Medicare, so beneficiaries for which we have less than a year's worth of expenditures do not contribute equally to PGP per capita expenditures as beneficiaries for which we do have a full year of expenditure data.

[20] Ninety-nine percent of beneficiaries are estimated to fall below this cap. See the *Physician Group Practice Demonstration Design Report* (Pope, Trisolini, Kautter, et al. 2002) for further explanation.

Step 3a: Calculate weighted average of capped annualized expenditures for the PGP, weighting by fraction of the year that each beneficiary is enrolled in Medicare.

RTI calculates the per capita expenditures for the PGP according to the following logic. Annualized Medicare expenditures are calculated for each beneficiary, and multiplied by each beneficiary's fraction of the year enrolled in Medicare. For example, a beneficiary with $2,500 annualized expenditures enrolled for 6 months is assigned a value of $1,250. This value is then summed across all beneficiaries assigned to the PGP, and divided by the total number of person years assigned to the PGP. The beneficiary above would count as half of a person year for purposes of this calculation.

The PGP per capita expenditures, and the PGP risk score calculated in Section 5.4, are input into an 'accounting model' to calculate bonus payments as described in Section 7.

5.4 PGP Mean Concurrent Risk Score for Assigned Beneficiaries

There are three steps in calculating the PGP mean concurrent risk score for assigned beneficiaries. The first is determining the diagnostic categories for each beneficiary assigned to the PGP. The second step is to calculate risk scores for the PGP assigned beneficiaries based on the beneficiaries' diagnostic categories. The third step is to calculate the weighted mean risk score for the PGP, weighted by the fraction of the year each assigned beneficiary is enrolled in Medicare.

Step 1c: Determine HCCs for each beneficiary assigned to the PGP.

For each beneficiary, RTI identifies the diagnoses recorded on the beneficiary's Medicare claims during the year. The claims fields used are shown in Table 5-2. Each diagnosis is then cross-walked to a Hierarchical Condition Category (HCC). For a cross-walk of diagnosis codes to HCCs, see the CMS website (http://cms.hhs.gov/healthplans/rates/).

Step 2b: Calculate risk score for each beneficiary assigned to a PGP.

Each HCC corresponds to a payment weight as described in *Physician Group Practice Demonstration Report on Risk Adjustment* (Olmsted, Pope, and Kautter, 2004). The payment weights for the beneficiary's HCCs, along with payment weights for demographic/enrollment characteristics of the beneficiary, are summed to determine what the beneficiary's predicted expenditures are.

RTI next calculates risk scores for each assigned beneficiary. The risk score is determined by the following formula:

Beneficiary Risk Score = Beneficiary Predicted Expenditures/National Mean Expenditures

where National Mean Expenditures equals mean expenditures for the risk adjustment model calibration sample.[21] Risk scores greater than 1.00 indicate an expected costliness greater than the average, risk scores less than 1.00 an expected costliness less than the average.

Step 3b: Calculate weighted average of risk scores for the PGP, weighted by fraction of the year that each beneficiary is enrolled in Medicare.

Finally, RTI calculates the average risk score for the beneficiaries assigned to the PGP, weighting the beneficiary risk scores by the fraction of the year that the beneficiary is enrolled in Medicare.

Table 5-2
Variables used for diagnosis

Type of Claim	Diagnosis	Diagnosis not used if:[1]
Inpatient[2], Outpatient	Claim Principal Diagnosis Code, Claim Diagnosis Code	All diagnoses used
Part B	Claim Principal Diagnosis Code, Claim Diagnosis Code, Line Diagnosis Code	Carrier Claim Payment Denial Code A, B, or 1-9 Line Processing Indicator Code A, R, or S

NOTES:

[1] Additional diagnoses are excluded if the CMS provider specialty code was not hospital inpatient, hospital outpatient department or physician/clinician (including radiologists, anesthesiologists, and pathologists). For a full explanation, see Pope, Kautter, Olmsted, et al. (2004).

[2] Inpatient and SNF claims are in the same claims file. SNF claims can be identified in this file by 'NCH Claim Type Code' = 20 or 30. Inpatient claims can be identified in this file by 'NCH Claim Type Code' = 60.

5.5 Risk Adjusted Base Year PGP per Capita Expenditures

The average risk score across all beneficiaries assigned to a PGP during a performance year is compared to the average risk score across all beneficiaries assigned to a PGP during the base year to create a risk ratio, which is then used to adjust base year per capita expenditures. The risk ratio is created by dividing the average risk score for the performance year assigned beneficiaries by the average risk score for the base year assigned beneficiaries.

Consider an example for a hypothetical PGP such that the PGP's base year per capita expenditures and mean risk score for assigned beneficiaries are $6,000 and 1.02, and for the performance year are $6,042 and 1.04. The PGP has observed per capita expenditures rising from $6,000 in the base year to $6,042 in the performance year. The health status of the

[21] The mean expenditures will be published when the new concurrent risk adjustment model is completed.

beneficiaries assigned to the PGP has deteriorated over the same time period. The risk ratio is used to adjust for this change in the health status of assigned beneficiaries.

Risk Ratio = (Average Risk Score in Performance Year) / (Average Risk Score in Base Year).

In our example, the PGP's risk ratio is equal to the average risk score during the performance year divided by the average risk score during the base year, or 1.02.[22]

A PGP that is assigned a set of beneficiaries with a higher average risk score in the performance year than in the base year will have its base year expenditures adjusted higher. Alternatively, a PGP assigned a set of beneficiaries with a lower average risk score in the performance year will have its base year expenditures adjusted lower.

Risk Adjusted PGP Base Year Per Capita Expenditures = (Base Year Per Capita Expenditures) * (Risk Ratio)

Note that risk adjusted PGP base year per capita expenditures are calculated for each performance year in the demonstration. Continuing the example, the PGP's adjusted base year per capita expenditures are equal to $6,120, the base year per capita expenditures times the Risk Ratio calculated above[23]. The change in health status of the beneficiaries assigned to the PGP accounts for an increase of $120 in per capita expenditures. Risk adjusted PGP base year per capita expenditures, along with the risk adjusted expenditure growth rate for the PGP's comparison group, are used to generate target expenditures for the PGP, as shown in Section 7.

[22] 1.04/1.02 = 1.02.

[23] 6,000 * 1.02 = 6,120.

SECTION 6
COMPARISON GROUP PER CAPITA EXPENDITURE AND RISK SCORE CALCULATIONS

This section describes how the PGP's comparison group per capita expenditures, mean risk score, risk adjusted base year per capita expenditures, and risk adjusted expenditure growth rate are calculated. The risk adjusted expenditure growth rate for the PGP's comparison group, along with the PGP risk adjusted base year per capita expenditures (see Section 5), are used to calculate the PGP per capita target expenditures, as shown in Section 7.

The calculations for the comparison group per capita expenditures and mean risk score are performed separately for the base year and each performance year. Calculating per capita expenditures for comparison group beneficiaries is very similar to calculating per capita expenditures for PGP beneficiaries. The primary difference is that comparison group per capita expenditures are first calculated at the county level, and then weighted to the service area. Service area county weights equal the proportion of PGP assigned beneficiaries residing in the service area that reside in the county. This allows for comparability between PGP and comparison group per capita expenditures.

Figure 6-1 shows the method for calculating the comparison group per capita expenditures and mean risk scores. Steps 1a, calculating total expenditures for each comparison group beneficiary; 1b, calculating the fraction of the year each comparison group beneficiary is enrolled in Medicare; and 2a, calculating annualized expenditures for each comparison group beneficiary and capping annualized expenditures, are identical to the steps described in Sections 5.1 and 5.2 for PGP beneficiaries. Once comparison group beneficiary expenditures have been annualized, RTI calculates county-level per capita expenditures and then weights these county-level expenditures to the service area level as described in Section 6.1.

The comparison group mean risk score, like the comparison group per capita expenditures, involves calculations at the county and service area levels. These are described in Section 6.2. Section 6.3 describes the process of calculating the comparison group risk adjusted base year per capita expenditures, and risk adjusted expenditure growth rate between the base and a performance year.

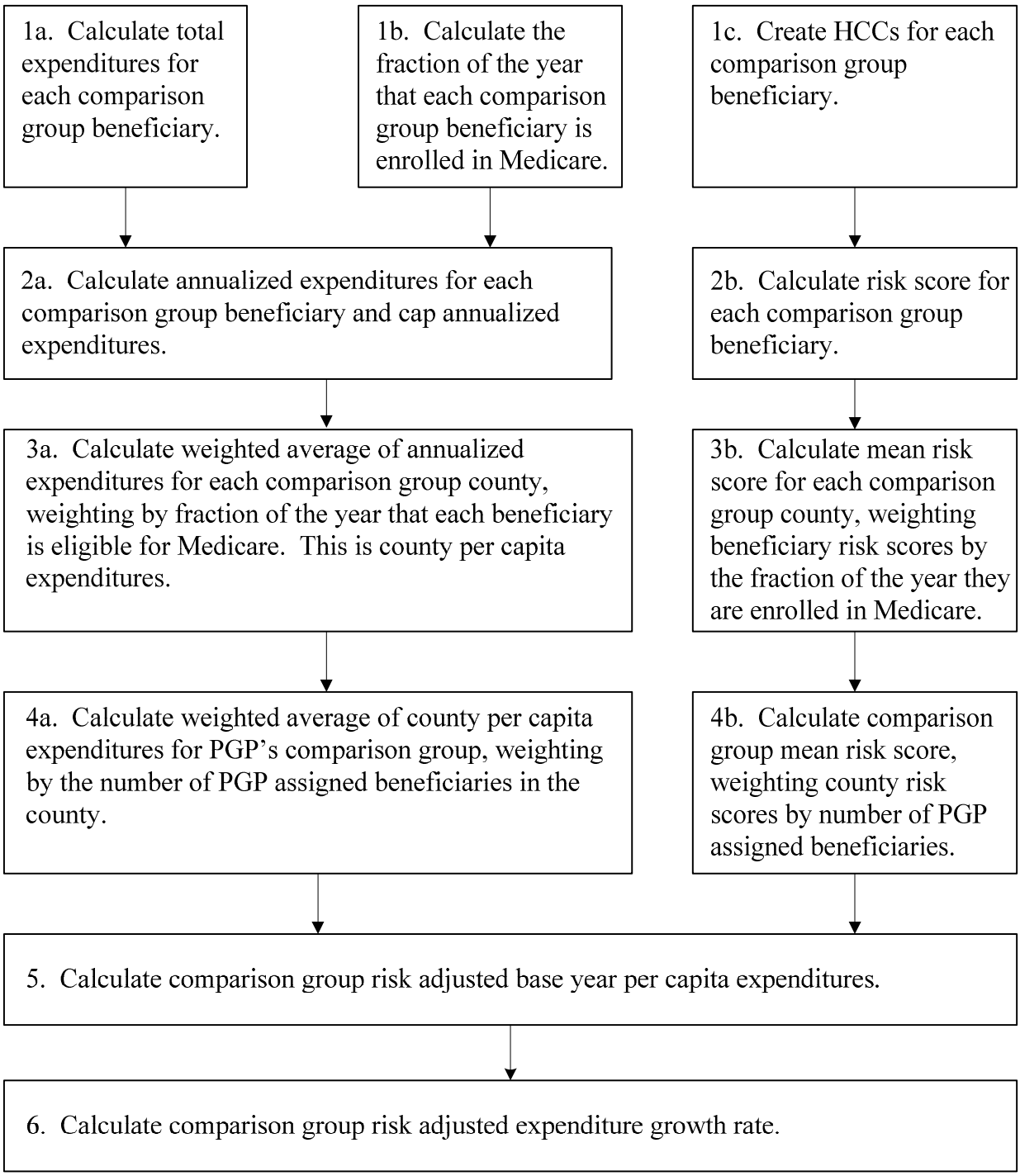
6.1 Calculating Comparison Group per Capita Expenditures

Calculating comparison group per capita expenditures from annualized comparison group beneficiary expenditures involves two steps, calculating per capita expenditures at the county level and then weighting to the service area. This is done in steps 3a and 4a of Figure 6-1.

Step 3a: Calculate weighted average of annualized expenditures for each comparison group county, weighting by the fraction of the year that each beneficiary is enrolled in Medicare.

To determine county per capita expenditures for each comparison group county, RTI calculates average annualized expenditures for comparison group beneficiaries living in the county. Each beneficiary's expenditures are weighted by the fraction of the year that the beneficiary is enrolled in Medicare. RTI weights expenditures to the county-level first so each

Figure 6-1
Comparison group per capita expenditure and risk score calculation



county can be weighted by the number of assigned beneficiaries as shown in the next step. This is done separately for each county in a PGP's comparison group.

Step 4a: Calculate weighted average of county per capita expenditures for PGP's comparison group, weighting by the number of PGP assigned beneficiaries in the county.

RTI next averages the PGP's county per capita expenditures. Each county's per capita expenditures are weighted by the number of PGP assigned beneficiaries residing in that county. Thus, counties are represented equally in PGP and comparison group expenditures. This yields the per capita expenditures for the PGP's comparison group.

6.2 Risk Score Calculation

Calculating the mean risk score for the PGP's comparison group is similar to calculating the mean risk score for PGP assigned beneficiaries. However, just as comparison group per capita expenditures are averaged first at the county and then service area level, risk scores are averaged at these two levels as well. Therefore, there are four steps in calculating the comparison group mean risk score, as shown in Figure 6-1: creating HCCs for each comparison group beneficiary, calculating risk scores for each beneficiary, calculating mean risk scores for comparison group counties, and calculating the mean comparison group risk score.

Step 1c: Create HCCs for each comparison group beneficiary.

As explained in Section 5.4, RTI identifies the diagnoses from each beneficiary's claims and then creates HCCs for the beneficiary.

Step 2b: Calculate risk score for each comparison group beneficiary.

Next, risk scores are calculated for comparison group beneficiaries, as described in Section 5.4. Risk scores greater than 1.00 indicate an expected costliness greater than average, risk scores less than 1.00 an expected costliness less than average.

Step 3b: Calculate weighted mean risk score for each comparison group county, weighting beneficiary risk scores by the fraction of the year they are enrolled in Medicare.

RTI then calculates the average comparison group beneficiary risk score for each comparison group county, weighting each beneficiary's risk score by the fraction of the year that he or she was enrolled in Medicare. This yields a county mean risk score.

Step 4b: Calculate weighted comparison group mean risk score, weighting county risk scores by number of PGP assigned beneficiaries.

RTI determines the comparison group mean risk score by calculating an average of the county risk scores for the PGP's comparison group, weighting by the number of PGP assigned beneficiaries. This step and all prior risk adjustment steps are repeated for the base year and each performance year.

6.3 Risk Adjusted Base Year per Capita Expenditures and Expenditure Growth Rate

The same methodology applied to PGPs (Section 5) is used to calculate risk ratios for the comparison group beneficiaries. The average risk score of the beneficiaries assigned to the comparison group during a performance year is compared to the average risk score of the beneficiaries assigned to the comparison group during the base year. As was shown in Section 5:

Risk Ratio = (Average Risk Score in Performance Year) / (Average Risk Score in Base Year).

The comparison group's risk ratio adjusts the observed base year per capita expenditures which are then compared to the performance year per capita expenditures to calculate the risk adjusted growth rate. A PGP's comparison group that is assigned a set of beneficiaries with a higher average risk score in the performance year than in the base year will have its base year per capita expenditures adjusted higher, reducing the risk adjusted growth rate.

Risk Adjusted Base Year Per Capita Expenditures = (Base Year Per Capita Expenditures) * (Risk Ratio).

The risk adjusted base year per capita expenditures are now compared to the performance year per capita expenditures to calculate the risk adjusted growth rate in per capita expenditures for the comparison group between the base and the performance year:

Risk Adjusted Expenditure Growth Rate = [(Performance Year Per Capita Expenditures / Risk Adjusted Base Year Per Capita Expenditures) - 1]*100%.

Consider an example for a hypothetical PGP's comparison group such that the comparison group base and performance year per capita expenditures are $7,000 and $7,259, respectively. Then the expenditure growth rate between the base and performance year is 3.7%.[24] Further, suppose that the mean risk score in the base and performance year are 1.00 and 1.02, for a risk ratio of 1.02.[25]

Continuing the example, the comparison group risk adjusted base year per capita expenditures are equal to $7,140.[26] Therefore, the risk adjusted expenditure growth rate between the base and performance year is 1.7%.[27] The change in health status of the beneficiaries assigned to the comparison group accounts for an increase of 1.7% in per capita expenditures.

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[24] [(7,259 ÷ 7,000) - 1]*100% = 3.7%

[25] 1.02/1.00 = 1.02.

[26] 7,000 * 1.02 = 7,140.

[27] [(7,259 ÷ 7,140) - 1]*100% = 1.7%

SECTION 7
PGP BONUS CALCULATIONS

This section describes how the annual PGP bonus payments and final settlement will be calculated during the PGP demonstration, including a hypothetical "worked example". It builds on the procedures and calculations presented in Sections 2 - 6, providing a detailed specification and illustration of each step in the calculations required to determine the bonus payments to PGPs under the demonstration. As noted, a diagram of the steps involved is provided in flow chart format in Figure 1-1 in Section 1. The worked example is presented in Table 7-1 on the following page. Table 7-1 includes worked numerical examples for each of the three performance years in columns 2-4 of that table. For this discussion we will focus on Performance Year 1, since the procedures are the same for each of the performance years.

This section includes two parts. First, we describe the method used for calculating a PGP's annual Medicare savings, which provides the data needed to begin the bonus calculation steps illustrated in the flow chart in Figure 1-1. The second part describes the steps involved in the annual bonus calculations that will be conducted for Performance Years 1 - 3. The methods for calculating the final settlement payment for each PGP at the end of the demonstration are also described.

7.1 Calculating Annual Medicare Savings

The first step in calculating Annual Medicare Savings for a Performance Year is to calculate PGP Total Expenditures. We carry forward the example begun in Section 5, which showed that the PGP's Performance Year 1 Per Capita Expenditures are $6,042;[28] that figure is shown in the second row of Table 7-1. We multiply PGP Per Capita Expenditures by the number of full-year equivalent beneficiaries (or "Person Years") assigned to the PGP in the performance year. The Person Years in this example are 40,000, as shown in the first row in Table 7-1. As a result, PGP Total Expenditures are $241,680,000.

(PGP Per Capita Expenditures) x (Person Years) = PGP Total Expenditures

$6,042 x 40,000 = $241,680,000.

The second step is to identify the expenditure target for the participating PGP. The target is calculated by multiplying the risk adjusted PGP per-capita base year expenditures by the risk adjusted expenditure growth rate of the comparison group. From Section 5, risk adjusted PGP per-capita base year expenditures are $6,120. Section 6 showed the calculation of the risk adjusted expenditure growth rate in the comparison group. The risk adjusted expenditure growth rate in this example is 1.7%.

[28] The examples in Sections 5 and 6 applied to a single performance year. For this section, we assume these examples apply to performance Year 1.

Table 7- 1
Example of annual Medicare savings, annual bonus calculations, and final settlement for the PGP demonstration

Row #		Base Year (2004)	Performance Year1 (2005)	Performance Year2 (2006)	Performance Year3 (2007)	Final Settlement	Demonstration Totals
1	Person Years[1]	40,000	40,000	40,000	40,000	–	–
	PGP Expenditures						
2	Per Capita [2]	6,000	6,042	6,151	6,261	–	–
3	Total[3]	–	241,680,000	246,030,240	250,458,784	–	–
	Target Expenditures						
4	Per Capita[4]	–	6,222	6,521	6,834	–	–
5	Total[5]	–	248,880,000	260,826,240	273,345,900	–	–
	Annual Medicare Savings						
6	Per Capita [6]	–	180	370	572	–	–
7	Total[7]	–	7,200,000	14,796,000	22,887,115	–	44,883,115
8	Rate[8] (%)	–	2.89	5.67	8.37	–	–
9	Savings Threshold[9]	–	4,977,600	5,216,525	5,466,918		
10	Accrued Loss from Prior Year[10]	–	0	0	0	–	–
	Net Medicare Savings[11]						
11	Total	–	2,222,400	9,579,475	17,420,197	–	–
12	Per Capita	–	56	239	436	–	–
13	Accrued Loss Carried Forward[12]	–	0	0	0	0	–
14	PGP Bonus Pool[13]	–	1,777,920	7,663,580	13,936,158	–	–
15	Cost Bonus[14]	–	1,244,544	4,598,148	6,968,079	–	–
16	Maximum Quality Bonus[15]	–	533,376	3,065,432	6,968,079	–	–
17	Actual Quality Bonus[16]	–	533,376	3,065,432	6,968,079	–	–
18	Preliminary Earned Bonus[17]	–	1,777,920	7,663,580	13,936,158	–	–
19	Bonus Cap[18]	–	12,444,000	13,041,312	13,667,295	–	–
	Earned Bonus[19]						
20	Total	–	1,777,920	7,663,580	13,667,295	–	–
21	Per Capita	–	44	192	342	–	–
22	Bonus withheld until final settlement[20]	–	444,480	1,915,895	3,416,824	5,777,199	–
	Bonus Paid at Annual Settlement[21]						
23	Total	–	1,333,440	5,747,685	10,250,471	–	17,331,596
24	Per Capita	–	33	144	256	–	433
25	Final Settlement Amount[22]	–	–	–	–	5,777,199	–
26	Final Settlement to PGP[23]	–	–	–	–	5,777,199	5,777,199
27	Total Payout to PGP[24]	–	–	–	–	–	23,108,795
	Medicare Program Savings[25]						
28	Total	–	5,422,080	7,132,420	9,219,820	0	21,774,320
29	Per Capita	–	136	178	230	0	544

NOTES:

[1] The sum of eligibility fractions of beneficiaries assigned to PGPs, i.e., an assigned beneficiary alive and eligible for Medicare all year has a person year of 1.0, a beneficiary alive for 6 months has a person year of 0.5, etc.

[2] 2005 = 2004 (base year) Assigned Beneficiary Expenditures trended forward by an expenditure growth equal to the assumed 2004-2005 target expenditure growth rate of 3.7% minus the assumed annual percentage behavioral cost savings of 3%. 2006 = 2005 Assigned Beneficiary Expenditures trended forward by an expenditure growth equal to the assumed 2005-2006 target expenditure growth rate of 4.8% minus the assumed annual percentage behavioral cost savings of 3%. 2007 = 2006 Assigned Beneficiary Expenditures trended forward by an expenditure growth equal to the assumed target expenditure growth rate of 4.8% minus the assumed annual percentage behavioral cost savings of 3%.

[3] Product of PGP Per Capita Expenditures and Person Years.

[4] 2005 = 2004 (base year) Assigned Beneficiary Expenditures trended forward by 3.7%. 2006 = 2005 Target Expenditures trended forward by 4.8%. 2007 = 2006 Target Expenditures trended forward by 4.8%. These projected growth rates are from the CMS Office of the Actuary.

[5] Product of Target Per Capita Expenditures and Person Years.

[6] Difference between Target Per Capita Expenditures and PGP Per Capita Expenditures.

[7] Target Expenditures minus PGP Expenditures.

[8] Target minus PGP Per Capita Expenditure divided by Target Per Capita Expenditure, multiplied by 100.

[9] 2% of Target Expenditures.

[10] The Accrued Loss Carried Forward in the previous year.

[11] The sum of the Accrued Loss from Prior Year and the portion of Annual Medicare Savings greater than the Savings Threshold or less than the negative of the Savings Threshold.

[12] Equals Net Medicare Savings if Net Medicare Savings is negative. Otherwise, equals zero.

[13] 80% of Net Medicare Savings, if Net Medicare Savings are positive.

[14] 70 % of PGP Bonus Pool in performance year 1, 60% in performance year 2, and 50% in performance year 3.

[15] 30 % of PGP Bonus Pool in performance year 1, 40% in performance year 2, and 50% in performance year 3.

[16] Product of Maximum Quality Bonus and Percentage of Quality Targets met. For the calculation of the percentage of quality targets met in a performance year, claims-based quality targets will be weighted four times as much as chart-based and hybrid quality targets. 100% of Quality Targets are assumed to be met in this example.

[17] Sum of Cost and Actual Quality Bonus.

[18] 5% of Target Expenditures.

[19] Portion of Preliminary Earned Bonus less than or equal to the Bonus Cap.

[20] 25% of Earned Bonus.

[21] 75 % of Earned Bonus.

[22] Sum of Bonus Withheld Until Final Settlement from all Performance Years and 80% of the Third Performance Year Accrued Loss Carried Forward.

[23] Final settlement amount if positive.

[24] Sum of Bonus Paid at Annual Settlement from all Performance Years and Final Settlement to PGP.

[25] In Performance Years 1-3: If Net Medicare Savings are positive, equals Savings Threshold plus 20% of Net Medicare Savings plus the difference between Maximum Quality Bonus and Actual Quality Bonus plus the difference between Preliminary Earned Bonus and Earned Bonus. If Net Medicare Savings are non-positive, equals the portion of Annual Medicare Savings between the Savings Threshold and the negative of the Savings Threshold. In Final Settlement : equals 20% of Third Performance Year Accrued Loss Carried Forward plus, if negative, Final Settlement.

SOURCE: RTI International.

As a result, the PGP's per-capita target for this example is $6,222.[29] That figure is shown in the fourth row in Table 7-1 and is calculated as follows:

(Risk-Adjusted PGP Base Year Per Capita Expenditures) x (1 + Risk Adjusted Comparison Group Expenditure Growth Rate) = Target Per Capita Expenditures.

$6,120 x (1 + (1.7/100)) = $6,222.

Target Total Expenditures are next calculated by multiplying the per-capita target by the number of Person Years (40,000) assigned to the PGP in the performance year. As a result, the Target Total Expenditures are $248,880,000; that figure is shown in the fifth row of Table 7-1 and is calculated as follows:

(Target Per Capita Expenditures) x (Person Years) = Target Total Expenditures.

$6,222 x 40,000 = $248,880,000.

Per-capita Annual Medicare Savings are calculated by subtracting the PGP's actual performance year per-capita expenditures from the PGP's target per-capita expenditures. As a result, the per-capita Medicare savings are $180; that figure is shown in the sixth row of Table 7-1 and is calculated as follows:

Target Per Capita Expenditures - PGP Per Capita Expenditures = Per Capita Annual Medicare Savings.

$6,222 - $6,042 = $180.

Total Annual Medicare Savings are calculated by subtracting PGP Total Expenditures from Target Total Expenditures. As a result, Total Annual Medicare Savings are $7,200,000; that figure is shown in the seventh row of Table 7-1 and is calculated as follows:

Target Total Expenditures - PGP Total Expenditures = Total Annual Medicare Savings.

$248,880,000 - $241,680,000 = $7,200,000.

The above data provide the information needed to test whether or not the Annual Medicare Savings generated by the PGP are greater than 2% of its Target Expenditures. That is the starting point of the process for calculating the PGP's annual bonus payment (and also the starting point of the flow chart in Figure 1-1).

[29] The calculation of the PGP's per capita target uses the full number of significant digits for the PGP's comparison group risk adjusted expenditure growth rate.

7.2 Annual Bonus Computation, Final Settlement, and Medicare Program Savings

Annual Medicare Savings is either distributed to the PGP as bonus payments, or retained by Medicare as Program Savings. There are two types of bonus calculations, the annual bonus payments that may be made at the end of each performance year and the final settlement at the end of the demonstration. Each of these is discussed below in subsections 7.2.1 and 7.2.2. Medicare Program Savings is described in subsection 7.2.3. Finally, the new Part D prescription drug benefit that will be implemented in 2006 is briefly discussed in subsection 7.2.4.

7.2.1 Bonus Computations in Performance Years 1 – 3

The steps involved in the calculation of the bonus payments, and illustrated in Figure 1-1 and Table 7-1, are and described below, in sequential fashion.

Step 1: Calculate the Required Savings Threshold of 2% of the PGP's Target Expenditures

As noted, Annual Medicare Savings are only counted above 2% of the PGP's target expenditures, to account for possible random fluctuations in expenditures from year to year. In this example, that figure is $4,977,600; it is shown in row 9 of Table 7-1 and is calculated as follows:

(Target Total Expenditures) x (2%) = Savings Threshold.

$248,880,000 x 0.02 = $4,977,600

Step 2: Calculate Net Medicare Savings

Net Medicare Savings are the portion of total Annual Medicare Savings over the 2% threshold, less any accrued Medicare losses from previous years of the demonstration. There are no accrued losses in this situation, so that figure is $0 in the calculation below, but it is possible that losses may occur at some point in the demonstration. In this example, the Net Medicare Savings are $2,222,400; that figure is shown in row 11 of Table 7-1 and is calculated as follows:

(1) If Annual Medicare Savings > Savings Threshold: (Annual Medicare Savings) - (Savings Threshold) + (Accrued Loss from Prior Year) = Net Medicare Savings. [30]

$7,200,000 > $4,977,600; therefore: $7,200,000 - $4,977,600 + $0 = $2,222,400

Negative Net Medicare Savings are also possible under the demonstration, although they do not occur in this example. If Annual Medicare Savings are less than -2% of Target Expenditures, then Net Medicare Savings are equal to the portion of Annual Medicare Savings below -2% of Target Expenditures (the 2% threshold for random fluctuations is applied in the negative

[30] Note that the Accrued Loss from Prior Year, if any, will be a negative number, so adding it will reduce the Net Medicare Savings.

direction as well as the positive direction), plus the Accrued Loss from Prior Year (if any). In this case:

> (2) If Annual Medicare Savings < -(Savings Threshold):
> (Annual Medicare Savings) + (Savings Threshold) + (Accrued Loss from Prior Year) = Net Medicare Savings.[31]

Finally, if Annual Medicare Savings is between plus and minus 2% of Target Expenditures (plus/minus the Savings Threshold), Net Medicare Savings equals the Accrued Loss from Prior Year, or if there is no accrued loss, equals zero.

> (3) If -(Savings Threshold) < Annual Medicare Savings < Savings Threshold,
> Net Medicare Savings = Accrued Loss from Prior Year,
> or = zero, if there is no Accrued Loss from Prior Year.

Step 3: Define Accrued Loss Carried Forward (if any)

In this example, Net Medicare Savings are positive, so there is no Accrued Loss to Carry Forward and the figure in row 13 of Table 7-1 is $0. However, in a situation where Net Medicare Savings are negative, that amount would be the Accrued Loss Carried Forward to future years of the demonstration.

> If Net Medicare Savings < 0:
> Accrued Loss Carried Forward = Net Medicare Savings.

If Net Medicare Savings are not positive, Step 3 concludes the Annual Bonus computation steps for a performance year. If Net Medicare Savings are positive the computation of the Annual Bonus continues with Step 4.

Step 4: Calculate the PGP Bonus Pool

The PGP Bonus Pool is 80% of Net Medicare Savings (when Net Medicare Savings are positive). The other 20% is retained by Medicare. In this example, the PGP Bonus Pool is $1,777,920; that figure is shown in row 14 of Table 7-1 and is calculated as follows:

> (Net Medicare Savings) x (80%) = PGP Bonus Pool.

> $2,222,400 x 0.80 = $1,777,920

Step 5: Allocate the PGP Bonus Pool between the Cost Bonus and the Maximum Quality Bonus

The PGP Bonus Pool from Step 4 is next split between the Cost Bonus and the Maximum Quality Bonus, 70% to the former and 30% to the latter (in performance year two the respective shares are 60% and 40%, and in performance year three 50% and 50%). As a result, in this

[31] Note that in this formula, subtracting the negative of the Savings Threshold is the same as adding the Savings Threshold, and identifies the portion of the Annual Medicare Savings less than -2% of Target Expenditures.

example the Cost Bonus is $1,244,544 and the Maximum Quality Bonus is $533,376. Those figures are shown in rows 15 and 16 of Table 7-1 and are calculated as follows:

(PGP Bonus Pool) x (70%) = Cost Bonus. (PGP Bonus Pool) x (30%) = Maximum Quality Bonus.

$1,777,920 x 0.70 = $1,244,544 $1,777,920 x 0.30 = $533,376

Step 6: Calculate the Actual Quality Bonus

The Actual Quality Bonus is the product of the Maximum Quality Bonus and the percentage of quality targets met by the PGP.[32] In this example, we assume that 100% of the quality targets are met, and so in this example the Actual Quality Bonus equals the Maximum Quality Bonus. As a result, the Actual Quality Bonus is $533,376 in this example; it is shown in row 17 of Table 7-1 and is calculated as follows:

(Maximum Quality Bonus) x (% of Quality Targets Met) = Actual Quality Bonus.

$533,376 x 1.00 = $533,376

The difference between the Maximum Quality Bonus and the Actual Quality Bonus is retained by Medicare. In this example, because 100% of the quality targets are met, the difference between the Maximum Quality Bonus and the Actual Quality Bonus is $0. However, if the percentage of quality targets met is less than 100%, then the difference would be positive and would be retained by Medicare.

Step 7: Calculate the Preliminary Earned Bonus

The Preliminary Earned Bonus is the sum of the Cost Bonus and the Actual Quality Bonus. In this example it is $1,777,920; it is shown in row 18 of Table 7-1 and is calculated as follows:

(Cost Bonus) + (Actual Quality Bonus) = Preliminary Earned Bonus.

$1,244,544 + $533,376 = $1,777,920

Step 8: Calculate the Bonus Cap Amount

Under the terms of the demonstration, a PGP's annual bonus payment cannot exceed 5% of its Target Expenditures for that year. Any amount above this Bonus Cap is retained by Medicare. In this example, the Bonus Cap amount is $12,444,000; it is shown in row 19 of Table 7-1 and is calculated as follows:

[32] For the calculation of the percentage of quality targets met in a performance year, claims-based quality targets will be weighted four times as much as chart-based and hybrid quality targets.

(Target Total Expenditures) x (5%) = Bonus Cap.

$248,880,000 x 0.05 = $12,444,000

Step 9: Calculate the Earned Bonus

The Earned Bonus is the amount of the Preliminary Earned Bonus that is less than or equal to the Bonus Cap. In this example, the Preliminary Earned Bonus is less than the Bonus Cap, so the Earned Bonus is the same as the Preliminary Earned Bonus, $1,777,920.

Earned Bonus = portion of Preliminary Earned Bonus less than or equal to the Bonus Cap.

Step 10: Calculate the Bonus Withheld Until Final Settlement

A portion of the Earned Bonus is withheld from the PGP until the end of the demonstration, to protect Medicare against any future losses incurred by the PGP. The withheld amount is 25% of the Earned Bonus. In this example, that figure is $444,480; it is shown in row 22 of Table 7-1 and is calculated as follows:

(Earned Bonus) x (25%) = Withheld Bonus.

$1,777,920 x 0.25 = $444,480

Step 11: Calculate the Bonus Paid at the Annual Settlement for the Performance Year

The Bonus Paid to the PGP at the Annual Settlement for each performance year is equal to 75% of the Earned Bonus (i.e., the portion not withheld). In this example, that figure is $1,333,440; it is shown in row 23 of Table 7-1, and is calculated as follows:

(Earned Bonus) x (75%) = Bonus Paid at Annual Settlement.

$1,777,920 x 0.75 = $1,333,440

This concludes the steps involved in the bonus calculations during each performance year. The final settlement at the end of the demonstration is discussed below.

7.2.2 Final Settlement with the PGP

The following steps are for the final settlement period.

Step 1: Calculate the Accrued Loss Carried Forward to Final Settlement

If there is an Accrued Loss Carried Forward at the end of Performance Year 3, 80% is carried forward to the Final Settlement. The other 20% of the loss is a debit against Medicare Program Savings. The 80/20 split mirrors the allocation of Net Medicare Savings in Performance Years 1-3 between the PGP Bonus Pool and Medicare Program Savings. In this example, as shown in

the Final Settlement column, row 13, in Table 7-1, there is no third performance year Accrued Loss Carried Forward.

(Performance Year 3 Accrued Loss Carried Forward) x (80%) = Accrued Loss Carried Forward to Final Settlement.

($0) x (0.80) = $0.

Step 2: Calculate the Sum of Bonuses Withheld in all Performance Years

As noted, 25% of any Earned Bonus is withheld in each performance year of the demonstration. At the end of the demonstration that amount is returned to the PGPs (less any accrued losses). The first step is to add up all of the withheld bonus figures from each performance year, to find the total amount of bonuses withheld. In this example, those figures are in row 22 of Table 7-1. The total is $5,777,199; it is calculated as follows:

Sum of Withheld Bonuses from All Performance Years = Total Withheld Bonuses.

$444,480 + $1,915,895 + $3,416,824 = $5,777,199

Step 3: Calculate Final Settlement

The Final Settlement Amount is equal to the sum of bonuses withheld, less the Accrued Loss Carried Forward to the Final Settlement (from row 13 of Table 7-1). In this example, there is no Accrued Loss Carried Forward, so the Final Settlement Amount equals the sum of bonuses withheld, or $5,777,199.

Total Withheld Bonuses + Accrued Loss Carried Forward to Final Settlement = Final Settlement Amount.

$5,777,199 + $0 = $5,777,199.

Step 4: Calculate Final Settlement to PGP

The Final Settlement Payment to the PGP is equal to Final Settlement Amount if it is positive. Otherwise, the Final Settlement Payment to the PGP equals zero. In this case, the Final Settlement Amount is positive, so the Final Settlement Payment to the PGP is $5,777,199.

(1) If Final Settlement > 0: Final Settlement to PGP = Final Settlement Amount. (2) If Final Settlement =< 0: Final Settlement to PGP = 0.

$5,777,199 > 0; therefore: Final Settlement to PGP = $5,777,199.

7.2.3 Medicare Program Savings

The portion of Medicare Savings not distributed as bonus payments to the PGP is retained by Medicare as Program Savings. As shown in the flowchart Figure 1-1, seven financial flows contribute to Medicare Program Savings (in any given performance year or scenario, not all of these flows will be relevant).

Medicare Program Savings is defined in terms of these 7 funds flows:

I. In Performance Years 1-3:

(1) and (2): The portion of Annual Medicare Savings between -2% and 2% of Target Expenditures (between the Savings Threshold and the negative of the Savings Threshold),

plus, if Net Medicare Savings >0, the sum of

(3) 20% of Net Medicare Savings, and
(4) (Maximum Quality Bonus) – (Actual Quality Bonus), and
(5) (Preliminary Earned Bonus) – (Earned Bonus).

II. In the Final Settlement:

(6) 20% of Performance Year 3 Accrued Loss Carried Forward plus
(7) If negative, the Final Settlement Amount.

It is important to clarify fund flows (1) and (2). As discussed in Chapter 1, the portion of Annual Medicare Savings between -2% and 2% of target expenditures is assumed to be caused by random fluctuations in expenditure levels, not by the PGP's performance. However, for accounting purposes these fund flows must be tracked. All fund flows (negative and positive) due to random fluctuations in expenditures levels are tracked by including them in Medicare program savings. Because of this, Medicare program savings in Table 7-1 can be considered overstated by an amount equal to the savings threshold.

In our example, Medicare Program Savings for Performance Year 1 is calculated as follows:

Portion of Annual Medicare Savings between plus or minus Savings Threshold = $4,977,600
+ (20%) x (Net Medicare Savings) = (0.2) x (2,222,400) = $444,480
+ (Maximum Quality Bonus) - (Actual Quality Bonus) = $533,376- $533,376 = $0
+ (Preliminary Earned Bonus) – (Earned Bonus) = $1,777,920 - $1,777,920 = $0
= $5,422,080.

In our example, there is no Performance Year 3 Accrued Loss Carried Forward, so there are no contributions to Medicare Program Savings in the Final Settlement. Total Medicare Program Savings for the demonstration is then the sum of the annual Medicare Program Savings for each of total Performance Years 1-3.

Although Medicare Program Savings is expected to be positive in the PGP demonstration as participating PGPs improve the efficiency of their care, three of the seven funds flows to Medicare Program Savings are potentially negative and overall Medicare Program Savings may be negative. If Annual Medicare Savings is negative, that is, PGP cost control is worse than its comparison group, then Medicare Program Savings will be negative.

7.2.4 Part D Prescription Drug Benefit

A new Medicare Part D prescription drug benefit will be implemented in 2006. Part D expenditures will be incorporated into demonstration bonus computations. Not all aspects of the implementation of the Part D benefit have yet been announced by CMS. Hence it is not possible at this time to specify a detailed methodology for incorporating Part D expenditures into the PGP demonstration. However, the same general principles that guide the treatment of Part A and Part B expenditures will be applied to Part D expenditures. Part D expenditures for beneficiaries assigned to participating PGPs and comparison group beneficiaries will be treated symmetrically so that the expenditure growth rate of comparison group beneficiaries provides a fair target for expenditure growth of assigned beneficiaries. Adjustments will be made for the health status risk of assigned and comparison group beneficiaries as it pertains to prescription drug expenditures. As necessary and appropriate, adjustments will be made for "takeup" (enrollment) rates of assigned and comparison group beneficiaries in the Part D benefit in each year, and for other factors.

7.3 Conclusions

This concludes the steps involved in calculating bonus payment and the final settlement under the demonstration. Table 7-1 also provides some summary figures in rows 27 and 28 to show the overall impact of the demonstration on both the PGP and Medicare. The total payout to the PGP over the course of the demonstration in this example is $23,108,795 (consisting of Bonuses Paid at Annual Settlements of $17,331,596 and a Final Settlement of $5,777,199). Total Medicare program savings are $21,774,320. Their sum is total Medicare Savings of $44,883,115, showing that all Medicare Savings are either paid to the PGP as a bonus or retained by Medicare as Program Savings. In this example both the PGP and Medicare reap substantial benefits from the demonstration.

REFERENCES

Pope GC, J Kautter, E Olmsted, et al.: The CMS-HCC Model for Risk Adjustment of Medicare Capitation Payments, Report, CMS Contract No. 500-00-0030, T.O. No. 4, July 2004.

Pope GC, M Trisolini, J Kautter, et al.: Physician Group Practice (PGP) Demonstration, Design Report, CMS Contract No. 500-95-0048, T.O. No. 4, October 2, 2002.

Olmsted E, GC Pope, J Kautter: PGP Demonstration Report on Risk Adjustment, CMS Contract No. 500-00-0024, T.O. No 13, May 5, 2004.