DETAILED METHODOLOGY FOR THE 2011 MEDICAL GROUP PRACTICE QUALITY AND RESOURCE USE REPORTS

I. Overview

A. What are the 2011 Quality and Resource Use Reports?

The 2011 Quality Use and Resource Reports (QRURs) for medical group practices are confidential feedback reports provided to practices that participated in the Group Practice Reporting Option (GPRO I) of the Physician Quality Reporting System (PQRS) in 2011. These reports contain information previously provided by the Centers for Medicare & Medicaid Services (CMS) separately in two reports—the QRUR and the PQRS GPRO I Feedback Report—on the quality of care provided to Medicare fee-for-service (FFS) beneficiaries whom these groups treated in 2011, as well as the resources used to provide that care and the incentive payment earned under the GPRO I program.

To participate in the GPRO I program in 2011, a medical group practice needed to submit a self-nomination letter to CMS and be selected to participate. Eligible group practices were defined by a single taxpayer identification number and must have included at least 200 eligible professionals, as identified by their individual National Provider Identifiers, who had reassigned their billing rights to the taxpayer identification number.[1]

The feedback reports are integral to CMS' efforts to support value-based purchasing initiatives to enhance the quality and efficiency of health care services provided to Medicare beneficiaries (see box on following page for more information). CMS has pursued a phased approach to physician feedback reporting as a way to expand understanding of policy issues related to measuring physician-driven costs of care and quality. In the current phase of the program, CMS continues to test the design, content, and performance indicators included in physician feedback reports.

The Physician Feedback Program also addresses Section 3007 of the 2010 Affordable Care Act, which directs the Secretary of Health and Human Services to develop and implement a budget-neutral payment system that will employ a value-based payment modifier (VBM). The VBM will be used to adjust Medicare physician fee schedule payments based on the quality and cost of care physicians deliver to Medicare beneficiaries. The VBM will be phased in over a two-year period, beginning in 2015. In 2015, the VBM will be based on performance and costs from calendar year 2013. The current QRURs include some performance measures that may be used for the VBM.

[1] In addition, the practice was required to satisfy a number of technical criteria. For more information, see https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Group_Practice_Reporting_Option.html.

The Physician Feedback Program and the Value-Based Payment Modifier

To enhance the quality and efficiency of health care services provided to Medicare beneficiaries, CMS is developing and implementing a set of value-based purchasing initiatives across many health care settings, including physician practices. To support these initiatives, CMS has been developing physician resource use and quality measures, evaluating physicians on their comparative quality and resource use, and educating physicians about the efficient use of resources. These efforts support expanded physician feedback reports detailing physician quality and cost performance, and performance-based payment.

As part of its value-based purchasing initiatives, for the past several years CMS has disseminated under the Physician Feedback Program a limited number of confidential reports to physicians and medical group practices that include measures of resource use and quality. CMS has pursued a phased approach to physician feedback reporting as a way to expand understanding of policy issues related to measuring physician-driven costs of care and quality. In the first phase of the approach (in 2009), CMS distributed and tested approximately 300 reports that included individual physician-level cost measures. The Physician Feedback Program was expanded under Section 3003 of the 2010 Affordable Care Act, which required the Secretary of Health and Human Services to provide confidential information to physicians and groups of physicians about the quality of care furnished to Medicare beneficiaries compared to the cost of that care. In the second phase of the approach (in fall 2010), CMS distributed a larger number of reports, to both individual physicians (about 1,700) and medical group practices (36), and expanded these reports to include selected quality measures. In the most recent phase of the program, CMS distributed QRURs in fall 2011 to all medical group practices participating in GPRO I in 2010, followed by the dissemination in early 2012 of approximately 24,000 QRURs to physicians who practiced in Iowa, Kansas, Missouri, or Nebraska in 2010. In the current phase of the program (2012–2013), CMS continues to test the design, content, and performance indicators included in physician feedback reports.

The Physician Feedback Program also supports Section 3007 of the 2010 Affordable Care Act, which directs the Secretary to develop and implement a budget-neutral payment system that will employ a value-based payment modifier. The payment modifier will be used to adjust Medicare physician fee schedule payments based on the quality and cost of care physicians deliver to Medicare beneficiaries. The Secretary will phase in the payment modifier over a two-year period, beginning in 2015, with the initial performance period proposed to be 2013. In 2015, the value-based payment modifier will be calculated on the bases of cost and quality data derived from services delivered in calendar year 2013. In 2015, CMS has proposed that the value-based payment modifier be applied at the tax identification number level for physicians who during calendar year 2013 practiced in medical groups of 100 or more eligible professionals. Beginning in 2017, all physicians paid under the Medicare physician fee schedule will be affected by the modifier.

In order to give physicians a preview of performance measures that might be used in determining the payment modifier, the 2011 physician feedback reports are being disseminated to much larger numbers of physicians and medical group practices than in earlier phases.

B. What are the Goals of the QRURs?

A primary goal of these reports is to support the efforts of physicians and medical group practices to provide high quality care to their Medicare FFS patients in an efficient and effective manner. A second goal is to provide physicians and medical group practices with quality-of-care and resource use information that could be used in the future VBM.

C. What Information is Included in the QRURs?

The QRURs contain information on both quality of care and resource use, as well as any incentive earned by the GPRO I participant under the PQRS program. A group's quality is assessed primarily based on what portion of the group's Medicare patients (represented by a sample) received 26 recommended core clinical interventions. These 26 National Quality Forum–endorsed quality measures target high-cost chronic conditions—diabetes mellitus, heart failure, coronary artery disease (CAD), and hypertension—and preventive care. The GPRO tool used to collect clinical information for the measures is virtually identical to the data collection tool employed in CMS' Physician Group Practice demonstration. In addition to these 26 quality indicators, the QRURs include information on admissions for ambulatory care–sensitive conditions (ACSCs), 30-day hospital readmission rates, and the rate at which patients see a physician within 30 days of a hospital discharge.

To assess resource use, beneficiary costs, as identified in Medicare claims, are payment standardized (to remove geographic Medicare payment differences) and risk adjusted. Per capita (per patient) costs are then computed for each group's attributed patients. Per capita costs are also reported for patients with specific chronic conditions, such as diabetes. Each group's performance on both quality and resource use measures is compared to the performance of all other GPRO I groups. Group performance on quality measures also is compared to a "national benchmark" comprising all groups and individuals reporting on the measure.

This document offers a detailed explanation of the methodology employed to produce the statistics presented in the reports. Exhibit 1 displays a brief description of the major steps in report development on the pathway from beneficiary attribution to performance assessment based on peer comparisons for the 2011 QRURs. Appendix A includes a detailed description of the data used to compute the statistics included in the report.

D. How Do the 2011 QRURs Differ from the 2010 QRURs?

In response to stakeholder feedback and as part of a continuing effort to enhance the usefulness and expand the reach of the QRURs, CMS has made the following changes to the QRURs for medical group practices participating in the group practice reporting option (GPRO I) of the Physician Quality Reporting System (PQRS) in program year (PY) 2011:

1. **Update payment standardization algorithm.** Beginning with PY2011, a CMS agency-wide approach to payment standardization is replacing the QRUR-specific algorithms used previously. This change is intended to result in a more uniform and transparent approach to payment standardization across agency initiatives. More information about the payment standardization algorithm is available at http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228772057350.

2. **Incorporate incentive information.** The PY2011 QRURs include information on any incentive earned by the report recipient based on participation in GPRO I. Information provided on the Highlights page , indicates whether an incentive was earned and the size of the incentive, disaggregated by Medicare Administrative Contractor.

3. **Include more refined benchmarks.** To better enable report recipients to assess their performance relative to other medical group practices participating in GPRO I, information on performance relative to the 25th, 50th, 75th, and 95th percentiles is included both on the Highlights page and in the body of the PY2011 QRURs. In addition, performance on quality measures is now compared not only to the performance of other GPRO I medical group practices but also to performance among all PQRS participants reporting the measure.

4. **Provide additional information on the relationship with attributed beneficiaries.** The PY2011 QRURs include information on the average number of evaluation and management (E&M) visits to all providers by beneficiaries attributed to the report recipient and the recipient's share of those visits. In addition, the reports describe which types of medical professional—primary care physicians, medical specialists, surgeons, emergency medicine physicians, other physicians, and other eligible professionals—were responsible for providing most of the medical group practice's E&M services to attributed beneficiaries in 2011.

5. **Modify reported ambulatory care sensitive conditions (ACSCs).** In contrast with previous QRURs, the acute condition ACSCs—namely, bacterial pneumonia, urinary tract infection, and dehydration—are now combined into a single acute conditions composite ACSC.

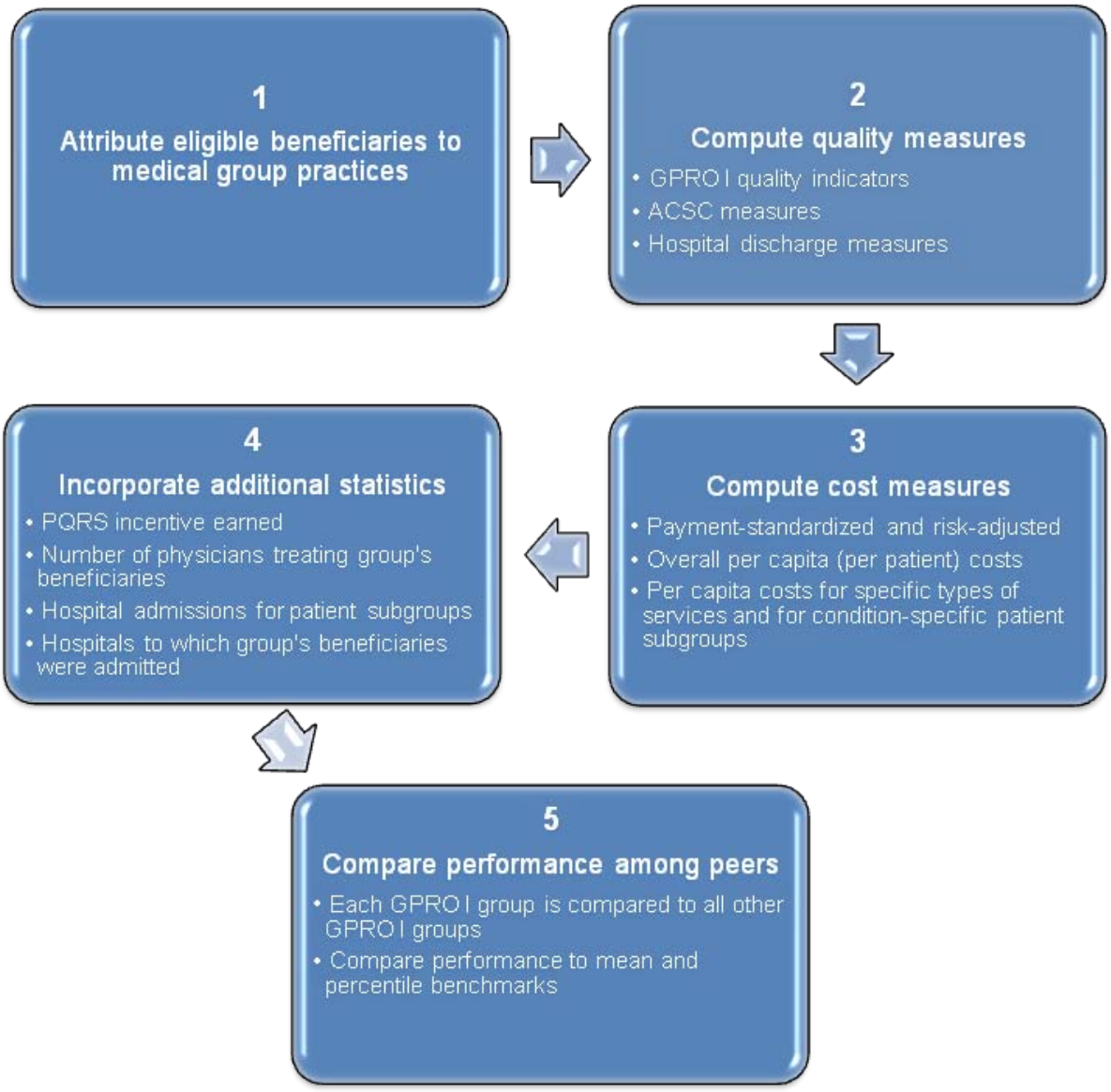
6. **Add measures on hospital readmission and care after hospital discharge.** The PY2011 QRURs include two new outcomes measures, which have been previously reported under the Physician Group Practice Transition Demonstration: (1) the all-cause 30-day hospital readmission rate per 1,000 discharges of attributed beneficiaries and (2) the number of attributed beneficiaries discharged from the hospital who saw a physician within 30 days per 1,000 discharges.

7. **Expand reporting of hospitals admitting attributed beneficiaries.** To provide greater information on which hospitals admitted a medical group practice's patients during the performance period, the PY2011 QRURs report the name and number of stays for all hospitals that accounted for at least 5 percent—rather than 10 percent, as previously—of all admissions among the group's attributed beneficiaries.

8. **Provide detailed information on emergency services.** In reporting detailed information on the cost of specific services used by attributed beneficiaries, the PY2011 QRURs separate out emergency services that do not result in an inpatient admission from other outpatient services, whereas previously these services were reported together as outpatient services.

9. **Identify hospital admissions from the emergency department.** In addition to continuing to report the number of hospital admissions per 1,000 attributed beneficiaries with conditions such as diabetes and coronary artery disease, the PY2011 QRURs also report what percentage of these admissions was from the emergency department.

Exhibit 1. Pathway from Beneficiary Attribution to Performance Assessment, 2011 GPRO I QRURs



II. How are Medicare Beneficiaries Attributed to Group Practices?

A. Attribution

Under the PQRS GPRO I program, Medicare beneficiaries were attributed to the single medical group practice that submitted claims to its carrier or Medicare Administrative Contractor (MAC) for at least two office or other outpatient evaluation and management (E&M) services between January 1, 2011, and approximately October 31, 2011, and billed for a larger share of the beneficiary's E&M services (as measured by Medicare allowed charges) than any other

physician practice during that time.[2] The Current Procedural Terminology E&M codes used to attribute beneficiaries are in Exhibit 2.

Exhibit 2. E&M Service Codes Included in Beneficiary Attribution Criteria

Current Procedural Terminology Code	Label
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

Source: RTI International.

Note: Labels are approximate. See American Medical Association, Current Procedural Terminology for detailed definitions.

People eligible for Medicare due to age (65 or older), end-stage renal disease (ESRD), or a qualifying disability are included in all quality and cost claims-based measures if none of the exclusions listed below applied to them. Each attributed beneficiary is included in the computation of each performance measure for which the beneficiary meets the measure's specific eligibility criteria. For example, all attributed beneficiaries are included in the computation of the group's overall per capita cost statistics, whereas assessment of performance on the diabetes quality indicators in the GPRO I tool is based on a sample of attributed beneficiaries with diabetes. Quality and resource use performance measures are discussed in greater detail below.

B. Which Beneficiaries and Claims are Excluded from the QRUR?

Beneficiaries who were not fully and continuously enrolled in both Medicare FFS Parts A and B in 2011 or who met certain other criteria are not attributed to any GPRO group.

Specifically, a beneficiary is excluded from the sample of beneficiaries (that is, not attributed) if between January 2011 and October 2011, inclusive, the beneficiary did any of the following:

- Died

[2] If two or more practices had the same level of office or other outpatient E&M charges for a patient, the patient was attributed to the practice with the greater total Part B–allowed charges.

- Newly enrolled or disenrolled in Medicare FFS Part A or Part B coverage
- Enrolled in Medicare managed care for any part of the year
- Enrolled in a Medicare FFS demonstration in any part of the year
- Used hospice benefits
- Was covered through the Railroad Retirement Board
- Received Medicare-covered services for which Medicare was not the primary payer

Because more complete data were available for the computation of ACSC measures, hospital readmission and care after hospital discharge measures, and resource use measures, some beneficiaries who previously had been attributed to the group were excluded from the computation of these measures if they were found to have satisfied one or more of the above criteria during any part of 2011 (that is, not only during the first 10 months of 2011). Details on these exclusions are in Appendix B.

Certain types of *claims* are excluded from the computation of measures listed in the preceding paragraph, but the *beneficiaries* with such claims nonetheless are retained. Specifically, claims with payments that are negative, missing, or very low payments[3] are excluded. Also, where claims for inpatient hospital encounters appear in the fee-for-service data but the beneficiary was not otherwise identified as having been enrolled in Medicare managed care for any part of the year, those claims are excluded from the sample but the beneficiary and the beneficiary's remaining claims are not.

III. How is a Group Practice's Quality of Care Performance Measured?

Three sets of indicators of a group practice's quality of care for Medicare beneficiaries are included in the 2011 QRURs: the 26 GPRO I quality indicators, ACSCs, and hospital readmission and care after hospital discharge measures.

A. GPRO I Quality Indicators

GPRO I practices were required to report a total of 26 quality measures endorsed by the National Quality Forum and targeting high-cost chronic conditions and preventive care to be eligible to receive a PQRS incentive payment. The measures were grouped into condition-specific sets: diabetes mellitus (eight measures), heart failure (seven measures), CAD (four measures), hypertension (three measures), and preventive care (four measures). The 2011 GPRO I QRURs display the number of cases and performance rate for each of 26 measures for each GPRO I practice. A list of these measures and their specifications can be found in the 2011 Downloads section of CMS' Group Practice Reporting Option web page at https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Group_Practice_Reporting_Option.html.

[3] Claims with standardized allowed amounts under 50 cents were excluded. In many cases these represent claims that provide clinical information—such as a quality-data code for a PQRS measure—where nominal amounts must be included because the provider's billing software cannot accommodate a charge of $0.00.

For each set of measures, CMS pre-populated a database with a sample of Medicare beneficiaries attributed to the group practice who met the eligibility criteria for those measures. Each GPRO I practice was required to report clinical data based on services furnished during calendar year 2011 for at least the first 411 beneficiaries in each database. If the group practice had fewer than 411 beneficiaries to whom a particular measure applied, clinical data had to be submitted for 100 percent of the beneficiaries who met criteria for the measure. Note that it is only for these 26 quality indicators that a sample of attributed beneficiaries is used. For all other measures included in the QRURs, *all* attributed beneficiaries who are eligible for a measure (that is, not only a sample) are included.

B. Ambulatory Care Sensitive Conditions (ACSCs)

The Agency for Healthcare Research and Quality (AHRQ) has developed a set of Prevention Quality Indicators (PQIs) that includes measures of potentially avoidable hospitalizations for ACSCs. These are conditions for which timely outpatient care may prevent complications or more severe disease. The measures reflect timely access to adequate ambulatory care.[4] The 2011 GPRO I QRURs include rates of hospital admissions per 1,000 attributed beneficiaries for the following four ACSCs or groups of ACSCs:

1. Diabetes (a composite of short-term diabetes complications, uncontrolled diabetes, long-term diabetes complications, and lower extremity amputation for diabetes)
2. Chronic obstructive pulmonary disease (COPD) or asthma
3. Heart failure
4. Acute conditions (a composite of dehydration, bacterial pneumonia, and urinary tract infection)

For all ACSC measures, AHRQ PQI software programs were applied to acute care hospital claims to identify hospitalizations for each ACSC condition, based on diagnostic and procedure information on the claims. For the acute conditions composite measure, the ACSC rate is calculated as 1,000 times the number of hospitalizations among attributed beneficiaries in 2011 for any of the three conditions constituting the composite, divided by the *total* number of beneficiaries attributed to the GPRO I practice. The ACSC rates for the three chronic conditions are calculated as 1,000 times the number of hospitalizations for the condition in 2011, divided by the number of attributed beneficiaries *with the condition*. Beneficiaries with the condition are identified by a Chronic Condition Warehouse (CCW) chronic condition indicator for that beneficiary indicating the presence of that condition, based on patterns of claims in 2010. Because hospitalizations for ACSCs are relatively rare, rates are expressed per 1,000 hospitalizations.

[4] More information is available at http://www.qualityindicators.ahrq.gov/modules/pqi_overview.aspx. Note that AHRQ's PQIs are population-based area measures, indicating the rate of hospitalizations for ACSCs within a given geographic region. The measures included in the QRURs differ from the PQIs in that they include in the denominator only those beneficiaries attributed to the practice (or those attributed beneficiaries with a specific condition), rather than all adults in a specified geographic area.

In addition to the ACSC measures described above, the 2011 QRURs include a total ACSC rate, reflecting potentially avoidable hospitalizations related to diabetes, COPD/asthma, heart failure, or acute conditions combined. This total rate is calculated as the sum of the individual ACSC rates. In the future, CMS intends to risk adjust these measures.

C. Measures of Hospital Readmission and Care After Hospital Discharge

Also included in the reports are two measures from the Medicare Physician Group Practice Transition Demonstration related to preventing hospital readmissions of attributed beneficiaries who were 18 or older by January 1, 2011.[5] The first is the number of beneficiaries attributed to a GPRO I practice who were discharged alive from an acute care hospital in 2011 who saw a physician (either associated with or not associated with the group practice) within 30 days of discharge. The measure is expressed as a rate per 1,000 discharges.

The second measure is a group practice–specific all-cause 30-day rate of acute care hospital readmissions (defined as readmission for any cause within 30 days from the date of discharge of an index admission in 2011) per 1,000 attributed beneficiaries discharged alive from an acute care hospital with any diagnosis.

IV. How is a Medical Group Practice's Resource Use Measured?

A. Overview of Per Capita Cost Measures

The QRURs include several resource use measures based on per capita costs. All costs are payment standardized, and both unadjusted and risk-adjusted per capita costs are reported. Payment standardization and risk adjustment are employed to accommodate differences in costs among peers that result from circumstances beyond physicians' control. Unadjusted costs for each GPRO I practice are calculated as the sum of all costs (except hospice and Part D prescription drug costs) for all attributed beneficiaries, divided by the number of attributed beneficiaries. The per capita risk-adjusted cost measure is calculated as the ratio of the practice's unadjusted per capita costs to its expected per capita costs, as determined by the risk adjustment algorithm. This ratio is then multiplied by the mean cost of all beneficiaries included in all GPRO I QRURs to denominate the risk-adjusted cost measure in dollars. A risk-adjusted cost that is less than the mean beneficiary cost reflects a practice for which actual (that is, unadjusted) costs were less than expected costs for the practice's attributed beneficiaries.

The cost measures use 2011 administrative claims data that include inpatient hospital; outpatient hospital; skilled nursing facility; home health; durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS); and Medicare carrier (non-institutional provider) claims. All claims with a missing, zero, or negative payment amount were excluded from the measures. Costs associated with Medicare Part D (outpatient prescription drugs) and hospice services were

[5] More information on the Physician Group Practice Demonstration and its measures is available at http://www.cms.gov/Medicare/Demonstration-Projects/DemoProjectsEvalRpts/Medicare-Demonstrations-Items/CMS1198992.html.

not included.[6] To the extent that Medicare claims include such information, costs comprise payments to providers from Medicare, beneficiaries (copayments and deductibles), and third-party private payers.

In addition to measuring overall per capita costs for each GPRO I practice's attributed patients, payment-standardized and risk-adjusted per capita costs are reported by type of service—such as E&M visits,[7] inpatient hospital facility services, and laboratory and other tests—and for beneficiaries with specific chronic conditions—namely, diabetes, CAD, COPD, and heart failure. The remainder of this section provides details on payment standardization methods, risk adjustment, and the computation of per capita costs for specific services and chronic condition subgroups. Additional details regarding payment standardization and risk adjustment are in Appendices C and D, respectively.

B. Payment Standardization

Geographic variation in Medicare payments to providers can reflect factors unrelated to the care provided to patients. For most types of medical services, Medicare adjusts payments to providers to reflect differences in local input prices (for example, wage rates and real estate costs).Therefore, payments are standardized to enable valid comparisons of costs for each GPRO I practice to the average costs across all GPRO I practices, which may be located in geographic areas or settings where reimbursement rates are higher or lower. Before any resource use measures are calculated for the QRUR, 2011 Medicare unit costs are standardized to equalize payments for each specific service provided in a given health care setting. For example, the standardized price for a given service is the same regardless of whether the service was delivered in a home health or outpatient hospital setting, regardless of the state or city in which the service was provided, or regardless of differences in Medicare payment rates among the same class of providers (for example, prospective payment hospitals versus critical access hospitals). Unit costs refer to the total reimbursement paid to providers for services delivered to Medicare beneficiaries. These can include discrete services (such as physician office visits or consultations) or bundled services (such as hospital stays). The standardized payment methodology, which is described in further detail in Appendix C, does the following:

- Eliminates adjustments made to national payment amounts to reflect differences in regional labor costs and practice expenses
- Eliminates payments not directly related to services rendered, such as the graduate medical education, indirect medical education, and disproportionate share payments to hospitals
- Substitutes a national amount for services paid on the basis of state fee schedules

[6] Part D (outpatient prescription drug) costs were excluded from the cost measure calculations because not all beneficiaries have Medicare Part D and some who do not have it instead might have creditable prescription drug coverage through other insurance sources or the retiree subsidy, for which Medicare does not have claims data. Hospice costs are not included because hospice patients were excluded from attribution.

[7] Note that E&M services included in the type-of-service tables include all E&M services, not only the office or other outpatient E&M services used to attribute beneficiaries to GPRO I practices.

- Maintains differences in actual payments resulting from the choice of setting in which a service is provided, the choice of who provides the service, and the choice of whether to provide multiple services in the same encounter
- Adjusts outlier payments for differences in area wages
- Sets the standardized payment to 0 if the actual payment on the claim was 0 and to missing for interim claims

Additional details relating to the payment standardization algorithm are available at http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228772057350.

C. Risk Adjustment

Risk adjustment takes into account patient differences that can affect their medical costs, regardless of the care provided. Per capita cost measures for the QRUR are risk adjusted so practices can be compared more fairly to their peers. The risk-adjusted costs of medical group practices attributed a disproportionate number of high-risk beneficiaries will be lower than the groups' unadjusted costs because the high-risk beneficiaries' expected costs will exceed the average beneficiary cost across all GPRO I groups; similarly, risk-adjusted costs will be higher than unadjusted costs for groups that are attributed comparatively low-risk beneficiaries.

Costs are risk adjusted prospectively using prior year (2010) Hierarchical Condition Category (HCC) risk scores derived from the CMS-HCC risk adjustment model that Medicare uses to adjust payments to Medicare Advantage plans. The CMS-HCC risk adjustment model assigns *International Classification of Diseases–9th Revision* (ICD-9) diagnosis codes obtained from Medicare claims to 70 hierarchical condition categories that have related disease characteristics and costs.[8] The model also incorporates sex, age, original reason for Medicare entitlement (either age or disability), and Medicaid entitlement. Risk adjustment for the QRUR per capita cost measures also accounts for the presence of ESRD in 2010. Each risk score summarizes in a single number each Medicare beneficiary's expected cost of care relative to other beneficiaries, given the beneficiary's demographic profile and medical history. Like the CMS-HCC model, the QRUR risk adjustment model is prospective—in the sense that it uses 2010 risk scores to predict 2011 costs—to ensure that the model measures the influence of health on treatment provided (costs incurred) rather than the reverse.

To limit the influence of outliers on the calculation of risk-adjusted costs, attributed beneficiaries across all GPRO I practices with costs in the bottom 1 percent of the payment-standardized (but non-risk-adjusted) distribution of costs are excluded before estimating the QRUR risk adjustment model, whereas the costs of beneficiaries with costs exceeding the 99th percentile have their costs reset to the 99th percentile value (a process known as Winsorizing).

[8] The HCC model uses diagnoses identified for a patient within a given year to predict health risks for the following year along with potential resource utilization. The model consists of cost groups, or diagnoses, that are grouped into the 70 HCCs. These are groups of similar diagnoses that CMS has deemed risk factors for patients. Each HCC has a specific weight (and specific reimbursement tied to it from which a Medicare Advantage Contractor is paid). HCC scores are calculated each year for each Medicare beneficiary.

The QRUR risk adjustment model is estimated by regressing beneficiary costs on a constant, the beneficiary's risk score, the squared value of the risk score, and an indicator for the presence of ESRD.[9] This model is then used to compute the expected cost for each beneficiary across all GPRO I groups, given the beneficiary's risk profile (that is, risk score and ESRD status). A GPRO I practice's expected per capita costs are equal to the sum of expected costs of all attributed beneficiaries, divided by the number of attributed beneficiaries. As noted earlier, each practice's risk-adjusted per capita cost is then computed as the ratio of unadjusted per capita costs to expected per capita costs, multiplied by the mean beneficiary cost across all GPRO I groups.

Appendix D displays the 70 HCCs that CMS incorporates into its risk scores and provides additional detail on the steps for risk adjusting 2011 QRUR per capita cost measures.

D. Per Capita Costs by Type of Service

For each category of beneficiary, the QRURs report per capita costs for all services in total and by detailed type of service, all of which sum to the total. The goal of separating per capita costs into categories of services is to provide medical group practices with details on how their costs of delivering specific health care services compare with those of their peers. Note that different categories of service can be substitutes or complements. For example, practices providing more ambulatory preventive care might avoid some hospitalizations of their patients (service substitutes), leading to higher E&M costs but lower inpatient hospital costs compared with peers. At the same time, higher numbers of E&M visits also could be associated with higher ancillary services, such as diagnostic tests (service complements). Displaying costs by categories of service provides greater detail on areas in which providers might be able to improve the efficiency of care. CMS chose service categories that (1) correspond to the organization of Medicare claims and (2) capture distinct types of services that GPRO I practices might be able to influence either directly through their own practice patterns (for instance, E&M services) or indirectly through referral patterns or improved outpatient care (which can prevent certain types of hospitalizations). Appendix E shows how costs by categories of service are displayed in the 2011 QRURs. Appendix F provides more detail on how Medicare claims are categorized into one (and only one) of the service categories displayed in the Appendix E table.

Calculation of service-specific per capita costs requires classifying each service rendered into a unique category. This is accomplished according to the mapping from claim types, provider types, and CMS Berenson-Eggers Type of Service (BETOS) codes to service categories in Appendix F (Exhibit F.1). Any service that does not fit into one of the specifically listed services categories is assigned to the All Other Services category. Appendix F (Exhibit F.2) contains brief descriptions of each BETOS category.

In addition to separating costs according to service type, for two categories—Evaluation and Management Services and Procedures—services are identified according to the broad specialty

[9] The CMS-HCC model actually generates several different risk scores. For beneficiaries with a full year of medical claims history in 2010, the HCC community risk score is used. For those lacking a full year of medical claims history, the HCC new enrollee score is used. The ESRD indicator is taken from the enrollment data. Details are in Appendix D.

category of the medical professionals rendering them: primary care physicians (PCPs), medical specialists, surgeons, and other professionals. The Other Professionals category includes, for example, physician assistants, nurse practitioners, clinical nurse specialists, certified nurse anesthetists, clinical social workers, clinical psychologists, dieticians, audiologists, and physical and speech therapists. The method for determining a medical professional's specialty is described in Appendix G, which includes an exhibit showing how specialties map to specialty categories.

Risk-adjusted per capita costs by type of service for a GPRO I practice are calculated by first computing the total payment-standardized service-specific costs per capita for all beneficiaries attributed to the practice. Then, this unadjusted service-specific per capita cost is multiplied by the mean *overall* (not service-specific) cost of all beneficiaries across all GPRO I groups and divided by the expected *overall* per capita cost of beneficiaries attributed to the practice (from the risk adjustment algorithm). This calculation modifies the service-specific per capita costs by rescaling these costs with the same scale factor used to risk adjust overall per capita costs. Such an adjustment ensures that the adjusted service-specific per capita costs sum across all service categories to the reported overall per capita cost for the GPRO I practice.

For example, suppose that risk adjustment results in an overall per capita cost for the GPRO I practice that is 10 percent lower than the practice's unadjusted cost. Reported per capita costs for each detailed type of service then are computed by reducing the unadjusted per capita cost for each type of service by 10 percent.

E. Per Capita Costs for Condition-Specific Medicare Beneficiary Subgroups

In addition to reporting each GPRO I practice's per capita costs for all beneficiaries attributed to the practice, the 2011 QRURs display per capita costs for attributed beneficiaries with selected chronic health conditions: diabetes, CAD, COPD, or heart failure. Chronic health conditions are diseases or illnesses that are commonly expected to require ongoing monitoring to avoid loss of normal life functioning and are not expected to improve or resolve without treatment. Per capita cost measures for these subgroups rely on the costs associated with all 2011 Medicare claims (except for hospice and Part D–covered prescription drugs) and are not limited to costs associated with treating the condition itself. Additionally, the four selected chronic conditions are not mutually exclusive: many Medicare beneficiaries have more than one of these chronic conditions. Consequently, a practice's per capita cost for beneficiaries with one of these chronic conditions reflects the cost of treating these beneficiaries, not the cost of treating the condition.

Calculation of subgroup-specific per capita costs requires first identifying beneficiaries who have the chronic conditions of interest and then computing each GPRO I practice's payment-standardized and risk-adjusted per capita cost for the subset of beneficiaries attributed to the practice who have that condition. Four risk adjustment models for beneficiaries with diabetes, CAD, COPD, and heart failure are estimated separately to risk adjust the per capita costs of each subgroup.

Beneficiaries are identified as having one or more of the four chronic conditions of interest with Chronic Condition Warehouse (CCW) data. The CCW includes a series of variables that indicate whether the pattern of utilization observed in Medicare claims indicates the presence of the condition for the beneficiary during the surveillance period; claims before the reference year

might have been examined to make this determination. For example, a beneficiary in the sample is determined to have diabetes if the yearly version of the 2010 CCW diabetes indicator has a value of either 1 or 3, and similarly for COPD and heart failure.[10] The CCW ischemic heart disease yearly indicator is used to identify the presence of CAD.

V. What Other Information is Included in the QRUR?

In addition to selected group practice quality and resource use measures, the 2011 GPRO I QRURs provide supplemental information relating to incentives earned, beneficiary attribution, and hospital and emergency department use.

Regarding incentive payments, the QRUR reports each practice's earned incentive from successful participation in the 2011 PQRS program, both the dollar value of the incentive and the incentive as a percentage, using data obtained from the program.

For informational purposes, the 2011 QRUR displays several statistics related to beneficiary attribution to medical group practices. These include the average number of office or other outpatient E&M visits (see Section II.A) to all providers for beneficiaries attributed to the practice, as well as the average percentage of these visits that were specifically provided by the practice. Also displayed is information on the type of medical specialist in the practice that accounted for the largest share of office and other outpatient E&M visits for attributed beneficiaries. For example, if a practice was attributed three beneficiaries, two of whom had E&M visits most often with a primary care physician (PCP) associated with the practice and one who had E&M visits most often with a medical specialist associated with the practice, then the QRUR would indicate that 67 percent of the practice's attributed beneficiaries most often received E&M services from PCPs and 33 percent from medical specialists. An additional statistic shows the average number of medical professionals in all care settings who treated the practice's attributed beneficiaries in 2011, and the percentage of these professionals not associated with the practice (that is, who did not bill under the practice's taxpayer identification number in 2011).

Information about hospital and emergency department use by attributed beneficiaries reported in the 2011 QRUR includes a list of hospitals where at least 5 percent of the practice's attributed beneficiaries were admitted in 2011. For beneficiaries with the four chronic conditions for which subgroup per capita costs are calculated (diabetes, CAD, COPD, and heart failure), the QRUR displays hospital admissions per 1,000 attributed beneficiaries with the condition, and the percentage of these hospital admissions that were via the emergency room as identified by an emergency department revenue code (including a revenue code indicating emergency room professional fees were billed) being present on the patient's hospital Medicare claim. A hospital

[10] At the time the QRURs were prepared, 2011 chronic condition information from the CCW was not available, so the beneficiaries' information from 2010 was used instead. The yearly CCW indicator for a given condition may take one of four values: 0 ("Neither claims nor coverage met"); 1 ("Claims met, coverage not met"); 2 ("Claims not met, coverage met"); or 3 ("Claims and coverage met"). "Claims met" indicates a pattern of claims consistent with the presence of the condition. "Coverage met" indicates that the beneficiary was covered by Medicare FFS Parts A and B for the entire reference period or until death. Beneficiaries were classified as a chronic condition if a value of "1" or "3" was assigned for that condition.

admission is counted as a single hospital stay and can be for any reason—that is, not limited to treating the chronic condition. Hospital admissions are to all types of hospitals, such as short-term acute, long-term, and psychiatric hospitals. Separately shown are emergency department services that did not result in an admission to a hospital per 1,000 attributed beneficiaries with the condition. As with hospital admissions, all emergency department services are counted, not just those related to treating the chronic condition.

VI. How are Peer Groups and Performance Benchmarks Defined?

A GPRO I practice's own performance on all quality and cost measures displayed in the practice's QRUR is compared to the average (mean) performance of all medical group practices that participated in PQRS GPRO I in 2011. That is, each GPRO I practice's peer group is all GPRO I practices taken together. The mean performance of all incentive-eligible physicians who participated in PQRS during 2011 also is provided for every comparable quality measure available for individual participants. By including physicians who did not participate in PQRS through GPRO I, this second mean is more representative of the experience of PQRS participants generally.

Benchmarks displayed in the QRUR are either percentile values or averages. Percentile benchmarks for each measure—such as the lower quartile, median, and upper quartile scores—also are displayed for the peer group by ranking all GPRO I practices' performance on the measure from lowest to highest performance. The percentile ranking of a group practice's own performance is displayed, as well as the performance scores for the overall per capita cost measure and the PQRS GPRO I quality indicators associated with the 25th, 50th, 75th, and 100th percentiles. (For the quality indicators only, scores at the 95th percentile also are displayed.)

APPENDIX A
DESCRIPTION OF DATA SOURCES

Multiple data sources were used to calculate the performance measures included in the 2011 GPRO I QRURs. Performance on the 26 GPRO I PQRS quality indicators is derived from the information each participating medical group practice submitted to CMS through the GPRO I data collection tool. (In 2012, this tool was renamed the GPRO Web-Interface.) For the per capita cost, service-specific per capita cost, chronic condition subgroup–specific per capita cost, hospital readmission rate, post-discharge care, utilization, and ACSC measures, 2011 Medicare enrollment and Parts A and B FFS paid claims extracted from CMS' systems were the primary data sources. The Chronic Condition Warehouse (CCW) chronic condition indicator variables identified beneficiaries who in 2010 had any of the four conditions of interest selected by CMS: diabetes, CAD, COPD, or heart failure. HCC risk scores were used in the risk adjustment models for per capita costs. Each of these data sources is discussed in detail below.

GPRO I Quality Indicators

The quality measures included in the GPRO I QRUR—reflecting care for beneficiaries with diabetes, heart failure, CAD, and hypertension, as well as preventive care measures—are the same indicators the group practice submitted to the 2011 GPRO I Physician Quality Reporting System. The same population of beneficiaries attributed to a GPRO I practice is used in the denominators of the cost, utilization, and quality measures included in this report. However, while all the attributed beneficiaries of a medical group practice are used to calculate the cost and utilization measures, only a sample of these beneficiaries is used for the GPRO I quality measures. Each GPRO I practice is required to report clinical data for at least the first 411 beneficiaries on its list of attributed beneficiaries, drawn from all attributed beneficiaries that CMS has determined meet criteria for specific measures. If the group practice has fewer than 411 beneficiaries that meet the measure criteria, clinical indicators must be submitted for 100 percent of attributed beneficiaries that meet the measure criteria.

Enrollment Data

The Medicare enrollment data contain demographic and enrollment information about each beneficiary enrolled in Medicare during a calendar year. The data include the beneficiary's unique Medicare identifier, state and county residence codes, ZIP code, date of birth, date of death, sex, race, age, monthly Medicare entitlement indicators, reasons for entitlement, whether or not the beneficiary's state of residence paid for the beneficiary's Medicare Part A or Part B monthly premiums ("state buy-in"), and monthly Medicare managed care enrollment indicators.

Medicare Claims

Resource use measure computations are based on all 2011 final action Medicare claims available on CMS' Integrated Data Repository (IDR) as of April 23, 2012, except for hospice claims. Specifically, inpatient hospital, outpatient hospital, skilled nursing facility, home health, carrier, and DMEPOS claims are analyzed. Under Medicare procedures, when an error is discovered on a claim, a duplicate claim is submitted indicating that the prior claim was in error; a subsequent claim containing the corrected information can then be submitted. The IDR contains only the *final action* claims developed from the Medicare National Claims History database—that is, non-rejected claims for which a payment has been made after all disputes and

adjustments have been resolved and details clarified. The scope of claims on the IDR is national. ZIP code is the most discrete level of geographic detail available. Data are submitted continually from the MACs to CMS and updated at least weekly on the IDR. For the purposes of producing the 2011 QRURs, the end date of the claim determines the calendar year with which the claim is associated. Providers submit claims to their MAC for processing and payment. The MAC forwards all claims to CMS, where they are stored in the Common Working File and the National Claims History database. The National Claims History database is the source of FFS claims in the IDR.

Chronic Condition Warehouse

CMS launched the Chronic Condition Warehouse (CCW) database in response to the Medicare Modernization Act of 2003. Section 723 of the act outlined a plan to improve the quality of care and reduce the cost of care for chronically ill Medicare beneficiaries. An essential component of this plan was to establish a data warehouse of Medicare claims data and assessments, linked by beneficiary, across the continuum of care. The CCW contains FFS institutional and non-institutional claims, assessment data, and enrollment/eligibility information for 100 percent of the Medicare FFS population from 2005 forward. The 21 CCW conditions, defined by CMS, make it easy to select a study population with a condition of interest. Medicare claims-based utilization information is used to make the chronic condition determinations (that is, an indicator that the beneficiary received a service or treatment for the condition of interest). Chronic condition indicator flags matching those available in the CCW data identified beneficiaries with select conditions for the QRURs. For definitions of chronic conditions, see http://www.ccwdata.org/cs/groups/public/documents/document/ccw_userguide.pdf.

Hierarchical Condition Category Risk Scores

Clinical differences among patients can affect their medical costs, regardless of the care provided. For peer comparisons, a GPRO I practice's per capita costs and subgroup-specific per capita costs are risk adjusted based on the unique mix of patients the practice treated during a given period. For the 2011 GPRO I QRURs, the CMS-Hierarchical Condition Category (HCC) model was used that assigns ICD-9 diagnosis codes to 70 clinical conditions, grouping codes with similar disease characteristics and costs together. The CMS-HCC risk adjustment model adjusts payments for Part C benefits offered by Medicare Advantage plans and payments to the Program of All-Inclusive Care for the Elderly (PACE) organizations to aged/disabled beneficiaries. The model predicts costs based on disease, demographic, and insurance factors from the previous year. There are separate sets of coefficients for beneficiaries in the community; beneficiaries in long-term care institutions; new Medicare enrollees; and beneficiaries with ESRD in dialysis, transplant, and functioning-graft status (both community and institutional).

To risk adjust costs for the 2011 GPRO I QRURs, the community and new enrollee HCC risk scores are used as inputs into a second risk adjustment model described in Appendix D; the ESRD and institutional scores are not used. Because the ESRD model is concurrent, an ESRD indicator (yes/no) from the 2010 enrollment data was used instead of the ESRD HCC risk score. Inclusion of the indicator instead of the concurrent score in the risk adjustment model permitted estimation of the prospective impact of ESRD on costs. Because institutionalization during the year is endogenous, no adjustment is made for institutional status; the effect of institutionalization on costs is small, on average, once the HCC risk scores are included in the risk adjustment model.

APPENDIX B
EXCLUSIONS APPLIED TO ATTRIBUTED BENEFICIARIES

Exclusion criteria were applied at different times to various data used in creating the QRURs. When beneficiaries were attributed to GPRO I practices for the purpose of submitting quality indicator information for PQRS, the most recent Medicare beneficiary enrollment files had information on the enrollment status of beneficiaries only through October 2011; for some variables, data were complete only through June 2011. Complete information for all of 2011 was available for computing the ACSC, hospital readmission, post discharge care, and resource use measures. Regardless of when exclusion criteria were applied to attributed beneficiaries, exclusions were determined according to the following steps:

1. Identify beneficiaries with less than a full year of FFS claims. The 2011 enrollment data are used to determine which beneficiaries had less than a full calendar year of FFS claims in 2011 for any of the following reasons:
   - **The beneficiary died during the year.** The beneficiary is determined to have died during the year if a death date is present in the data (not equal to missing) on or between January 1 and December 31 and the death verification switch indicated that the death had been verified (a value of V).
   - **The beneficiary was enrolled in managed care or a demonstration during the year.** A beneficiary is considered to have enrolled in managed care or a CMS demonstration if for any month of the year the health maintenance organization (HMO) indicator field in the enrollment data has a value other than 0 ("not a member of HMO").
   - **The beneficiary gained or lost Part A or B entitlement during the year.** A beneficiary is considered to have gained or lost Part A or Part B entitlement if for any month of the year the buy-in indicator field in the enrollment data has a value other than 3 ("Part A and Part B") or C ("Parts A and B, State Buy-In").
2. Identify beneficiaries who used hospice services during the year. A beneficiary is considered to use hospice services if for any month of the year the beneficiary had a hospice claim (or claims).
3. Identify beneficiaries enrolled in Medicare through the Railroad Retirement Board. A beneficiary is determined to be enrolled in Medicare through the Railroad Retirement Board if the first position of the beneficiary's HICAN (BIC/CAN combination) identifier is either the open bracket ("{") or a letter A–G.
4. Identify beneficiaries with claims for which Medicare is not the primary payer. A beneficiary is determined to have one or more claims for which Medicare is not the primary payer if for any claim the Medicare National Claims History primary payer code (for institutional claims) or the line beneficiary primary payer code (for non-institutional claims) indicates Working Aged, ESRD, or Working Disabled.
5. Exclude beneficiaries. Exclude from 2011 QRUR measures and statistics all attributed beneficiaries identified in the previous steps as not having a full calendar year of FFS claims, having used hospice, enrolled through the Railroad Retirement Board, or having claims for which Medicare was not the primary payer in 2011.

APPENDIX C
PAYMENT STANDARDIZATION

Acumen, LLC, a CMS contractor, standardized payments for all 2011 Medicare claims. Mathematica merged these standardized payments with original Medicare claims by beneficiary identifier, provider identifier, and claim start and end dates, and supplemented with additional fields like processing date to resolve duplicate matches. This appendix summarizes the standardization method for each of the seven Medicare claim types: inpatient hospital, outpatient hospital, skilled nursing facility (SNF), home health agency, hospice, physician services, and DMEPOS. Full details of the payment standardization methodology are available at http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228772057350.

Inpatient Hospital Claims

The standardized payment for a stay at an acute hospital, inpatient psychiatric facility, inpatient rehabilitation facility, or long-term care hospitals (with normal length of stay) is built as the sum of national base payment rates for labor, non-labor, and capital expenditures, multiplied by the stay's diagnosis-related group rate. Any outlier payments then are added in and adjusted for geographic differences using the hospital wage index. The standardization excludes graduate medical education, indirect medical education, and disproportionate share payments. Transfer stays and discharges to post-acute care facilities are standardized by applying a standardized per diem rate. Claims from Maryland hospitals are standardized by applying a hospital-specific factor to the actual payment, adding in the deductible and coinsurance, and then adjusting by the wage index. Critical access hospital (CAH) payments, long-term care hospital short-stay claim payments, and payments for other inpatient stays are standardized by adjusting the total payment for differences in area wages.

The online documentation referenced above provides additional details about the identification of short-stay transfers and post-acute care facility discharges, the identification of Maryland hospitals, and the identification of interim claims.

Skilled Nursing Facility (SNF) Claims

The standardized procedure for SNF claims depends on the type of SNF claim, of which there are four types: prospective payment system SNF claims, CAH swing bed claims, SNF claims for beneficiaries without Part A coverage or who have exhausted Part A coverage, and claims for outpatient services provided by SNFs. For prospective payment system claims, the standardized payment is equal to the applicable per diem rate multiplied by the number of Medicare covered days. The applicable per diem rate for rehabilitation resource utilization groups (RUGs) is equal to the average nursing base rate multiplied by the RUG weight for that RUG plus the average rehabilitation base rate multiplied by the RUG therapy weight. For non-rehabilitation RUGs, the therapy portion of the rate is based on the average non-rehabilitation therapy rate. The base rates are the average of the urban and rural rates. If the RUG on the revenue center line cannot be matched to a RUG weight, then the standardized payment is equal to the actual payment with coinsurance added back in, adjusted for differences in area wages.

For CAH swing bed claims, the standardized payment is the actual payment with coinsurance added back in, adjusted for differences in area wages.

SNF claims for beneficiaries without Part A coverage or who have exhausted Part A coverage and claims for outpatient services provided by SNFs are standardized using the Healthcare Common Procedure Coding System (HCPCS) code on each revenue center line and standardizing like other Part B fee schedule claims by using the physician fee schedule, the clinical laboratory fee schedule, the ambulance fee schedule, and the DMEPOS fee schedule, as applicable.

Home Health Agency Claims

The standardization method for home health claims depends on whether the claim type is designated as home health or outpatient, and, if the former, whether the claim is for a short episode. Home health claims for short episodes are standardized by adjusting the actual payment by the wage index associated with the labor share. For other home health claims, the standardized payment is built up from the base rate for each home health resource group and is multiplied by the applicable home health resource group weight and added to a supply amount, outlier payments adjusted by the labor-related wage rate, and any add-ons for prosthetics, durable medical equipment, or oxygen that are present on the claim. For claims identified by their claim type as outpatient claims that are present in the home health file, the standardized payment is assigned to be equal to the actual payment amount.

Hospice Claims

Beneficiaries who participated in hospice during any part of 2011 are not included in the QRUR data; nor are hospice claims.

The standardization of hospice claims depends on the value of the revenue center code for each line item. If the revenue center code is for services furnished to patients by a physician or nurse practitioner, then the standardized payment is equal to the actual payment amount for that line item. If the revenue center code for a line item indicates continuous home care, then the standardized payment is equal to the base rate for continuous home care for that year times the number of units divided by four (because units are reported in 15-minute increments). If the revenue center code indicates that the service is for routine home care, inpatient respite care, or general inpatient care, then the standardized payment is equal to the base rate for that type of care for that year multiplied by the number of units.

Outpatient Hospital Claims

The standardization method for an outpatient hospital claim depends on whether the service was provided in a Maryland hospital and whether the claim is for a service paid on a reasonable cost or pass-through basis, under the Outpatient Prospective Payment System (OPPS), or under another fee schedule. These types of claims can be divided into five groups, each of which is standardized using a different method:

1. Revenue center lines for reasonable cost or pass-through services[11]
2. Revenue center lines with an ambulatory payment classification
3. Revenue center lines with status indicating services not paid under OPPS
4. Hospital outpatient services for CAHs
5. Claims for services furnished by Maryland hospitals

Revenue center lines for reasonable costs or pass-through services are standardized by using the actual payment and adding in the coinsurance and deductible amounts from the revenue center line. For revenue center lines with an ambulatory payment classification, the standardized payment is set equal to the OPPS schedule amount for the HCPCS code on the revenue line multiplied by the number of units on the revenue line, and adjusted for multiple procedures as indicated by the modifier on the revenue line item. If the service was paid under the OPPS fee schedule and has a status indicating a significant procedure subject to multiple-procedure discounting, the standardized payment is constructed by adjusting the actual payment by a coinsurance adjustment factor, adding in the deductible, and adjusting by the labor-related wage rate. If the service was paid under the OPPS fee schedule and has a status indicating ancillary services, the standardized payment is set to the actual payment amount plus any applicable cost sharing for that line. Revenue center lines not paid under OPPS are standardized by using the rates indicated on the various Part B fee schedules (physician, clinical laboratory, ambulance, DMEPOS). Hospital outpatient services from CAHs are standardized by using the actual payment on the claim plus any deductible and coinsurance, and then adjusting for differences in area wages. Standardized payments for services furnished by Maryland hospitals are derived by applying a hospital-year-specific factor to the actual paid claims amount, adding in the deductible amount, and adjusting for differences in area wages.

Although the CMS methodology available online standardizes all outpatient hospital claim outlier payments at the claim level, development of certain components of the QRUR requires outpatient hospital claims at the line-item level. Consequently, neither actual nor standardized outlier payments are added on to the line-level standardized payments for outpatient hospital claims.

There are some additional services whose claims appear in the hospital outpatient file, for which the standardized amounts are calculated separately. These include the following:

1. Rural health clinics and federally qualified health centers, for which standardized payments are equal to actual payment amounts plus deductibles, adjusted for wage differences
2. Comprehensive outpatient rehabilitation facilities and outpatient rehabilitation facilities, for which standardized payments are calculated in the same way as for services paid under the physician fee schedule

[11] Reasonable cost or pass-through revenue center lines are identified by status indicators: F (corneal tissue acquisition, certain certified registered nurse anesthetist services, and hepatitis B vaccines), G (drug/biological pass-through), H (device or therapeutic radiopharmaceuticals pass-through), and L (influenza or pneumococcal pneumonia vaccines).

3. Community mental health centers, for which standardized payments are calculated in the same way as for services paid under the OPPS fee schedule
4. Renal dialysis facilities, for which the standardized payment is equal to the actual claim payment amount minus outlier payments and a wage-adjusted training payment (if applicable), plus deductible and coinsurance, all divided by the wage index; the result is added to the unadjusted training payment plus the outlier payment

Physician Services Claims

Payments for services included in the carrier claims file are standardized using various methods, depending on the type of service. These claims can be categorized into six broad areas:

1. Physician services, including all E&M; all procedures; all imaging; laboratory diagnostic tests paid under the physician fee schedule and non-laboratory diagnostic tests; chiropractic services; vision, hearing, and speech services; and other services
2. Anesthesia services
3. Ambulatory surgical center (ASC) services
4. Clinical laboratory services
5. Part B–covered drugs
6. Ambulance services

Standardized payments for the physician services are calculated by multiplying the annual conversion factor by the sum of the relevant work, transitioned practice expense, and malpractice relative value units. Adjustments are made for technical versus professional components, multiple procedures, co-surgeon and assistant surgeon deductions, non-physician-supplied services, facility versus non-facility settings, and number of units. These aspects of the claims are specified in modifier fields and place of service fields at the individual line item level of each claim.

Standardized payments for anesthesia services are calculated by multiplying the anesthesia conversion factor for the relevant year by the sum of the base units for the specified anesthesia HCPCS code and the units for that service on the line item (divided by 1,000). An additional multiple procedure discount or certified registered nurse anesthetist adjustment also may apply, as specified in the modifier field of the line item.

Standardized payments for ASC services are generally equal to the ASC fee schedule amount for the service provided multiplied by the number of units and adjusted for multiple procedures.

Standardized payments for clinical laboratory services are equal to the national limit amounts for specified services (as captured by HCPCS codes) multiplied by the number of units. If a HCPCS code has a national limit amount equal to 0, or if the code indicates an automated general profile, then the standardized amount is equal to the actual claim line payment amount plus the coinsurance and deductible for that claim line.

The standardized payment for Part B–covered drugs is equal to the actual claim line payment amount plus the coinsurance and deductible for that claim line.

Ambulance services are standardized using two methods. For claim lines for mileage, the standardized amount is equal to the actual claim line payment amount plus the coinsurance and deductible for that claim line. For all other ambulance services, the standardized amount is equal to the mean of the actual line amounts over all line items in the claims data set associated with the specific ambulance HCPCS code present on the claim line.

Durable Medical Equipment, Prosthetics, Orthotics, and Surgical Supplies (DMEPOS) Claims

In general, the standardized payment for durable medical equipment line items is equal to the ceiling of the DMEPOS fee schedule relevant for that service times an adjustment factor based on the modifier code for the service times the number of units. If the HCPCS code refers to a device that is for prosthetics, orthotics, or surgical supplies, then the standardized payment is equal to five-sixths times the DME fee schedule amount for that HCPCS code and modifier times the number of units. The basic approach to standardization is the same for both competitive and non-competitive bidding.

APPENDIX D
RISK ADJUSTMENT

In computing per capita costs for the QRURs, cost data for each beneficiary are risk adjusted. The risk adjustment process involves several steps, beginning with preparing the data for risk adjustment at the beneficiary level and culminating with the computation of a group practice–specific risk-adjusted per capita cost for attributed beneficiaries that serves as the basis for comparison among GPRO I groups.

1. **Calculate each beneficiary's total 2011 costs.** For each beneficiary attributed to a GPRO I practice, sum the beneficiary's total payment-standardized 2011 Medicare claims costs (except for hospice and Part D outpatient prescription drugs).
2. **Exclude beneficiaries with the low costs and modify high costs**. Remove beneficiaries with total costs in the bottom 1 percent of the cost distribution of all beneficiaries with positive payment-standardized total costs who were attributed to all GPRO I practices (that is, the beneficiaries with the lowest costs) from further analysis.[12] To limit the influence of the highest-cost patients on the risk adjustment model, total costs for beneficiaries in the top 1 percent (highest costs) are replaced with the value of the 99th percentile of the distribution of total patient costs, a process known as Winsorization.
3. **For beneficiaries with multiple risk scores, determine which score to use.** For beneficiaries with both a community and a new enrollee risk score, only the new enrollee risk score is used in the risk adjustment model.[13] Exhibit D.1 below displays the 70 HCCs that CMS uses in its model to produce HCC risk scores.
4. **Compute expected beneficiary costs.** To compute expected beneficiary costs, the 2011 payment-standardized total costs (after Winsorization) of retained beneficiaries are regressed on the following independent variables:
   - 2010 HCC community risk score
   - 2010 HCC community risk score squared
   - 2010 HCC new enrollee risk score
   - 2010 HCC new enrollee risk score squared
   - 2010 indicator of end-stage renal disease

   Only one risk score—either the community score or the new enrollee score—is used for each beneficiary in the regression. If a beneficiary has only one score, that score

[12] A close examination of the data when this model was under development revealed that the majority of extremely low or zero value claims are in likely erroneous. All claims following payment standardization with a $0 payment amount are dropped from the analysis, so no beneficiary has a total 2011 payment-standardized cost equal to $0.

[13] There are separate CMS-HCC models for new enrollees (the New Enrollee Model) and established enrollees (the Community Model). The New Enrollee Model adjusts payments based on age, gender, and disability status, whereas the Community Model incorporates medical history.

is used and the other is given a value of zero in the regression. If a beneficiary has both scores, the new enrollee score is used. The regression yields a set of coefficients, one per independent variable; each coefficient measures the association between its corresponding independent variable and total beneficiary cost when the other independent variables are held constant.

5. **Compute expected costs at the beneficiary level.** For each beneficiary attributed to a given practice, use the coefficients from the estimated regression model to compute the beneficiary's expected costs, given the beneficiary's HCC risk score, type of score (community or new enrollee), and ESRD status.
6. **Compute the ratio of observed to expected costs at the group practice level.** For each GPRO I practice, sum the total Winsorized payment-standardized (but unadjusted) costs for all beneficiaries attributed to the practice, and divide that sum by the sum of expected costs computed for the same set of beneficiaries.
7. **Compute risk-adjusted per capita costs.** For each practice, multiply the ratio of observed to expected costs computed in the previous step by the mean Winsorized payment-standardized (but unadjusted) total cost among all beneficiaries included in the QRUR reports.

Exhibit D.1. Hierarchical Condition Categories (HCCs) Included in the CMS-HCC Risk Adjustment Model

HCC Number and Brief Description of Disease/Condition	
HCC1 = HIV/AIDS	HCC75 = Coma, Brain Compression/Anoxic Damage
HCC2 = Septicemia/Shock	HCC77 = Respirator Dependence/Tracheostomy Status
HCC5 = Opportunistic Infections	HCC78 = Respiratory Arrest
HCC7 = Metastatic Cancer and Acute Leukemia	HCC79 = Cardio-Respiratory Failure and Shock
HCC8 = Lung, Upper Digestive Tract, and Other Severe Cancers	HCC80 = Congestive Heart Failure
HCC9 = Lymphatic, Head and Neck, Brain, and Other Major Cancers	HCC81 = Acute Myocardial Infarction
HCC10 = Breast, Prostate, Colorectal, and Other Cancers and Tumors	HCC82 = Unstable Angina and Other Acute Ischemic Heart Disease
HCC15 = Diabetes with Renal or Peripheral Circulatory Manifestation	HCC83 = Angina Pectoris/Old Myocardial Infarction
HCC16 = Diabetes with Neurologic or Other Specified Manifestation	HCC92 = Specified Heart Arrhythmias
HCC17 = Diabetes with Acute Complications	HCC95 = Cerebral Hemorrhage
HCC18 = Diabetes with Ophthalmologic or Unspecified Manifestation	HCC96 = Ischemic or Unspecified Stroke
HCC19 = Diabetes without Complication	HCC100 = Hemiplegia/Hemiparesis
HCC21 = Protein-Calorie Malnutrition	HCC101 = Cerebral Palsy and Other Paralytic Syndromes
HCC25 = End-Stage Liver Disease	HCC104 = Vascular Disease with Complications
HCC26 = Cirrhosis of Liver	HCC105 = Vascular Disease
HCC27 = Chronic Hepatitis	HCC107 = Cystic Fibrosis
HCC31 = Intestinal Obstruction/Perforation	HCC108 = Chronic Obstructive Pulmonary Disease
HCC32 = Pancreatic Disease	HCC111 = Aspiration and Specified Bacterial Pneumonias
HCC33 = Inflammatory Bowel Disease	HCC112 = Pneumococcal Pneumonia, Emphysema, Lung Abscess
HCC37 = Bone/Joint/Muscle Infections/Necrosis	HCC119 = Proliferative Diabetic Retinopathy and Vitreous Hemorrhage
HCC38 = Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	HCC130 = Dialysis Status
HCC44 = Severe Hematological Disorders	HCC131 = Renal Failure
HCC45 = Disorders of Immunity	HCC132 = Nephritis
HCC51 = Drug/Alcohol Psychosis	HCC148 = Decubitus Ulcer of Skin
HCC52 = Drug/Alcohol Dependence	HCC149 = Chronic Ulcer of Skin, Except Decubitus
HCC54 = Schizophrenia	HCC150 = Extensive Third-Degree Burns
HCC55 = Major Depressive, Bipolar, and Paranoid Disorders	HCC154 = Severe Head Injury
HCC67 = Quadriplegia, Other Extensive Paralysis	HCC155 = Major Head Injury
HCC68 = Paraplegia	HCC157 = Vertebral Fractures Without Spinal Cord Injury
HCC69 = Spinal Cord Disorders/Injuries	HCC158 = Hip Fracture/Dislocation
HCC70 = Muscular Dystrophy	HCC161 = Traumatic Amputation
HCC71 = Polyneuropathy	HCC164 = Major Complications of Medical Care and Trauma
HCC72 = Multiple Sclerosis	HCC174 = Major Organ Transplant Status
HCC73 = Parkinson's and Huntington's Diseases	HCC176 = Artificial Openings for Feeding or Elimination
HCC74 = Seizure Disorders and Convulsions	HCC177 = Amputation Status, Lower Limb/Amputation Complications

APPENDIX E
SAMPLE DISPLAY OF PER CAPITA COSTS FOR SPECIFIC SERVICES

	Your Medical Group Practice			Mean for All GPRO I Medical Group Practices		
	Your Group's Attributed Medicare Patients Using Any Service in This Category		Per Capita Costs for Your Medicare Patients	Attributed Medicare Patients Using Any Service in This Category	Per Capita Costs for Attributed Medicare Patients	Amount by Which Your Group's Costs Are Higher or (Lower) than GPRO I Mean
Service Category	**Number**	**Percentage**				
All Services		%	$	%	$	$/($)
Evaluation and Management Services in All Non-Emergency Settings						
All Professional Evaluation and Management Services						
Primary Care Physicians						
Medical Specialists						
Surgeons						
Other Professionals						
All Procedures (Non-Emergency Settings)						
Primary Care Physicians						
Medical Specialists						
Surgeons						
Other Professionals						
All Hospital Services (Excluding Emergency Outpatient)						
Inpatient Hospital Facility Services						
Outpatient Hospital Facility Services						
All Emergency Services (No Hospital Admission)						
Emergency Visits						
Procedures						
Laboratory and Other Tests						
Imaging Services						
All Ancillary Services (Non-Emergency Ambulatory Setting)						
Laboratory and Other Tests						
Imaging Services						
Durable Medical Equipment						
All Post-Acute Services						
Skilled Nursing Facility						
Psychiatric, Rehabilitation, or Other Long-Term Facility						
Home Health						
All Other Services						

Note: In calculating service-specific per capita costs, the numerator is the total costs for a category of service used by attributed patients; the denominator is the total number of Medicare patients attributed to a medical group practice and whose costs were risk adjusted, not just those who used the service. See Appendix G for list of specialties assigned to each specialty category.

APPENDIX F
DETAILED DESCRIPTION OF CATEGORIES OF SERVICES METHOD

Each Medicare claim is categorized into one of the service categories displayed in the exhibit in Appendix E. Claim costs are included in a given service category based on the claim type, BETOS code, place of service, and/or provider type (Exhibit F.1). CMS assigns a BETOS code to each HCPCS code that may appear on a carrier or outpatient hospital claim. For example, BETOS code M1A (office visits – new) consists of the following E&M HCPCS codes: 99201, 99202, 99203, 99204, 99205, 99381, 99382, 99383, 99384, 99385, 99386, 99387, 99432, 0500F, G0101, G0245, G0248, and G0344. CMS developed the BETOS coding system primarily for analyzing the growth in Medicare expenditures. The coding system covers all HCPCS codes; assigns a HCPCS code to one and only one BETOS code; consists of readily understood clinical categories (as opposed to statistical or financial categories); consists of categories that permit objective assignment; is stable over time; and is relatively immune to minor changes in technology or practice patterns. BETOS code descriptions are listed in Exhibit F.2.

Exhibit F.1. Categorization Codes for Type of Service Categories

Category	Claim Type	Criteria for Including Claim (Line Item) in Category		
		BETOS Criterion	**Place of Service Criterion**	**Specialty Criterion**
Professional E&M Services	Carrier minus ASC claims	All M codes	Carrier place of service not equal to 23 (emergency room)	Carrier specialty NOT in {45, 47, 49, 51–54, 58–61, 63, 69, 73–75, 87, 88} AND NOT beginning with A or B
Procedures	Carrier (minus ASC)	All P codes, except for P0	Carrier place of service not equal to 23	
Inpatient Hospital Facility Services	Inpatient	Not applicable	Provider number ends in {0001–0899} or {1300–1399]	Not applicable
Outpatient Hospital Facility Services	Outpatient, carrier (ASC only)	All M, P (except for P0), I, or T codes	Carrier place of service not equal to 23; outpatient revenue center code NOT in {0450–0459, 0981} (emergency room)	Carrier specialty = 49 (ASC)
Emergency Services: Emergency Visits	Outpatient, carrier (minus ASC)	All M codes	Carrier place of service = 23 or outpatient revenue center line code in {0450–0459, 0981}	Carrier specialty NOT in {45, 47, 49, 51–54, 58–61, 63, 69, 73–75, 87, 88} AND NOT beginning with A or B
Emergency Services: Procedures	Outpatient, carrier (minus ASC)	All P codes, except for P0		
Emergency Services: Laboratory and Other Tests	Outpatient, carrier (minus ASC)	All T codes		
Emergency Services: Imaging Services	Outpatient, carrier (minus ASC)	All I codes		
Ancillary Services: Laboratory and Other Tests	Carrier (minus ASC)	All T codes	Carrier place of service not equal to 23	
Ancillary Services: Imaging Services	Carrier (minus ASC)	All I codes		
Ancillary Services: Durable Medical Equipment	DME	Not applicable	Not applicable	Not applicable
Post-Acute Services: Skilled Nursing Facility	Skilled nursing facility			
Post-Acute Services: Psychiatric, Rehabilitation, or Other Long-Term Facility	Inpatient		Provider number ends in {2000–2299, 3025–3099, 4000–4499} or its third position is in {M, R, S, T}	
Post-Acute Services: Home Health	Home health		Not applicable	
All Other Services	Remainder of total costs from claims files (excluding hospice and Part D)	Not applicable	Total costs associated with all claims and/or line items not identified in rows above	Not applicable

Exhibit F.2. 2010 BETOS Codes and Descriptions

Code	Description
Evaluation and Management	
M1A	Office visits – new
M1B	Office visits – established
M2A	Hospital visit – initial
M2B	Hospital visit – subsequent
M2C	Hospital visit – critical care
M3	Emergency room visit
M4A	Home visit
M4B	Nursing home visit
M5A	Specialist – pathology
M5B	Specialist – psychiatry
M5C	Specialist – ophthalmology
M5D	Specialist – other
M6	Consultations
Procedures	
P0	Anesthesia
P1A	Major procedure – breast
P1B	Major procedure – colectomy
P1C	Major procedure – cholecystectomy
P1D	Major procedure – turp
P1E	Major procedure – hysterectomy
P1F	Major procedure – explor/decompr/excisdisc
P1G	Major procedure – other
P2A	Major procedure, cardiovascular – CABG
P2B	Major procedure, cardiovascular – aneurysm repair
P2C	Major Procedure, cardiovascular – thromboendarterectomy
P2D	Major procedure, cardiovascular – coronary angioplasty (PTCA)
P2E	Major procedure, cardiovascular – pacemaker insertion
P2F	Major procedure, cardiovascular – other
P3A	Major procedure, orthopedic – hip fracture repair
P3B	Major procedure, orthopedic – hip replacement
P3C	Major procedure, orthopedic – knee replacement
P3D	Major procedure, orthopedic – other
P4A	Eye procedure – corneal transplant
P4B	Eye procedure – cataract removal/lens insertion
P4C	Eye procedure – retinal detachment
P4D	Eye procedure – treatment of retinal lesions
P4E	Eye procedure – other
P5A	Ambulatory procedures – skin
P5B	Ambulatory procedures – musculoskeletal
P5C	Ambulatory procedures – groin hernia repair
P5D	Ambulatory procedures – lithotripsy
P5E	Ambulatory procedures – other
P6A	Minor procedures – skin
P6B	Minor procedures – musculoskeletal
P6C	Minor procedures – other (Medicare fee schedule)
P6D	Minor procedures – other (non–Medicare fee schedule)
P7A	Oncology – radiation therapy
P7B	Oncology – other
P8A	Endoscopy – arthroscopy
P8B	Endoscopy – upper gastrointestinal

Code	Description
P8C	Endoscopy – sigmoidoscopy
P8D	Endoscopy – colonoscopy
P8E	Endoscopy – cystoscopy
P8F	Endoscopy – bronchoscopy
P8G	Endoscopy – laparoscopic cholecystectomy
P8H	Endoscopy – laryngoscopy
P8I	Endoscopy – Other
P9A	Dialysis services (Medicare Fee Schedule)
P9B	Dialysis services (non–Medicare Fee Schedule)
Imaging	
I1A	Standard imaging – Chest
I1B	Standard imaging – Musculoskeletal
I1C	Standard imaging – Breast
I1D	Standard imaging – Contrast gastrointestinal
I1E	Standard imaging – nuclear medicine
I1F	Standard imaging – other
I2A	Advanced imaging – CAT/CT/CTA: brain/head/neck
I2B	Advanced imaging – CAT/CT/CTA: other
I2C	Advanced imaging – MRI/MRA: brain/head/neck
I2D	Advanced imaging – MRI/MRA: other
I3A	Echography/ultrasonography – eye
I3B	Echography/ultrasonography – abdomen/pelvis
I3C	Echography/ultrasonography – heart
I3D	Echography/ultrasonography – carotid arteries
I3E	Echography/ultrasonography – prostate, transrectal
I3F	Echography/ultrasonography – other
I4A	Imaging/procedure – heart including cardiac catheter
I4B	Imaging/procedure – other
Tests	
T1A	Lab tests – routine venipuncture (non–Medicare fee schedule)
T1B	Lab tests – automated general profiles
T1C	Lab tests – urinalysis
T1D	Lab tests – blood counts
T1E	Lab tests – glucose
T1F	Lab tests – bacterial cultures
T1G	Lab tests – other (Medicare fee schedule)
T1H	Lab tests – other (non–Medicare fee schedule)
T2A	Other tests – electrocardiograms
T2B	Other tests – cardiovascular stress tests
T2C	Other tests – EKG monitoring
T2D	Other tests – other
Durable Medical Equipment	
D1A	Medical/surgical supplies
D1B	Hospital beds
D1C	Oxygen and supplies
D1D	Wheelchairs
D1E	Other DME
D1F	Prosthetic/orthotic devices
D1G	Drugs administered through DME

Code	Description
Other	
O1A	Ambulance
O1B	Chiropractic
O1C	Enteral and parenteral
O1D	Chemotherapy
O1E	Other drugs
O1F	Hearing and speech services
O1G	Immunizations/vaccinations
Exceptions/Unclassified	
Y1	Other – Medicare fee schedule
Y2	Other – non–Medicare fee schedule
Z1	Local codes
Z2	Undefined codes

Source: Centers for Medicare & Medicaid Services Health Care Common Procedure Coding System, 2010.

Note: For a crosswalk of HCPCS codes to BETOS codes, see http://www.cms.gov/HCPCSReleaseCodeSets/20_BETOS.asp.

APPENDIX G
PHYSICIAN SPECIALTIES AND PROFESSIONAL STRATIFICATION CATEGORIES

To display information on the type of medical professionals providing E&M services or procedures for a medical group practice's attributed beneficiaries, the 2011 QRUR requires information on whether the medical professionals are physicians and the broad specialty category into which they fall: primary care physician, medical specialist, emergency medicine physician, surgeon, or other professional. The QRURs use the two-digit CMS specialty codes that appear on Medicare carrier claims to define specialties. Before developing the reports, CMS identified which specialties should be considered physicians—namely, doctors of medicine and doctors of osteopathic medicine. Assignment of medical professionals to broad specialty categories, referred to here as professional stratification categories, is performed in two steps. First, each provider is assigned a medical specialty. Second, each specialty is assigned a broad specialty category.

Determining the Medical Specialty of Medical Professionals

For some medical professionals, different CMS specialty codes are included on different claims—for example, general practitioner versus endocrinologist—depending on the treatment provided to a given patient or at a given practice site. A single medical specialty designation for each professional in each medical group practice is required to categorize visits and services reported in the QRUR by provider stratification category, however. For the purposes of the QRUR, a medical professional's specialty is determined from 2011 carrier claims based on the specialty code listed most frequently on line items for services rendered by the professional. There is one exception to this rule: if a medical professional is associated in Medicare claims with multiple specialties and the most commonly listed code is 99 (the Unknown Physician specialty), then the professional is assigned the second most frequently listed specialty.

Group Medical Specialties into Physician and Provider Stratification Categories

Exhibit G.1 identifies which specialties are physician specialties and the broad professional stratification categories to which each specialty is assigned. Specialty codes for which the stratification categories are not applicable generally indicate non-medical professionals, such as facilities or medical supply companies.

Exhibit G.1. Physician Specialties and Professional Stratification Categories

CMS Specialty Designation	CMS Specialty Code	Designated as a Physician Specialty	Professional Stratification Category
Addiction Medicine	79	Yes	Medical Specialists
All Other Suppliers	87	No	Not Applicable
Allergy/Immunology	03	Yes	Medical Specialists
Ambulance Service Supplier	59	No	Not Applicable
Ambulatory Surgical Center	49	No	Not Applicable
Anesthesiologist Assistant	32	No	Other
Anesthesiology	05	Yes	Other
Audiologist	64	No	Other
Cardiac Electrophysiology	21	Yes	Medical Specialists
Cardiac Surgery	78	Yes	Surgeons
Cardiology	06	Yes	Medical Specialists
Certified Clinical Nurse Specialist	89	No	Other
Certified Nurse Midwife	42	No	Other
Certified Registered Nurse Anesthesiologist	43	No	Other
Chiropractor, Licensed	35	No	Other
Clinical Laboratory	69	No	Not Applicable
Clinical Psychologist	68	No	Other
Clinical Psychologist (Billing Independently)	62	No	Other
Colorectal Surgery	28	Yes	Surgeons
Critical Care (Intensivists)	81	Yes	Medical Specialists
Department Store	A7	No	Not Applicable
Dermatology	07	Yes	Medical Specialists
Diagnostic Radiology	30	Yes	Other
Emergency Medicine	93	Yes	Emergency Medicine Physicians*
Endocrinology	46	Yes	Medical Specialists
Family Practice	08	Yes	PCPs
Gastroenterology	10	Yes	Medical Specialists
General Practice	01	Yes	PCPs
General Surgery	02	Yes	Surgeons
Geriatric Medicine	38	Yes	PCPs
Geriatric Psychiatry	27	Yes	Medical Specialists
Grocery Store	A8	No	Not Applicable
Gynecologist/Oncologist	98	Yes	Surgeons
Hand Surgery	40	Yes	Surgeons
Hematology	82	Yes	Medical Specialists
Hematology/Oncology	83	Yes	Medical Specialists
Home Health Agency	A4	No	Not Applicable

Table G.1 *(continued)*

CMS Specialty Designation	CMS Specialty Code	Designated as a Physician Specialty	Professional Stratification Category
Hospice and Palliative Care	17	Yes	Medical Specialists
Hospital	A0	No	Not Applicable
Independent Diagnostic Testing Facility	47	No	Not Applicable
Individual Certified Orthotist	55	No	Other
Individual Certified Prosthetist	56	No	Other
Individual Certified Prosthetist-Orthotist	57	No	Other
Infectious Disease	44	Yes	Medical Specialists
Intensive Cardiac Rehabilitation	31	Yes	Other
Intermediate Care Nursing Facility	A2	No	Not Applicable
Internal Medicine	11	Yes	PCPs
Interventional Pain Management	09	Yes	Medical Specialists
Interventional Radiology	94	Yes	Other
Licensed Clinical Social Worker	80	No	Other
Mammography Screening Center	45	No	Not Applicable
Mass Immunization Roster Biller	73	No	Not Applicable
Maxillofacial Surgery	85	Yes	Surgeons
Medical Oncology	90	Yes	Medical Specialists
Medical Supply Company for DMERC	54	No	Not Applicable
Medical Supply Company with Certified Orthotist	51	No	Not Applicable
Medical Supply Company with Certified Prosthetist	52	No	Not Applicable
Medical Supply Company with Certified Prosthetist-Orthotist	53	No	Not Applicable
Medical Supply Company with Pedorthic Personnel	B3	No	Not Applicable
Medical Supply Company with Registered Pharmacist	58	No	Not Applicable
Medical Supply Company with Respiratory Therapist	A6	No	Not Applicable
Nephrology	39	Yes	Medical Specialists
Neurology	13	Yes	Medical Specialists
Neuropsychiatry	86	Yes	Medical Specialists
Neurosurgery	14	Yes	Surgeons
Nuclear Medicine	36	Yes	Other
Nurse Practitioner	50	No	Other
Nursing Facility, Other	A3	No	Not Applicable
Obstetrics/Gynecology	16	Yes	Surgeons
Occupational Therapist	67	No	Other
Ocularist	B5	No	Not Applicable
Ophthalmology	18	Yes	Surgeons
Optician	96	No	Other

Table G.1 *(continued)*

CMS Specialty Designation	CMS Specialty Code	Designated as a Physician Specialty	Professional Stratification Category
Optometrist	41	No	Other
Oral Surgery	19	No	Surgeons
Orthopedic Surgery	20	Yes	Surgeons
Osteopathic Manipulative Therapy	12	Yes	Medical Specialists
Otolaryngology	04	Yes	Surgeons
Pain Management	72	Yes	Other
Pathology	22	Yes	Other
Pediatric Medicine	37	Yes	Other
Pedorthic Personnel	B2	No	Not Applicable
Peripheral Vascular Disease	76	Yes	Surgeons
Pharmacy	A5	No	Not Applicable
Physical Medicine and Rehabilitation	25	Yes	Medical Specialists
Physical Therapist	65	No	Other
Physician Assistant	97	No	Other
Plastic and Reconstructive Surgery	24	Yes	Surgeons
Podiatry	48	No	Other
Portable X-Ray Supplier	63	No	Not Applicable
Preventive Medicine	84	Yes	PCPs
Psychiatry	26	Yes	Medical Specialists
Public Health or Welfare Agencies	60	No	Not Applicable
Pulmonary Disease	29	Yes	Medical Specialists
Radiation Oncology	92	Yes	Other
Radiation Therapy Centers	74	No	Not Applicable
Registered Dietician/Nutrition Professional	71	No	Other
Rehabilitation Agency	B4	No	Not Applicable
Rheumatology	66	Yes	Medical Specialists
Single or Multispecialty Clinic or Group Practice	70	Yes	Other
Slide Preparation Facilities	75	No	Not Applicable
Skilled Nursing Facility	A1	No	Not Applicable
Speech Language Pathologists	15	No	Other
Sports Medicine	23	Yes	Other
Surgical Oncology	91	Yes	Surgeons
Thoracic Surgery	33	Yes	Surgeons
Unassigned	95	No	Not Applicable
Unknown Physician	99	Yes	Other
Unknown Supplier/Provider	88	No	Not Applicable
Urology	34	Yes	Surgeons
Vascular Surgery	77	Yes	Surgeons
Voluntary Health or Charitable Agencies	61	No	Not Applicable

Table G.1 *(continued)*

Source: 2011 Source for CMS Specialty Code: Medicare Claims Processing Manual, Chapter 26 - Completing and Processing Form CMS-1500 Data Set (Rev. 2226, 5-20-11; Rev. 2261, 07-29-11; Rev. 2375, 12-22-11), 10.8.2 - Physician Specialty Codes, (Rev. 2098, Issued: 11-19-10, Effective Date: 04-01-11, Implementation Date: 04-04-11), 10.8.3 - Nonphysician Practitioner, Supplier, and Provider Specialty Codes, (Rev. 2248, Issued: 06-24-11, Effective: 04-01-11, Implementation: 04-04-11).

* In the display of per capita costs for specific services (see Appendix E), professionals with a specialty of "Emergency Medicine" are classified as Other Professionals.

APPENDIX H
LIST OF ACRONYMS

ACSC	Ambulatory Care Sensitive Condition
AHRQ	Agency for Healthcare Research and Quality
ASC	Ambulatory Surgical Center
BETOS	Berenson-Eggers Type Of Service
CAD	Coronary Artery Disease
CAH	Critical Access Hospital
CCW	Chronic Condition Warehouse
CMS	Centers for Medicare & Medicaid Services
COPD	Chronic Obstructive Pulmonary Disease
DME	Durable Medical Equipment
DMEPOS	Durable Medical Equipment, Prosthetics, Orthotics, and Supplies
DMERC	Durable Medical Equipment Regional Carrier
E&M	Evaluation and Management
ESRD	End-Stage Renal Disease
FFS	(Medicare) Fee-For-Service
GPRO	Group Practice Reporting Option
HCC	Hierarchical Condition Category
HCPCS	Healthcare Common Procedure Coding System
HMO	Health Maintenance Organization
ICD-9	International Classification Of Diseases–9th Revision
IDR	Integrated Data Repository
MAC	Medicare Administrative Contractor
OPPS	Outpatient Prospective Payment System
PCP	Primary Care Physician
PQI	Prevention Quality Indicator
PQRS	Physician Quality Reporting System
QRUR	Quality and Resource Use Report
SNF	Skilled Nursing Facility
RUG	Resource Utilization Group
VBM	Value-Based Payment Modifier