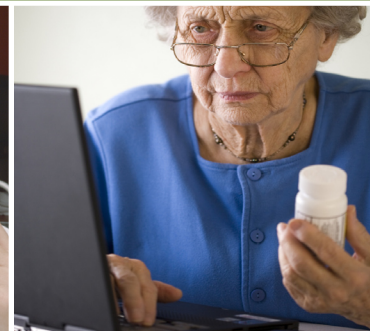


CENTERS FOR MEDICARE & MEDICAID SERVICES



# Medicare Resource Use Measurement Plan



## VISION FOR AMERICA:

- ▶ Patient-centered, high quality care delivered efficiently.

## COMBINED WITH QUALITY METRICS, RESOURCE USE MEASURES WILL HELP MEDICARE:

- ▶ **Encourage** the highest outcomes for the lowest cost.
- ▶ **Identify** the most efficient providers, systems of care, and regions.
- ▶ **Prevent** overuse and inappropriate use of health services.
- ▶ **Improve** the value of Medicare for beneficiaries and taxpayers.



## Table of Contents

Introduction .....	1
Definition of Resource Use.....	1
How Could This Information Be Used? .....	2
Current Context .....	3
Findings from Efforts to Date .....	4
Next Steps .....	5
Physician Resource Use Reporting Program.....	5
Phase 1:.....	6
Phase 2:.....	6
Continuing to Improve Resource Use Measurement. ....	6
Potential Future Plans .....	7
Conclusion .....	7
Appendix: Other Efforts to Develop and Use Resource Use Measures .....	8

## Introduction

Given that CMS policies have a transformative impact on the health care system, there is a growing need to understand how efficiently services are delivered in the Medicare fee-for-service program and the larger health care system. By improving efficiency, the potential exists to reduce the rate of cost growth and improve the value of care provided. In this paper efficiency is defined as the interaction between the resources used to deliver care and the quality of care that is delivered. Evidence shows that not all care leads to better outcomes, thus some portion of these current costs may be unnecessary. To identify and provide incentives to providers to deliver high quality, lower-cost care requires quality and resource use metrics.

The Medicare program has built a significant foundation of quality metrics, but has less information on the most accurate way to measure relative resource use. This paper describes a roadmap for CMS to develop effective ways to measure relative resource use. This information could be combined with quality metrics to compare relative efficiency. It reviews:

- Types of relative resource use metrics,
- Strategies for using the information,
- Key challenges with such measurement,
- CMS efforts to develop the tools necessary to measure relative resource use and key findings from that research, and
- Next steps in measuring resource use.

Accurately measuring relative resource use can be challenging. However, while challenging, even current measurements may raise legitimate and useful questions regarding the variation in the use of resources in our health system.

## Definition of Resource Use

Resource use can be defined in many ways. Researchers and others have often compared the costs of care for specific populations based on per capita costs. Some researchers have used per capita Medicare costs for certain conditions to assess geographic variation in Medicare spending. CMS has used per capita cost for patients of several group practices to calculate savings associated with improved care management in the physician group practice (PGP) demonstration.

Another measure of resource use is related to specific services. For example, it is widely agreed that some costly re-admissions could be prevented with better care management and, thus, represent inefficient care delivery.

While per capita and service-specific measurements are useful, CMS efforts have focused primarily on metrics associated with episodes of care, that is, a series of separate but clinically related services delivered over a defined time period. Episodes are often difficult to define because of differing opinions regarding which services should be grouped together. They provide several advantages over per capita or service-specific metrics, however, because they are more likely to:

- Compare more similar patients than per capita calculations, as they are defined by similar procedures or conditions,<sup>1</sup>
- Capture the multiple ways in which services can be combined and substituted to produce the best outcome at the lowest cost,

- Reflect patients' view of care as they move between and across settings and managers of their care, rather than simply measuring resources used for just a part of their care in one setting, and
- Encourage improved coordination across settings included in the episode.

Resources used in episodes of care are defined as the program costs (including both the Medicare program and the beneficiary payment) as opposed to the costs that providers incur to deliver the services.

## **How Could This Information Be Used?**

Relative resource use, regardless of how it is defined, could be used in a variety of ways. First, once metrics for relative resource use are defined, they can be combined with quality metrics to identify more efficient ways to deliver health services. This could include identifying the resources necessary for delivering high quality care. Second, once these care patterns are identified, this information could be provided to physicians or other providers to inform care practices, publicly reported for consumer, provider and payer use, or used as the basis for payment incentives. The goal of all of these strategies is to change care delivery patterns towards more efficient patterns of care.

The most discussed way to use the information is to attribute the accountability for the resources and quality of the episodes of care to characterize the performance of a single provider or provider practice. In the private sector, this has generally meant providing reports (usually confidential, but sometimes available to enrollees) to physician practices about the resources used for episodes of care for their patients compared with the patterns identified with their peers. For example, a health plan or provider network will provide reports to cardiologists on the relative costs for coronary artery disease patients compared with other cardiologists in the area. In March 2005, the Medicare Payment Advisory Commission (MedPAC) recommended that CMS also provide this type of information confidentially to physicians. MedPAC has also suggested that as these measures improved they could be combined with quality metrics and used to differentiate among physicians and tie a portion of payment to performance on these metrics.

Another way that relative resource use of episodes of care could be used is to define a set of services that could be paid in a bundle. The CMS acute care episode (ACE) demonstration is an example of bundling together all care delivered for an inpatient stay. In the private sector, at least one health system is bundling payment for care in a hospital together with the care delivered before and after the hospitalization for particular conditions. Other efforts are underway to test episode-based bundle payments into "case rates" for certain sets of services associated with particular acute and chronic conditions

Resource use metrics that use a calculation of the overall program and beneficiary expenditures for a year—per capita resource use could be used to compare expected annual costs with actual costs to determine whether certain performance improvements decrease resource use. These types of measurements have been used in shared savings incentive models. Shared savings incentive models allow the providers and practitioners to define their own strategies for delivering more efficient care, without an external entity measuring the relative resource use of specific episodes, and share in any program savings. While not widespread, the Medicare Physician Group Practice demonstration is an example of using this type of per capita resource use comparison for rewarding group practices.

Other service-specific resource use information could be used in multiple ways. Rates of re-admissions and the use of specific multiple images within a certain time period could be provided as confidential information to providers, or as a metric in a pay-for-performance strategy.

A critical issue in determining how to use measures of resource use is the accuracy of the metrics. Defining what is most efficient is complex, and determining the level of precision necessary to identify efficient and less efficient health care practices is not clear cut. However, a variety of strategies exist to use resource use comparisons, some with greater individual practitioner accountability and some with more limited consequences. In determining how to use these metrics, the agency will need to balance the precision of the metrics with the manner in which they will be used. Below are a few strategies for achieving this balance:

- Provide information publicly about relative resource use for a small region of care and hold the providers in the area jointly accountable as a virtual care system. This may be a fairer way to publicly report than holding individual physicians solely accountable for episode costs that may involve multiple physicians and other providers.
- Provide information in a confidential manner to specific physicians, rather than tying payment to the information.
- Attribute relative resource use to a group practice instead of an individual physician.
- Limit the use of the metric to a small percent of the provider score (e.g. perhaps 10 percent, rather than 50 percent, of the overall score).

In addition to encouraging providers and beneficiaries to use this information, it is important to consider the support each has to make decisions based on the information. In the private sector, health plans and networks of providers often make personnel available to discuss the findings and to perform additional analysis as necessary. Physician practices, however, may also need assistance to implement system changes to shift care practices. The Quality Improvement Organizations (QIOs) program provides such assistance to providers on a multitude of topics, in particular in the ninth Scope of Work, through the care transitions work on re-admissions. The QIOs also provided these kinds of services to physician practices to help implement health information technology systems in the previous Scope of Work.

## **Current Context**

When MedPAC recommended that Medicare provide confidential resource use reports to physicians, CMS and others began to research the feasibility and applicability of current private sector approaches for doing so. In July 2008, Congress passed the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA), which required CMS to establish and implement by January 1, 2009 a Physician Feedback Program to provide confidential reports to physicians on the resources involved in furnishing care to Medicare individuals.

Using the knowledge gained by applying the commercial groupers to the Medicare program, CMS is using them to fulfill this mandate. At the same time, CMS continues to seek strategies to identify and refine the tools necessary to measure relative resource use. As MIPPA provided significant flexibility in the number of physicians, regions, and conditions that could be addressed in these reports, additional refinements can be incorporated as they are developed.

In addition, numerous other private and public sector organizations have efforts underway to identify appropriate measures of resource use. A listing of examples of such efforts is provided in the Appendix.

## Findings from Efforts to Date

CMS research to date has been on the tools themselves, but also on broad issues associated with any resource use comparison using episodes. For the most part, agency efforts have focused on two commercial grouper products. These two products are used by many health plans to compare the relative resource use of millions of enrollees and their physicians. CMS evaluated 1) their application to Medicare claims and 2) how well their logic rules would capture episodes of care for Medicare beneficiaries.

CMS also identified issues that need to be addressed if episodes (regardless of what grouper logic is used) are to be used to compare relative resource use of individual providers, such as:

- Attribution of episodes to physicians,
- Defining appropriate comparison group for benchmarking,
- Impact of different benchmarking strategies, including how to create composites using different episode types.
- Relatively small number of physicians for whom scores are feasible,
- Appropriate risk adjustment.

The first two issues —how well the groupers apply to claims and how well their logic rules capture Medicare beneficiary episodes — are interrelated. The two commercial groupers work primarily by combing through claims and seeking similar or exact matches of diagnosis information and grouping them into episode types. They use rules regarding timing; for example, an episode must begin and end with some preset period of days when no claims with that diagnosis are found. The groupers also contain logic related to the grouping of particular procedures to certain episodes.

In sum, the findings are that both groupers are able to group Medicare claims, but ignore key differences that may be important to accurate episode measurement. These issues include:

- Medicare beneficiaries often have multiple conditions; thus, assigning the costs of care for services to one episode or splitting the costs of care into multiple episodes is difficult. This would be an issue for any logic rules designed to create discrete episodes for Medicare beneficiaries, but the heavy reliance on diagnoses makes this issue even more pronounced in the groupers.
- Inpatient care. Multiple issues arise in the context of hospitalizations. As originally configured, neither grouper assigned all care in a given hospitalization or post-acute care to the same episode in which the hospitalization is grouped. Given that beneficiaries often have multiple conditions, this may be appropriate, however, it may also be important for physician care and other services provided to a beneficiary to be grouped into the same episode in which the hospitalization is assigned. Further, given Medicare's assumption that post-acute services are primarily for follow-up to an acute stay, it is also problematic that so few post-acute services are grouped to the initial hospitalization.

Regarding implementation issues, CMS research has identified several key decision points that will affect the number of physicians able to be compared and the accuracy of the characterizations made about each. Key issues include:

- **Attribution.** It is possible to attribute episodes to individual physicians; however, it is unclear whether the beneficiaries or physicians would agree with the attribution. The general issue is that



Medicare beneficiaries often see multiple physicians and so identifying the physician with the most impact on the costs of the episode may be difficult. Beneficiaries may see different physicians for different conditions and may have a hospitalization and ambulatory care in the same episode. We did find that applying rules others have used (majority of Part B or Evaluation and Management (E&M) claims, or a minimum of E&M claims) did not significantly change the percent of episodes that could be attributed.

- **Comparison group.** With whom should physicians or physician practices be compared? There are at least two issues that arise in this context. First, should physicians be compared with all physicians to whom a certain episode type is attributed or only with those in their specialty? Many physicians believe they should be compared only with those in their own specialty, but this may ignore the fact that the same type of patient may be more efficiently managed in a less resource intensive specialty. For example, an internist may be more likely than a heart specialist to manage a heart patient medically. The second issue is whether to compare physicians with local peers or nationally. On the one hand, it may be important to take into consideration local practice pattern differences. On the other hand, regional variations may not be appropriate. It may be important to look at multiple geographic comparisons.
- **Scoring methods.** In most profiling exercises, health plans or networks of providers will create a single score for either a practice or physician. Methods for creating that ratio vary. Key rules include the number of episodes within each episode type a physician must have in order to be compared on that episode type, the number of physicians in the region with a sufficient number of episodes of a comparison type, and how the multiple episode types that may be attributed to the physician will be combined to create a single score. Most of those experienced with these comparisons suggest it is important to provide both an episode-type comparison and a single composite score.
- **Small numbers of physicians for whom scores are feasible.** A large number of physicians see Medicare beneficiaries. However, the research has demonstrated that a relatively small number of physicians see a sufficient number of beneficiaries to compare the costs of various episode types with other physicians.
- **Risk adjustment is important in adequately measuring resource use across providers.** For any given type of episode, providers will likely vary in utilization of resources depending upon the co-morbidities of the patients. CMS is not confident that the current state of grouper development adequately risk adjusts for patient co-morbidities. Other things being equal, the expectation is that a positive correlation between certain co-morbidities and the resources used for specific episodes will be found.

## Next Steps

CMS has two paths in the near future. First, it is providing reports through the Physician Resource Use Reporting Program mandated by MIPPA. Second, it is continuing to seek strategies for improving the accuracy and effectiveness of logic to create episodes and to consider additional approaches to compare relative resource use.

## Physician Resource Use Reporting Program

In April 2008, CMS awarded a contract to Mathematica Policy Research to assist in the development of physician resource use measures and confidential feedback reports. The purposes of the contract were to:

(1) develop meaningful, actionable, and fair measures of resource use for physician practices with the ultimate goal of using the measures in CMS' value-based purchasing initiatives; and (2) provide feedback and education to encourage more efficient provision of services.

The work derived from this contract formed the basis for the implementation of the Physician Resource Use Program, which was required under MIPPA. In the Final Physician Fee Schedule for calendar year 2009, CMS outlined its plan to develop physician resource use measures and confidential feedback reports using a phased-approach as described below. (See 73 FR 69726, November 19, 2008).

**Phase 1:** The Mathematica contract contains the following tasks: (1) development of resource use measures based on both an episode of care as defined by two commercial groupers and per capita analysis; (2) risk adjustment of Medicare fee-for service claims data for patient severity of illness; (3) development of methodologies to attribute both episodes and total cost of care for a beneficiary to individual physicians and multiple physicians; (4) development of benchmarks for peer comparison; (5) populate Resource Use Reports (RURs) with Medicare FFS data for several medical specialties; (6) recruit physicians to confidentially share the feedback reports; and (7) submit all documentation and production programming logic to allow for possible national dissemination of RURs to physicians.

**Phase 2:** Depending on the results of Phase I of the program, CMS will consider how to more broadly implement physician resource use reporting. For example, at some point the agency may consider how to integrate quality measures into feedback reports.

As one of the key issues with measuring relative resource use across individual physicians is attribution—or identifying the provider most responsible for the patient's care, one option might be to develop relative resource use reports at a fairly small regional level or at a physician practice level to acknowledge the fact that multiple providers are often responsible for managing a patient's care.

## Continuing to Improve Resource Use Measurement

As discussed, CMS has evaluated the two leading commercial groupers and mechanisms for applying the groupers on a variety of criteria. The agency has also explored ways to improve grouper logic for assigning costs to discrete episodes of care. When CMS first began the work of evaluating the two groupers 3 years ago, the hope was that the agency would be able to determine which grouper was most appropriate for use with the Medicare population. Findings do not provide clear evidence that one approach is better than the other. Both have shortcomings that illustrate key considerations any type of grouper logic would need to address for the Medicare population. However, both also provide a helpful tool for identifying resource use variation the Medicare program and physicians and other providers may want to address.

CMS has several efforts underway to improve techniques to group claims into episodes and to consider alternative approaches.

- **RTI.** This contract requires the contractor to use its considerable knowledge and experience and data file to identify key rules for determining when post-hospitalization care, in particular post-acute care and re-admissions, should be grouped with the previous hospitalization.
- **Minnesota alternatives contract.** This contract is designed to consider strategies that do not involve the two leading commercial groupers to measure relative resource use, with some emphasis on identifying a method for appropriate risk-adjustment.



- **Acumen.** This contract will continue to investigate challenges in the application of episode groupers. Specifically, it will explore differences between Medicare payment rules and benefit structures and grouper logic, such as grouping skilled nursing facility stays with hospitalizations and other related services (anesthesiology and surgery; emergency room visits, etc.). Acumen will also explore issues related to attribution, benchmarking, and risk adjustment. For example, Acumen will compare alternative attribution approaches for episodes involving more than one physician or physicians of different specialties, and those that include inpatient and post-acute care.

## Potential Future Plans

While the CMS research to date has not revealed a specific superior strategy or tool, it has provided significant information on the key attributes necessary to most effectively group Medicare claims and compare the results. While there is recognition that no grouping or comparison unit will be perfect, it is critical that the program continue to improve upon the tools to identify more efficient patterns of care. Without such a tool, efforts to constrain costs will be less focused and potentially less sensitive to appropriate care patterns. Therefore, in addition to our research efforts just described, CMS foresees two potential processes to improve the capacity for the agency to measure resource use using episodes of care.

**1. Request for Information.** Using findings from previous research and from providing confidential reports to physicians, CMS could write a request for information describing the key attributes of an episode grouper for the Medicare population for the purposes of comparing relative resource use and will ask for comments on our description. It could encourage episode grouper experts and others in the private sector working on new mechanisms to comment through that process. This process could provide further information on the best approaches for grouping claims into episodes for Medicare beneficiaries, including comments on how to best align our efforts with those underway in the private sector.

**2. Request for Proposal (RFP).** Depending on the information gained from our research, our practical application in the implementation contract, other private sector efforts, and the request for information, CMS could then develop an RFP. The RFP could request proposals from potential contractors to develop a grouper logic specifically for grouping Medicare claims into episodes and comparing across providers or regions. This logic would be in the public domain, thus transparent, and CMS would be able to update and maintain it.

This process would require CMS to summarize all it has learned about the attributes of a grouper logic for Medicare. Current vendors of grouper products and various contractors who have used various grouper technology might be interested in competing and this process would provide CMS with a valuable new tool for measuring relative resource use and, when combined with quality metrics, eventually efficiency.

## Conclusion

The ability to measure the relative resources used to deliver care to Medicare beneficiaries provides a basis for a variety of policy options. Central to all of them is the need to identify and encourage efficient care delivery. In a time when the demand and cost of services is rising far faster than the resources available to pay for those services, identifying efficient care patterns is critical to any strategy to decrease the rate of growth and maximize the value of services provided.

## Appendix: Other Efforts to Develop and Use Resource Use Measures

This paper focuses on Medicare's efforts. A wide variety of stakeholders have explored the topic and much research is underway in which CMS is participating. CMS is working to align its resource use measurement efforts with others, as follows:

- **MedPAC:** In March 2005, MedPAC formally recommended that Medicare provide confidential feedback to physicians on their resource use. In later studies using medical episode groups (MEGs) and episode treatment groups (ETGs), MedPAC found that episode groupers are a viable tool to measure physician resource use at the aggregate metropolitan statistical area, and are stable predictors of resource use over time. In addition, MedPAC recently evaluated private health plans' use of physician resource use measurement and found that most plans measure resource use and quality together, and use this information for transparency efforts, development of network tiers, and to provide feedback to physicians.
- **Government Accountability Office (GAO):** GAO's work on physician resource use emphasizes per capita patient expenditures as opposed to episode-grouping software. In April 2007, GAO analyzed generalist physician practice patterns in 12 different metropolitan areas and identified physicians as inefficient outliers if they treated a disproportionate share of overly-expensive Medicare patients.
- **National Quality Forum:** A steering committee will reach consensus on a measurement framework and 3- to 5-year national priorities for assessing performance in quality and resources use for two conditions: acute myocardial infarction and low back pain. Further, a measurement framework for evaluating efficiency across episodes of care was released in May 2008.
- **AQA:** The AQA Alliance has convened a Cost of Care Workgroup to establish physician efficiency measures. In January 2007, it identified a set of seven conditions for expedited cost of care measure development. AQA has also established core principles of efficiency measures.
- **Brookings Institution:** The Quality Alliance Steering Committee Episodes of Care Workgroup, funded by the Brookings Institution, is developing a comprehensive plan to measure physician efficiency. The workgroup is evaluating the use of episodes of care and the context for efficiency measurement (systemwide or based on the individual physician). A Technical Advisory Committee is developing cost-of-care implementation rules, and has chosen diabetes and acute myocardial infarction as the initial conditions for episode definition.
- **Private Plans:** Several health plans are using physician resource use measurement programs for participating providers. These efforts are mainly focused on providing information to enrollees or confidentially to providers. For example, UnitedHealthCare designates physicians as "premium providers" if they achieve certain levels of quality and cost efficiency. HealthPartners of Minnesota also provides cost and quality information to providers on a confidential basis using commercial grouping software.
- **National Committee for Quality Assurance (NCQA):** The NCQA released new Health Effectiveness Data and Information Set measures for 2008 that focus on cost of care. These Relative Resource Use measures are geared towards enabling standardized, risk-adjusted assessment of efficiency for three conditions: cardiovascular disease, hypertension, and chronic obstructive pulmonary disease. NCQA has developed standards for physician-level resource use measurement. Also, the Consumer-Purchaser Disclosure Project has named the NCQA an independent reviewer to certify that health insurers and other organizations are assessing physician performance based on the "Patient Charter for Physician Performance Measurement, Reporting, and Tiering Programs."

- **American Medical Association (AMA)/Physician Consortium Performance Improvement (PCPI):** The AMA/PCPI has convened a Workgroup on Efficiency and Cost of Care that recently published two reports on physician resource use measurement. The first report outlines an approach for assessing health care value, refines the current terminology surrounding health care efficiency, and demonstrates how quality can be explicitly modeled in health care production. A second report outlines empirical strategies for measuring physician efficiency and offers suggestions for operationalizing their model of health care efficiency. The workgroup will continue its work on efficiency and cost of care into 2009.
- **Agency for Healthcare Research and Quality (AHRQ):** AHRQ recently published an evidence review on efficiency measurement which is posted at [www.ahrq.gov/qual/efficiency/efficiency.pdf](http://www.ahrq.gov/qual/efficiency/efficiency.pdf).

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<sup>i</sup> To the extent per capita costs are defined by a specific condition, they overlap with episode measurement, as many episodes are defined as a year long if they involve chronic conditions.