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TECHNICAL
REPORT

Policy Options for Addressing Medicare Payment Differentials Across Ambulatory Settings

Barbara O. Wynn, Peter S. Hussey, Teague Ruder

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1776 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138
1200 South Hayes Street, Arlington, VA 22202-5050
4570 Fifth Avenue, Suite 600, Pittsburgh, PA 15213-2665
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PREFACE

This report analyzes potential options for modifying Medicare payment policies to improve the value of services provided in ambulatory settings by addressing the differential in the amount that Medicare pays for similar facility services in various ambulatory settings. The report draws on studies undertaken by the RAND Corporation for the Assistant Secretary of Planning and Evaluation in the U.S. Department of Health and Human Services examining payment and cost differentials for selected services that can be provided in multiple ambulatory settings. It summarizes these studies' findings with respect to payment and cost differentials for a set of high-volume procedures performed in multiple ambulatory settings and discusses potential policy options. This research should be of interest to health policymakers and practitioners, as well as analysts who work with Medicare claims and payment data.

This study was funded under HHS contract number HHSP23320095649WC. The research was sponsored by the Assistant Secretary of Planning and Evaluation in the U.S. Department of Health and Human Services and conducted by RAND Health, a division of the RAND Corporation. A profile of RAND Health, abstracts of its publications, and ordering information can be found at www.rand.org/health. Comments on this report are welcome and may be directed to the principal investigator, Barbara Wynn, at Barbara_Wynn@rand.org.

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SUMMARY

This report analyzes potential options for modifying Medicare payment policies to improve the value of services provided in ambulatory settings. By *value*, we mean that comparable services with similar outcomes are delivered in a medically appropriate setting at an efficient price. We discuss policies that would seek to improve value by addressing the differential in the amount that Medicare pays for similar facility-related services in various ambulatory settings. The report draws on analyses undertaken by RAND for the Assistant Secretary of Planning and Evaluation in the U.S. Department of Health and Human Services examining payment and cost differentials for selected services that can be provided in multiple ambulatory settings. Our findings confirm that payments tend to be higher for services provided in hospitals than for those provided in physician offices (POs), but they also indicate that payment differentials generally exceed cost differentials and vary by procedure. These payment differences are generally attributable to how the payment systems have evolved and do not reflect differences in patient characteristics or the nature of the procedure across settings.

We grouped the policies to improve the value of services provided in ambulatory settings according to three types of policy changes:

- *Policies increasing uniformity in payment units and differentials*. A major challenge in addressing payment differentials across settings is the differences in the definitions of the units of service covered by a payment. A first step in addressing payment differentials would be to increase uniformity in how payments are defined by packaging the same set of services into the payment unit. A second step would be to standardize the differences across procedures so that the same differential applies to all procedures in a given category of service (e.g., diagnostic imaging). Generally, these are improvements in the payment system that do not have direct budgetary implications, but they lay the foundation for other policies to improve the value of services provided in ambulatory settings.
- *Policies addressing payment differentials.* The value of services provided in ambulatory settings could be increased by policies that either (1) tie payment differentials to justifiable cost differences between settings (thus creating neutral incentives in terms of where care is delivered) or (2) base payment on the amount payable in the least costly setting (thus creating incentives to shift care to the most efficient setting). These policies, which are not mutually exclusive, have implications not only for Medicare program expenditures and beneficiary

coinsurance payments but also for the ways in which hospital costs that are not tied to an individual patient—such as maintaining hospital standby and emergency services—should be recognized by Medicare. In the longer term, standardizing the unit of payment and the differentials by type of service provides a tool to systematically address payment differentials across settings. In the interim, there are immediate steps that could be taken, such as paying for services provided in hospital off-campus clinics at the rates for PO and ambulatory surgical center (ASC) services, establishing limits on hospital payments for diagnostic procedures that are commonly furnished in non-hospital settings, and limiting the amounts paid for services performed in a PO to the amount payable to hospitals.

- *Other policies to increase value*. In addition to addressing the payment differential across ambulatory settings, the study identified other policies that would improve the value of services provided to Medicare beneficiaries. Expanding the package of services included in the unit of payment would address the heterogeneity of services across settings and provide incentives to reduce unnecessary services. However, it could also create adverse incentives to skimp on medically needed services. Another policy would address a duplicate payment for practice expense that is made when office-based procedures are provided in an ASC; refining the ASC payment to exclude the duplicate payment would reduce the incentive to shift services from office-based settings to ASCs. Revising payment policies for separately billable anesthesia services provided during procedures whose payments include moderate sedation would also eliminate duplicate payments and, depending on how it was structured, create incentives to provide separately billed anesthesia only when medically necessary. Finally, informing providers and beneficiaries of the comparative costs both to beneficiaries and to Medicare of obtaining care in different venues could drive volume toward lower-cost settings, reducing costs to beneficiaries and Medicare.

Some policies to increase the value of ambulatory services could be implemented without further research or substantial policy development, though they may require statutory changes. Broader payment reform policies that were not examined in this study and that require more research include (1) bundling all services provided during an episode of care, (2) rationalizing payment for evaluation and management services in different settings, and (3) making performance-based incentive payments.

The role of payment differentials should be considered as policies are developed that introduce incentives to improve the quality and efficiency of care provided to Medicare beneficiaries. Such provisions are already in the Patient Protection and Affordable Care Act of 2010 (Pub. L. 11-148).[1] A challenge will be to exclude excessive payment differentials from the baseline for these programs. Doing so will ensure that measured savings are attributable to gains in delivering care more efficiently rather than payment differentials that do not reflect actual differences in the cost of providing care.

[1] These provisions include the Medicare shared savings program for accountable care organizations (Section 3022), hospital value-based purchasing program (Section 3001), and physician fee schedule value-based payment modifier (Section 3007).

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ABBREVIATIONS

AMA	American Medical Association
APC	Ambulatory Payment Classification
ASC	ambulatory surgical center
BETOS	Berenson-Eggers Type of Service
CF	conversion factor
CMS	Centers for Medicare and Medicaid Services
CPT	Current Procedural Terminology
CT	computed tomography
GI	gastrointestinal
HCPCS	Healthcare Common Procedure Coding System
HOPD	hospital outpatient department
IDTF	independent diagnostic testing facility
IMRT	intensity-modulated radiation treatment
MedPAC	Medicare Payment Advisory Commission
MPFS	Medicare Physician Fee Schedule
MRI	magnetic resonance imaging
NOS	not otherwise specified
NSAS	National Survey of Ambulatory Surgery
OPPS	Outpatient Prospective Payment System
PC	professional component
PE	practice expense
PO	physician office
RUC	Relative Value Scale Update Committee
RVU	relative value unit
RW	relative weight
SPECT	single-photon emission computed tomography
TC	technical component

GLOSSARY

GENERAL TERMS USED IN THIS REPORT

Ambulatory setting: A place where medical services are provided to Medicare beneficiaries who are not inpatients of a facility. Sites include hospital settings in which services are furnished to patients who are registered as outpatients, ambulatory surgical centers (ASCs), physician offices (POs) and clinics, and independent diagnostic testing facilities (IDTFs).

Budget neutrality adjustment: Some changes that occur during the annual rate-setting process are required to be budget-neutral—that is, not affect total Medicare program expenditures for the services covered by the payment system. An adjustment factor is applied so that the estimated annual payments before the changes equal the estimated annual payments after the changes. The factor may be applied to the relative weights (RWs) or to the conversion factor (CF).

Bundling: See **packaging**.

Facility-related payment: The portion of the payment for ambulatory services that covers provider costs for staffing, space, and equipment, as well as administrative costs. For physician and other practitioner services, the facility-related payment is the practice expense (PE) component of the Medicare Physician Fee Schedule (MPFS) or, in the case of diagnostic tests, the technical component (TC) of the tests. For services provided in hospital outpatient departments (HOPDs) and ASCs, the facility-related payment is the separate payment that is made to those entities in addition to the payment to the physician for professional services. As used in this report, the facility-related payment includes both Medicare's share and beneficiary coinsurance amounts.

Office-based procedures: Procedures that are furnished at least 50 percent of the time in a PO or other non-facility setting. Under the ASC payment system, payment for office-based procedures that have been added to the list of ASC-covered procedures in 2008 or later is capped at the non-facility setting PE component of the Medicare Physician Fee Schedule (MPFS).

Packaging: The items and services that are provided during the same encounter and included in the unit of payment for the service. Different packaging rules apply to services provided in HOPDs and ASCs relative to POs. Packaging and bundling differ only in degree; the more extensive the packaging, the more likely that it will be described as "bundling." The latter is most often used when significant procedures that are performed during the same or different encounters are included in the unit of payment.

Provider-based entity: An entity that is owned and operated by a hospital but not located on its main campus. If the entity is clinically and financially integrated with the hospital and meets distance and other criteria, services furnished at the entity are paid as hospital outpatient services.

Standard payment rate: The Medicare payment rate for a given service before adjustment for geographic location.

HOSPITAL OUTPATIENT PROSPECTIVE PAYMENT SYSTEM (OPPS)

Approximately 91 percent of Medicare's payments for hospital outpatient services are made under the OPPS. The unit of payment is an APC. The general formula for determining the standard payment rate is as follows:

$$\text{Rate}_{\text{APC}} = \text{RW}_{\text{APC}} \times \text{CF}_{\text{OPPS}}.$$

Ambulatory Payment Classification (APC): The payment classification system used to group procedures for payment under the OPPS. A given APC includes procedures that are clinically coherent and require comparable resources. Generally, the median cost of the highest-cost procedure in a given APC cannot exceed two times the median cost for the lowest-priced procedure.

Conversion factor (CF): A dollar amount that is used to convert the RW for a procedure into a standard payment amount:

$$\text{RW} \times \text{CF} = \text{standard payment amount.}$$

Relative weight (RW): An index number that measures the relationship between the median cost of procedures assigned to a given APC relative to the median cost of an intermediate office visit. Each procedure assigned to a given APC has the same RW. The RWs are recalibrated annually and adjusted by a budget-neutrality factor, so estimated aggregate payments after any changes in procedures' APC classifications and recalibration equal the estimated aggregate payments before the changes.

AMBULATORY SURGICAL CENTER (ASC) PAYMENT SYSTEM

Implemented in 2008, the ASC payment system applies to facilities that meet Medicare conditions for participation as a facility that operates exclusively for the purpose of providing elective surgical care to patients who are admitted to and discharged from the facility in the same day. Coverage is limited to an approved list of procedures that can be safely performed in a non-

hospital setting. Payment for office-based procedures that have been added to the list of ASC-covered procedures in 2008 or later is capped at the non-facility setting PE component of the MPFS. Because of this limitation, payment rates are set at the procedure-code level. The general formula (before applying the cap) is

$$\text{ASC standard rate}_{\text{HCPCS}} = \text{RW} \times \text{CF}_{\text{ASC}},$$

where HCPCS is the Healthcare Common Procedure Coding System designator (which is most often a Current Procedure Terminology, or CPT® code).[1]

Conversion factor (CF): A dollar amount that is used to convert the RW for a procedure into a standard payment amount:

$$\text{RW} \times \text{CF} = \text{standard payment amount.}$$

The level of the initial ASC CF in 2008 was set to be budget-neutral with estimated payments under the prior payment system for ASC services; it was readjusted for budget neutrality in 2009.

Relative weight (RW): The ASC RW for a given procedure is equal to the hospital OPPS RW adjusted by a budget-neutrality adjustment factor so that estimated aggregate payments to ASCs after the annual APC reclassification and recalibration process equal estimated aggregate ASC payments before the changes.

MEDICARE PHYSICIAN FEE SCHEDULE (MPFS)

The MPFS determines payments for professional and diagnostic services (other than clinical laboratory tests) provided by physicians and other practitioners who are entitled to bill independently for their professional services (e.g., nurse practitioners) and by IDTFs. The unit of payment is defined by procedure code. For professional services, the fee schedule considers the relative value of three components of the service: work, malpractice expenses, and PE for the setting (facility or non-facility) in which the service is provided. The general formula for determining the standard payment rate, where RVU is the relative value unit, is

$$\text{Standard rate}_{\text{HCPCS}} = (\text{work RVU} + \text{PE RVU} + \text{malpractice expense RVU}) \times \text{CF}.$$

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Most diagnostic services have a TC that covers the actual test and a professional component (PC) that covers the physician's interpretation of the test results. The general formula for determining the standard payment rate for the complete service is

$$\begin{aligned}\text{Standard rate}_{\text{HCPCS}} &= (\text{TC RVU} + \text{PE RVU}) \times \text{CF} \\ &= \left[\left(\text{PE RVU}_{\text{TC}}\right) + \left(\text{work RVU} + \text{PE RVU}_{\text{PC}} + \text{malpractice RVU}_{\text{PC}}\right)\right] \times \text{CF}.\end{aligned}$$

Facility setting: A setting in which Medicare pays for the physician's or other practitioner's services and makes a separate payment to the facility at which the service is provided to cover its related costs. For ambulatory services, the most common facility settings are hospitals and ASCs.

Global surgical period: Preoperative care provided the day before a surgical service by the physician performing the surgery and postoperative care provided during a specified global surgical period following the procedures are included in a global payment to the physician for the surgical procedure. Depending on the procedure and typical follow-up care, the global surgical period may be 0 days, 10 days, or 90 days. The pre- and postoperative care is assumed to occur in an office setting, and the PE for the procedure includes the related expenses for those services.

Non-facility setting: A setting in which Medicare makes a single payment to the physician (or other practitioner who is entitled to bill independently) to cover the cost of providing the service (except for diagnostic tests, for which there can be separate billing for the professional and TCs). Non-facility settings include offices, clinics, and IDTFs.

Office-related portion of the non-facility PE: The difference between the PE that is paid when a service is provided in an office or other non-facility setting and the amount that is paid when a service is provided in a facility setting, such as a hospital or ASC. It is the additional amount that a physician receives for performing the service in an office. For diagnostic testing, it is the technical component of the test. For all other services, it equals the PE in the non-facility setting minus the PE in the facility settings.

Practice expense (PE) component: The component of the fee schedule that covers the resources typically used to provide a particular procedure. The PE includes the actual *direct cost inputs* that are required (non-physician clinical staff, medical equipment and supplies) and *indirect expenses* that cannot be directly attributable to a service (administrative labor, rent, billing services, and other office-related expenses exclusive of malpractice insurance, which is a separate component of the fee schedule). Each procedure is assigned RVUs that reflect the resources used to provide the service relative to those used to provide other procedures. Separate RVUs apply to

procedures provided in facility settings, such as a hospital or ASC, and in non-facility settings, such as a PO.

Professional component (PC): The PC covers a physician's interpretation of a diagnostic test. When the PC is reported separately, the service is identified by adding the modifier "26" to the procedure code for the test.

Professional-related portion of the non-facility PE: The portion of the non-facility PE payment that equals the PE payment for the same service when it is provided in a facility setting, such as a hospital or ASC.

Relative value unit (RVU): An index value assigned to each procedure code that measures the resources required to provide the service relative to those required for other services. Separate RVUs apply to three components of the service: work, PE, and malpractice liability expense.

Scaling factor: In the annual update process, separate factors are applied to scale direct and indirect costs in determining PEs. The scaling factors serve two functions: They impose budget neutrality, and they ensure that the allocation between direct and indirect costs is consistent with physician practice cost survey data. In 2011, the indirect scaling adjustment factor (0.37) had a greater impact than the direct scaling adjustment factor (0.5).

Technical component (TC): The TC of a diagnostic test covers the costs for the equipment and technician performing the test. It is identified by adding the modifier "TC" to the procedure code for the test.

Work component: The component of the fee schedule that covers the value of the physician's (or other practitioner's) time, effort, skills, and training. Each procedure is assigned an RVU that reflects the value of the work required for that particular procedure relative to that required for other procedures.

1. INTRODUCTION

This report analyzes potential options for modifying Medicare pricing policies to improve the value of services provided in ambulatory settings. By *value*, we mean that comparable services with similar outcomes are delivered in a medically appropriate setting at an efficient price. We discuss policies that would seek to improve value by addressing the differential in the amount Medicare pays for similar facility-related services in various ambulatory settings and examine other policies that would create incentives to provide care at an efficient price.

BACKGROUND

Expenditures under Part B of the Medicare program, which covers physician and other practitioner services, hospital outpatient services, and ambulatory surgical center (ASC) facility fees, have been increasing rapidly, with an 8.3-percent average annual growth rate from 2004 to 2009 (Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds, 2010). Because of limitations on price increases, most growth is attributable to increases in the volume and intensity of services. For example, of the 5.3-percent increase in fee-for-service spending for physician services for beneficiaries aged 65 or over from 2008 to 2009, only 1.6 percent was attributable to increased prices for physician services (Boards of Trustees, 2010). Per capita spending on hospital outpatient services increased 9.8 percent, of which about 3.6 percent was attributable to price increases (CMS, 2008a).

The Affordable Care Act contains provisions intended to increase the value of Medicare services by improving quality and/or reducing costs. The focus of a number of these efforts has been on eliminating unnecessary services through, for example, a shared savings program with accountable care organizations and by replacing fee-for-service payments with payments for an episode of care.

This report examines an alternative approach with the potential to increase the value of services provided to Medicare patients. Specifically, it addresses the variation in payment rates for comparable services furnished in different ambulatory settings. Different payment systems are used in each ambulatory setting in which care is provided to Medicare beneficiaries. For most services, Medicare pays different amounts for the facility-related component of providing comparable services in different settings:

- Services provided by hospital outpatient departments (HOPDs) are paid under the Outpatient Prospective Payment System (OPPS) based on the Ambulatory Payment Classification (APC) grouping for the services.

- Most surgical services provided by ASCs are paid at a uniform percentage of the OPPS rate; however, procedures that are also commonly performed in a physician office (PO) (i.e., office-based procedures) are paid at a rate based on the practice expense (PE) component of the Medicare Physician Fee Schedule (MPFS).
- The PE component of the MPFS also determines the facility-related payment for services provided in POs and independent diagnostic testing facilities (IDTFs).

Our study focused on Part B facility-related payment differentials for diagnostic and therapeutic services that are provided in multiple ambulatory settings. We discuss the definition and measurement of facility-related payment amounts in Chapter Two. Because our focus was on payment differentials across settings, Part B services that are provided primarily in one setting (e.g., surgical procedures that cannot be safely performed in a non-hospital setting), paid under a different fee schedule (e.g., renal dialysis), or paid at the same amount across settings (e.g., diagnostic clinical laboratory tests) are not addressed here. Based on the public-use files created during the 2011 rate-setting process that used 2009 utilization data, we estimated the following total facility-related payments for services provided in multiple ambulatory:[1]

- $17.2 billion, or 58 percent of payments under the hospital OPPS. OPPS payments account for about 91 percent of total payments to hospitals for outpatient services (MedPAC, 2010).
- $4.0 billion in payments to ASCs.
- $27.1 billion, or 98 percent of the PE payments for PO services paid under the MPFS. Medicare payments under the physician fee schedule totaled $79.2 billion, of which $47.2 billion was paid for services provided in non-facility settings.

The facility-related payment differential varies widely by procedure, with HOPDs paid more than ASCs and POs for almost all services performed in multiple settings (Wynn et al., 2008). In 2011, HOPDs were paid 1.8 times more than ASCs for most procedures and 3.6 times more than the office-related portion of MPFS payments for services provided in POs.[2] The payment differentials have raised questions about potentially perverse financial incentives that could influence a provider's choice of where ambulatory services are provided and whether

[1] These amounts reflect total payments before consideration of beneficiary coinsurance amounts. Generally, the beneficiary is liable after satisfying a Part B deductible for 20 percent of the payments to ASCs and to physicians and about 25 percent of payments for HOPD services (MedPAC, 2010).

[2] The ratios consider only services that are provided in both settings. The additional payment for PO services is defined as the difference between the PE payable for a procedure in an office setting and that payable when it is performed in a facility setting. Ratios are weighted by HOPD volume.

Medicare is paying a premium for services that could appropriately be provided in a less costly setting (MedPAC, 2004). For example, the incentives can lead to the following outcomes that are contrary to value-based purchasing:

- Care is not necessarily provided in the least costly of medically appropriate settings. For example, Medicare payments for outpatient diagnostic imaging services can be substantially higher if a community physician refers a patient to the hospital instead of a freestanding IDTF.
- Hospital decisions to purchase physician practices are rewarded with higher Medicare payments even though the services and patient population may be unchanged. Beneficiaries face higher coinsurance to maintain their existing relationships with physicians and bill processing costs are doubled.
- Incentives lead to creative arrangements, such as hospitals securing outpatient diagnostic services under arrangements with radiologists and other non-referring physicians. The hospital pays the entity furnishing the service more than would be payable under the MPFS, and the hospital receives the OPPS payment amount.[3]

Several factors hinder the development of policy options to address these issues. Payment differentials for similar services are not transparent and are difficult to calculate because units of services are defined differently for PO services than for HOPD and ASC services. To compare differentials, RAND conducted a series of analyses using Medicare claims data that standardized the units of service and examined differences in both payments and patterns of care across settings. The cost of providing services in each setting is even more opaque than the payment differentials. Good data on the cost of providing specific services in different settings are lacking, consequently limiting the analyses of cost differentials.

FRAMEWORK FOR DISCUSSING POLICY OPTIONS

Despite these challenges, our analyses identified a range of options that Medicare could use to address site-of-service payment differentials. This report discusses three types of policies:

1. policies to increase uniformity in payment units and the payment differentials
2. policies that establish differentials across settings based on explicit criteria
3. other policies that create incentives to increase the value of care provided in ambulatory settings.

[3] Changes in the physician self-referral rules in 2009 preclude this type of arrangement between hospitals and referring physicians except where the rural exception applies.

We developed four categories of considerations to guide our discussion of the potential effects of policy options addressing site-of-service payment differentials:

1. *Consistency with value-based care*. For each policy option, we consider the ways and extent to which it affects the likelihood that high-quality, medically appropriate care is delivered efficiently to Medicare beneficiaries. Would the policy provide incentives to furnish high-quality care? If so, would the policy provide incentives to furnish care in the least costly setting? What would be the impact on beneficiary choice and access to care?
2. *Site-of-service payment equity*. HOPDs, ASCs, and POs provide widely different types of services and may treat different populations, with corresponding differences in cost structures. Does the policy option establish prices that reflect the cost of providing services efficiently? Does it account for justifiable cost differences across settings?
3. *Administrative feasibility*. Medicare payment systems are very complex. We consider whether the policy option is likely to simplify or complicate billing and claims processing systems and program-safeguard activities. Another type of administrative feasibility pertains to the implementation and maintenance of the policy. What is required to update the system to account for new technology and other changes in how ambulatory services are provided?
4. *Price transparency*. As described earlier, price differentials are currently not transparent, making it difficult to judge current policies against the three preceding criteria. Therefore, a useful fourth consideration for new policy options asks whether the policy would facilitate determining the price differential across settings.

There are often inherent tensions between these considerations that must be weighed in evaluating potential policy options. For example, a policy that is based on the amount payable for the service in the least costly setting may not provide an equitable payment that recognizes differences in provider cost structures. A policy that expands the package of services covered by the payment rate would provide incentives for cost-efficiency but would increase administrative complexity to address situations in which more than one provider is involved in furnishing the packaged services and to establish payment safeguards.

Our study did not specifically consider the relationship between financial incentives and service utilization. For example, a recent study by RAND and the Urban Institute investigated the factors contributing to the high rate of growth of ten selected procedures. It found that financial considerations or increased provider uptake in furnishing the service were factors for all ten

services and were major factors for seven. The researchers concluded that financial factors and provider uptake were synergistic, with providers shifting toward providing more profitable services rather than alternatives (Buntin et al., 2008). Further, there is evidence that physician ownership of services exempt from self-referral rules (e.g., ASCs and "in-office" ancillary services) leads to higher utilization rates (MedPAC, 2009; Hughes, Bhargavan, and Sunshine, 2010; Mitchell, 2010; Hollingsworth et al., 2011). While these issues are important considerations in developing appropriate pricing and other policies, they were beyond the scope of our study.

ORGANIZATION OF THIS REPORT

This report presents findings from the final phase of a three-phase study undertaken for the U.S. Department of Health and Human Services Office of the Assistant Secretary for Planning and Evaluation. Findings and preliminary analyses from the first two phases were reported in RAND working papers. The first presented an exploratory analysis using a set of high-volume services that are performed in multiple ambulatory settings (Wynn et al., 2008). The second working paper described differences in payments and patterns of care for selected procedures after controlling for differences in the definition of the items and services that are included in Medicare's payment for the procedure (Wynn and Hussey, 2010). This report updates and expands on those analyses and discusses policy options for increasing the value of services provided to Medicare beneficiaries.

The remainder of this report is organized as follows. Chapter Two provides an overview of Medicare payment policies for ambulatory services and summarizes key findings from the earlier phases of the study that have implications for the assessment of policy options. Chapters Three through Five describe and evaluate the three categories of policy options discussed earlier. Chapter Six examines other policy options that would require further research and development. Chapter Seven concludes the report with a summary discussion that categorizes the policy options that could be implemented into two groups: those that primarily lay the foundation for system improvements and those that could reduce Medicare spending without further research and development. The report also includes three appendixes that supplement the findings reported here. Appendix A describes the data and methodology used in the study. Appendix B contains summary findings from the second phase of the study. A more detailed description of the data and methodology and the procedure-specific findings are presented in the earlier working papers (available upon request). Appendix C provides more detailed findings from the analyses reported for the first time in this report.

2. BACKGROUND

Many health care services are provided in multiple ambulatory settings. For example, a colonoscopy can be performed in an HOPD, ASC, or PO. Due in part to improvements in technology and health care delivery, many services that previously required an overnight inpatient hospital stay have migrated to ambulatory care settings. Prospective payment for hospital inpatient care, implemented by Medicare in 1983 and subsequently adopted by other payers, also provides an incentive to offer services outside the traditional inpatient setting. As a result, surgical procedures have shifted from the inpatient to the outpatient setting over time. About 63 percent of all surgeries were performed as ambulatory surgery in 2005, compared to only 16 percent in 1980 (Russo et al., 2010). Joint ventures between hospitals and physician groups, as well as increasing physician ownership of ASCs and the high-cost imaging equipment, have contributed to a migration of ambulatory services from hospitals to non-hospital settings.

OVERVIEW OF THE CURRENT MEDICARE PAYMENT POLICY FOR AMBULATORY SERVICES

Medicare payment for physician work and malpractice liability expenses under the MPFS is the same in all ambulatory settings. However, payment differentials exist between settings for the facility-related components of care, such as nursing and other staff salaries, equipment, buildings, and supplies. In this report, when we discuss payment differentials, we are referring to differentials in the *facility-related* payments between settings. Separate payments are made to HOPDs and ASCs to cover the facility portion of the service and to physicians to cover PEs related to the professional service (physician work) portion and malpractice liability expenses. However, when services are provided in POs, a single PE payment covers both facility-related and professional-related expenses. For the purposes of this study, we defined the facility-related portion of the MPFS payment for services provided in POs as the technical component (TC) of diagnostic services or the PE component of nondiagnostic services.

Physician Offices

Most services in the physician fee schedule are assigned relative value units (RVUs) for three components: physician work, malpractice liability costs, and PE. A conversion factor (CF) converts the RVUs into a Medicare payment rate for the procedure. Each component of the fee schedule is also adjusted for geographic differences in the costs of maintaining a physician practice. Separate geographic practice cost indexes apply to the RVU for the each component of

the service. The general formula for determining the standard rate (without regard to the geographic adjustment factor) under the fee schedule is

$$\text{Payment} = (\text{work RVU} + \text{PE RVU} + \text{malpractice expense RVU}) \times \text{CF}.$$

PE RVUs are based on the costs of resource inputs used in providing a service, including facility rent, non-physician personnel labor, equipment, and supplies. The estimates of resource inputs used for each procedure were originally provided by the Clinical Practice Expert Panel. Its estimates for most procedures have been refined based on supplemental data and recommendations from the American Medical Association's (AMA's) Relative Value Scale Update Committee (RUC).

For the same procedure, PE RVUs are calculated separately for physician and other qualified practitioner services provided in a setting that may bill a separate facility fee for the service (e.g., HOPD, ASC) and a non-facility setting in which no separate facility billing occurs. In this report, the term *physician office* encompasses all non-facility settings, including clinics and IDTFs in addition to offices of physicians and other practitioners who may practice and bill independently under Medicare rules. Because the separate facility payments to an HOPD or ASC cover many expenses that a physician incurs in an office setting, the PE for providing a service in a facility setting is typically lower than the PE for providing the service in an office setting. PE payments are made for services provided in a facility setting because physicians use some of their own resources in delivering services in a facility, such as administrative expenses for scheduling and billing. For some procedures that are performed primarily in a facility setting, there is no separate PE RVU when these procedures are performed in an office setting. Instead, the PE RVU for the facility setting applies to any services provided in the office setting.

This report compares payments for the PE component of the MPFS to the payments to HOPDs and ASCs for facility services. The rate comparisons are made without regard to geographic adjustment factors. For example, Table 2.1 shows the standard 2011 PE component RVUs and payment rates for a spinal injection; the Current Procedure Terminology (CPT®) code for this procedure is 63211. The PE RVUs for providing the service in a non-facility setting (PO or IDTF) are 4.37. The PE RVUs for providing the service in a facility setting (HOPD or ASC) are 0.99. We have labeled this as the *professional-related* PE to distinguish it from the *office-related* PE that is received only when the procedure is performed in a non-facility setting, such as a PO or IDTF. The office-related portion is the difference between the PE payment for performing the service in an office setting and a facility setting. This amount ($114.84 in the example) is most comparable to the payment that is made to a hospital or ASC for the facility costs of providing

the ambulatory service. In contrast, the total standard PE payment to the physician is $148.48 when the service is provided in a PO and $33.64 when the service is provided in an HOPD or ASC.

Table 2.1
MPFS Standard 2011 PE Payment Rates for a Nondiagnostic Test (Spinal Injection, CPT 63211)

Service Location	2011 PE RVUs	2011 Conversion Factor ($)	2011 PE Standard Rate ($)
PO (professional-related and office-related portions)	4.37	33.9764	148.48
HOPD or ASC (professional-related portion)	0.99	33.9764	33.64
PO (office-related portion)	3.38	33.9764	114.84

SOURCE: Centers for Medicare and Medicaid Services (CMS) 2011 National Physician Fee Schedule Relative Value File. Rates shown are fully implemented, not reflecting transitions.

Medicare payments for most diagnostic procedures have a professional component (PC) that covers the physician's work and PEs related to supervising and interpreting the test results, as well as a TC that covers the staff and equipment costs associated with providing the actual test. When the complete service is performed, the payment equals the sum of the payments for these two components. Table 2.2 provides an example of the payment for fluoroscopy guidance (CPT 77003). Medicare's payment for the TC of the service ($32.96) is comparable to the amount paid to the hospital or ASC for the facility costs of providing the test and is used in the rate comparisons in this report.

Table 2.2
MPFS Standard 2011 Rates for a Service with Separate Professional and Technical Components (Fluoroscopy Guidance, CPT 77003)

Service	Modifier	Work RVUs	Malpractice RVUs	PE RVUs	Conversion Factor ($)	Standard Rate ($)
Complete	N/A	0.60	0.04	1.25	33.9764	64.22
Professional component	26	0.60	0.03	0.29	33.9764	31.26
Technical component	TC	N/A	0.01	0.96	33.9764	32.96

SOURCE: CMS 2011 National Physician Fee Schedule Relative Value File. Rates shown are fully implemented, not reflecting transitions.

Hospital Outpatient Departments

The Medicare hospital OPPS uses an APC system to group clinically coherent sets of procedures that require similar resources. Each APC has a relative weight (RW) based on the median cost of a given procedure in the group relative to the median cost for a midlevel clinic visit. The service or item with highest median cost in an APC may not be more than twice as costly as the service or item with the lowest median cost in that APC, subject to certain exceptions (the "two-times rule"). Costs are determined using data from hospital Medicare claims and cost reports. APC groupings and relative values are updated annually based on the most recent available data and recommendations of the APC Advisory Committee.

A CF converts the RW into an unadjusted payment rate. The labor-related share of the standard payment rate (60 percent) is adjusted by the hospital wage index (WI). The general formula for determining the adjusted payment rate is

$$\text{Adjusted rate}_{\text{APC}} = \text{RW}_{\text{APC}} \times \text{CF}_{\text{OPPS}} \times \left(0.60 \times \text{WI}_{\text{hosp}} + 0.40\right).$$

To illustrate, we use a spinal injection (CPT 63211) as an example. This procedure is assigned along with 36 other spinal injection/nerve block procedures to APC 207 Level III Nerve Injections. The standard 2011 payment rate (without regard to the geographic adjustment factor) for this APC is

$$\text{HOPD standard rate}_{\text{APC207}} = \text{RW} \times \text{CF} = 7.5886 \times \$68.876 = \$522.67.$$

Within each APC, payments for services and items that are considered an integral part of the primary procedure and performed on the same day are packaged into the payment for the primary procedure. This includes most equipment, supplies (including surgical implants), supportive and ancillary services that are integral to the procedure, and drugs costing less than $65 in 2011. Separate payments are made for most ancillary services and expensive drugs (those with an average per-day cost of $65 or more), as well as corneal tissue acquisition costs, blood and blood products, and certain new-technology drugs, biologicals, and devices.

Ambulatory Surgical Centers

Medicare coverage for facility services provided by an ASC is limited to items and services that are an integral part of a surgical procedure that does not pose a significant safety risk when performed in an ASC and is not expected to require an overnight stay. Prior to 2008, ASCs were paid only for procedures that were commonly performed in the inpatient setting but could be safely performed in an outpatient setting. Beginning in 2008, Medicare expanded the list of

approved surgical procedures and revised the payment system to parallel the OPPS, with the initial CF set at 67 percent of the OPPS rates. The payment systems have subsequently diverged because separate budget-neutrality adjustments apply during the annual recalibration of the RWs, and the ASC CF was not increased for two years. In 2011, the OPPS-based standard ASC payment rates were 56 percent of the OPPS standard payment rate. The general formula for determining the payment rate is similar to the OPPS formula, with different RWs (reflecting the ASC budget-neutrality factor) and CFs. To illustrate, we again use a spinal injection (CPT 62311) as an example. The standard 2011 ASC payment rate (without regard to the geographic adjustment factor) for this procedure is

$$\text{ASC standard rate}_{62311} = \text{RW} \times \text{CF}_{\text{ASC}} = 7.0103 \times \$41.939 = \$294.00.$$

Prior to 2008, the approved list of ASC procedures excluded procedures that are commonly performed in a PO; instead, a physician performing the service was paid the PE for a non-facility setting. Office-based procedures are now covered when performed in an ASC. The ASC payment rate is capped at the non-facility PE payment rate under the MPFS, and the physician is paid the facility-setting PE. The purpose of the cap is to reduce the incentive to convert POs to ASCs or to move office-based surgery to ASCs. As shown in Table 2.3, the total payment is now higher when an office-based procedure is performed in an ASC than in a PO. The cap also means that if office-based procedures are assigned to the same APC as other ASC-covered procedures paid under the OPPS, procedures assigned to a given APC may have different ASC payment rates.

Table 2.3
Payment for an Office-Based Service, Debride Infected Skin (CPT 11000), in ASCs and POs, 2011

Payment Type	ASC ($)	PO ($)
Work	20.39	20.39
Malpractice liability	1.70	1.70
PE for providing the service in a facility setting	7.14	N/A
PE for providing the service in a non-facility setting	0	31.26
Professional services payment (total)	**29.23**	**53.35**
Facility payment	**31.26**	0
Total	**60.48**	**53.35**

SOURCE: CMS 2011 National Physician Fee Schedule Relative Value File and Addendum AA of the CMS OPPS file rule. Payment rates shown are fully implemented, not reflecting transitions.

If a procedure that is not on the list of ASC-covered procedures is provided in an ASC, the physician is paid for professional services based on the facility-setting PE. No additional payment is made to either the ASC or the physician for the facility-related costs of providing the service.[6]

COMPARING PAYMENT DIFFERENTIALS ACROSS SETTINGS

Medicare uses APCs to pay for ambulatory care services in HOPDs and to set procedure-level rates for ASCs and HCPCS (CPT) procedure codes for POs.[7] All procedures that are assigned to a given APC have the same facility rate under the OPPS and the ASC payment system, while each procedure code has its own PE payment amount under the MPFS. ASCs are paid the same amount for all procedures in a given ASC, except for office-based procedures that are paid based on the MPFS PE amount. Payments based on the APC groupings assume that the facilities provide a similar within-APC mix of services and that while some procedures in the APC may be more costly to provide than others, on average, the payment reflects the cost of providing the services. The emphasis under the OPPS and the ASC payment system is on setting an appropriate average payment rate for services that are clinically similar and require comparable resources. Because hospitals (and ASCs, to a lesser extent) provide a broad range of services, they have the ability to cross-subsidize if the mix of procedures in a given APC is more resource-intensive than average. In contrast, the focus under the MPFS has been on accurately defining PEs at the procedure code level, which automatically accounts for variation in procedure mix. Physicians tend to provide a narrower range of services, and procedure-specific rates reduce the need for cross-subsidization as long the rates appropriately reflect differences in the PEs for each procedure.

Each unit of payment (CPT/HCPCS or APC) covers a package of various component services and items. Medicare rules differ between POs and HOPDs/ASCs regarding which services and items are covered by the payment.[8] Two key differences, which are discussed in greater detail in Chapter Three, are as follows:

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[6] This policy was effective in 2008. Previously, the physician payment for services that were not ASC-covered was based on the PE for the non-facility setting.

[7] HCPCS stands for Healthcare Common Procedure Coding System. The CMS Level I HCPCS codes are the AMA CPT codes. The CMS procedure code set includes HCPCS Level II alphanumeric codes in addition to the CPT codes.

[8] CMS distinguishes between "packaging" of services that are an integral part of the primary procedure and furnished by the same provider during the same encounter and "bundling" of distinct services by the same or a different provider that could be furnished during the same encounter or over a period of time.

- Less packaging occurs for some PO services that are furnished during the same encounter than for HOPD/ASC services. Generally, supplies and equipment are included in the PE component of the fee schedule, but drugs and devices are paid separately. As a result, some services that are packaged for payment as an integral part of the primary procedure when performed in an HOPD/ASC setting are paid as separate procedures under the MPFS.
- While all services provided on a separate day from the primary procedure are paid separately in the HOPD/ASC, some are bundled into the global period of the MPFS for surgical services. The "global surgical period" for MPFS payment includes all pre-, intra-, and postoperative care provided during the global period by the surgeon (each of which has a PE component).

These differences in the units of payment are the main methodological limitation in comparisons of payment rates across settings. Table 2.4 compares Medicare's standard payment rate (before adjustment for geographic location) across settings in 2011 for a spinal injection (CPT 63211) with and without fluoroscopy guidance (CPT 77003). The example illustrates the various components of Medicare's payment across ambulatory settings and the complexities of rate comparison introduced by the different packaging policies.

With respect to payment under the MPFS for the spinal injection, the payments for the work and malpractice expense components are the same across all three settings ($52.32 and $4.08, respectively). When the procedure is performed in a facility setting, such as an HOPD or ASC, the physician is paid the facility-setting PE component of the MFPS (in this example, $33.64). We have labeled this the *professional-related* PE to distinguish it from the *office-related* PE, which is also received when the procedure is performed in a PO ($114.64 in this example). The sum of the professional-related PE and the office-related PE is the same as the non-facility setting PE component of the MPFS ($148.48 for a spinal injection). The total Medicare payment under the MPFS is $90.04 when the spinal injection is performed in an HOPD or ASC and $204.88 when it is performed in a PO. However, a separate payment is also made to the HOPD and ASC for facility costs ($522.67 and $294.00, respectively), bringing the total Medicare payment for a spinal injection performed in an HOPD to $612.71 (compared to $384.04 when it is performed in an ASC and $204.88 in a PO).

Table 2.4
Comparison of 2011 Medicare Payment Rates for Spinal Injection (Without and With Fluoroscopy Guidance) Provided During the Same Encounter, by Ambulatory Setting

Professional Services Payment	HOPD without Fluoroscopy ($)	ASC without Fluoroscopy ($)	PO without Fluoroscopy ($)	HOPD with Fluoroscopy ($)	ASC with Fluoroscopy ($)	PO with Fluoroscopy ($)
Injection (CPT 62311)	N/A	N/A	N/A	N/A	N/A	N/A
Work	52.32	52.32	52.32	52.32	52.32	52.32
Malpractice	4.08	4.08	4.08	4.08	4.08	4.08
Practice expense	33.64	33.64	148.48	33.64	33.64	148.48
Total, Injection (CPT 62311)	**90.04**	**90.04**	**204.88**	**90.04**	**90.04**	**204.88**
Professional-related portion of total	*33.64*	*33.64*	*33.64*	*33.64*	*33.64*	*33.64*
Office-related portion of total	N/A	N/A	*114.84*	N/A	N/A	*114.84*
Fluoroscopy Guidance (CPT 77003)	N/A	N/A	N/A	N/A	N/A	N/A
Professional component	N/A	N/A	N/A	31.26	31.26	31.26
Technical component	N/A	N/A	N/A	N/A	N/A	32.96
Total, Fluoroscopy Guidance (CPT 77003)	N/A	N/A	NA	**31.26**	**31.26**	**64.22**
Facility payment	**522.67**	**294.00**	N/A	**522.67**	**294.00**	N/A
Total payment	**612.71**	**384.04**	**204.88**	**643.97**	**415.30**	**269.09**

SOURCE: CMS 2011 National Physician Fee Schedule Relative Value File and Addendum AA of the CMS Outpatient PPS file rule.
Payment rates shown are fully implemented, not reflecting transitions.

Fluoroscopy guidance, used for needle placement for spinal injections, has a PC and TC. The PC ($31.26) is paid to the physician when the procedure is performed in a facility setting. Because the procedure is considered an integral part of the spinal injection when it is performed in an HOPD/ASC, it is packaged into the payment for the spinal injection and there is no additional facility payment under the OPPS or the ASC payment system. However, an additional payment for the procedure's TC is paid under the MPFS if the guidance is performed in a PO ($32.96).

Because payments for the work and malpractice expense components of the MPFS are the same regardless of setting, the payment differential comparisons in this report focus on the PE component of the MPFS in relation to HOPD/ASC facility payments. Of particular interest are two MFPS amounts: (1) the office-related PE payment and (2) the TC of diagnostic tests. These amounts are most comparable to the payment that is made to a hospital or ASC for the facility costs of providing the ambulatory service.

REDUCING PAYMENT DIFFERENTIALS: A BRIEF HISTORY

The appropriateness of the payment differentials across ambulatory settings has been a long-standing Medicare payment policy issue. Under the cost-based reimbursement system for hospital outpatient services that preceded the OPPS, blended payment rates applied to surgical procedures and to radiology and other diagnostic tests. The blended rates were based on a hospital's aggregate Medicare costs for these services and on Medicare's payment rates for similar services in other ambulatory settings. Reducing differences in payment across ambulatory settings was an articulated policy goal when the OPPS was being developed (Wynn, 2005). Nevertheless, when the system was actually implemented in 2000, the blended payment rates were dropped, and, with a few notable exceptions, payment rates for services provided in multiple ambulatory settings are now based on different methods of estimating the costs of providing services in each setting. The major exceptions are as follows:

- A single fee schedule applies to clinical diagnostic laboratory tests furnished by HOPDs, POs, and independent diagnostic clinical laboratories.
- Durable medical equipment, prosthetics, and orthotics furnished under Part B are paid under the same fee schedule.
- A single fee schedule applies to outpatient therapy services (physical therapy, occupational therapy, and speech-language pathology).
- A single composite rate applies to outpatient dialysis provided by freestanding dialysis centers and hospitals.

Because hospitals are assumed to have a higher cost structure than ASCs or POs, Medicare payments for most procedures are higher when they are furnished in HOPDs than in other ambulatory settings. The Deficit Reduction Act of 2005 capped the TC of the physician fee schedule for imaging services, such as X-rays and magnetic resonance imaging (MRI), performed in POs and IDTFs at the rates paid to HOPDs.[9] Payments for other PO services are not limited to the HOPD payment rate. Although ASCs are assumed to have a higher cost structure than POs, the rates for some services—set at 56 percent of the OPPS rate in 2011—are lower than the PO rates.

SUMMARY OF PHASE I STUDY

The objective of the first phase of this study (Wynn et al., 2008) was to document payment differentials for equivalent services provided to Medicare beneficiaries in different ambulatory settings and to investigate whether the differentials reflect cost differences that should be accounted for in the payment systems. The study was an exploratory analysis using the procedures assigned to 16 high-volume APCs that are performed in at least two of the three settings (see Table 2.5).

RAND researchers first performed a series of analyses that measured the payment rate differentials for selected high-volume procedures performed in multiple settings by physicians in different specialties. For this purpose, the comparison was between the OPPS and ASC payment rates for facility services with the MPFS non-facility PE or TC rates before adjustment for geographic location. The results were not adjusted for the differences in packaging/bundling rules discussed earlier and in Chapter Three because the analysis of encounter-level data was beyond the scope of the initial analyses. These analyses revealed the following:

- Most ambulatory procedures are furnished in two settings—either HOPDs and ASCs or HOPDs and POs. Few services are provided in all three settings.
- Substantial payment rate differentials exist between settings using the units of payment applicable to each setting in the comparison. The size of the differentials varies substantially by procedure. Variation in the HOPD/ASC setting is limited to office-based procedures. Because ASCs are now paid a percentage of the OPPS rate for non–office-based procedures, payment differentials between HOPDs and POs are larger than those between HOPDs and ASCs (see Figure 2.1). Differences

[9] Section 5103 capped the ASC rate for ambulatory surgery under the prior payment system at the rate paid to HOPDs.

in the packaging/bundling rules between the OPPS and the MPFS contribute to the differentials in the rate comparison, particularly for the procedures assigned to APC 280 Level III Angiography, but the researchers were unable to measure the effect with the data available in this phase of the study.

Table 2.5
Volume of Phase I Study Procedures, by Ambulatory Setting, 2006

APC	Description	Volume of Selected Procedures	HOPD Volume (% of Total)	ASC Volume (% of Total)	PO Volume (% of Total)
20	Level II excision/biopsy	620,976	14	0	86
22	Level IV excision/biopsy	71,046	52	22	26
41	Level I arthroscopy	193,635	65	35	1
100	Cardiac stress tests	3,246,335	24	0	76
143	Lower GI endoscopy	2,427,206	55	40	6
158	Colorectal cancer screening: colonoscopy	351,642	50	45	5
206	Level II nerve injections	1,019,135	20	20	60
207	Level III nerve injections	2,392,645	31	27	42
246	Cataract procedures with intraocular insert	1,807,569	34	62	5
260	Level I plain film except teeth	12,913,807	61	0	39
280	Level III angiography and venography	356,731	85	0	15
304	Level I therapeutic radiation treatment preparation	2,479,132	51	0	49
305	Level II therapeutic radiation treatment preparation	462,987	63	0	37
337	MRI and magnetic resonance angiography without contrast	1,205,887	52	0	48
440	Level V drug infusion	1,748,100	2	0	98
441	Level VI drug infusion	2,397,055	1	0	99

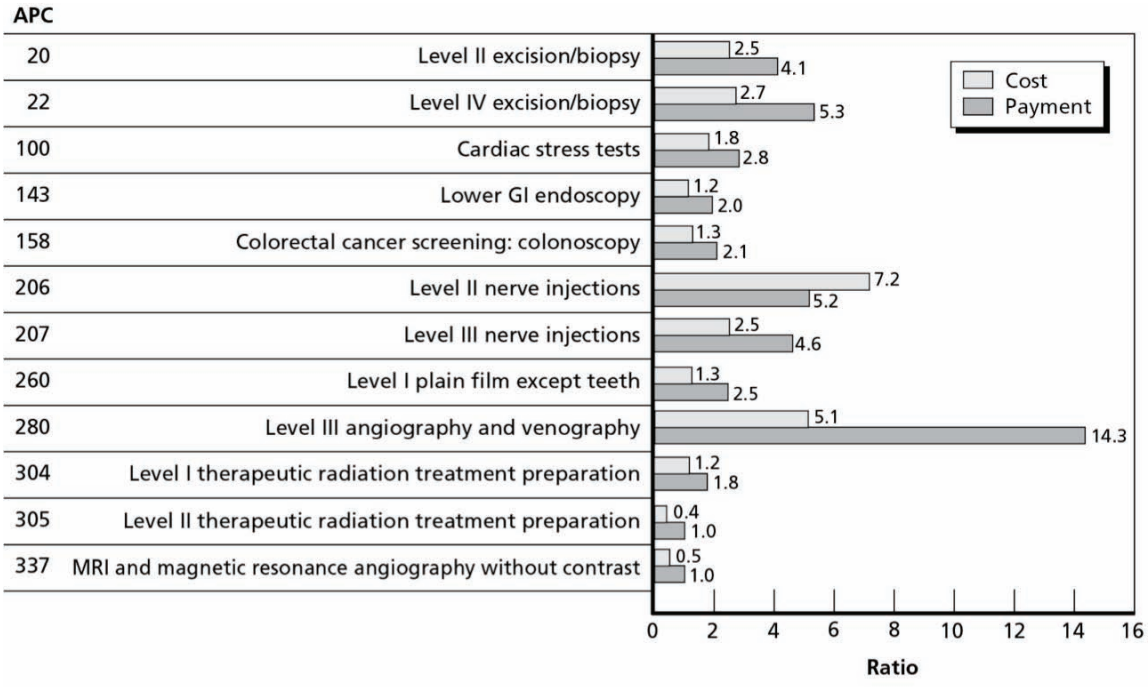
NOTE: GI = gastrointestinal.

The research team then used the available data to investigate differences in the cost of providing services across settings. These analyses should be considered exploratory because cost comparisons across settings are complicated by the lack of consistent data.

- Using California ASC data to compare overall differences in HOPD and ASC costs, the researchers found that the overall payment differential between these providers was roughly comparable to their cost differential in 2008; however, the current payment differential is likely to exceed the cost differential because of differences in the updates for inflation and budget-neutrality constraints on the ASC RWs.

- The 2008 payment differentials between HOPD and PO services exceeded the estimated cost differentials, largely because of the scaling factors applied to direct and indirect costs in the MPFS annual rate-setting process (as discussed in Chapter Three). Figure 2.1 compares the ratios of payments and costs for the selected study procedures by APC. These data should be interpreted as exploratory findings only because there is low comparability in the costing methods and data sources used for the two settings.

Figure 2.1
Ratio of HOPD to PO Payment Rates and Estimated Costs for Phase I Selected Study Procedures, 2008



NOTE: The rate comparison is based on the standard MPFS PE for non-facility settings or the TC rate, as applicable, fully phased in with no transition payments.

RAND *TR979-2.1*

After documenting the payment rate and cost differentials across settings for the procedures examined in the study, the next task was to explore the factors beyond the rate-setting methodologies that might account for the differences. Using data analysis where possible and semistructured group interviews with professionals who provide procedures included in the study, the research team came to the following conclusions:

- Differences in patient clinical characteristics do not support payment differentials. Patient comorbidity is seldom the primary reason for referral to HOPDs; patients

receiving the procedures were typically at low risk for adverse outcomes in all settings.

- However, patients requiring more resource-intensive services (e.g., expensive medications or implanted hardware, such as screws) may be referred more frequently to an HOPD because the payment rate is perceived to be insufficient to cover the costs of providing care in an ASC/PO setting. Interviews with clinicians highlighted that ASCs and POs choose the procedures that they will perform and patients they will treat and refer patients to the HOPD when they believe that there is a risk of financial loss. In addition, hospitals have a higher proportion of charity care and Medicaid patients than ASCs or POs.
- Physician interviewees expressed a strong preference for the efficiency of ASCs relative to HOPDs, due to newer physical plants, shorter patient turnover times, dedicated resources in close proximity, and differences in "culture" that can promote slowness and inefficiency in the HOPD.
- Hospitals provide a broader range of procedures to a more diverse patient population compared to ASCs and POs. They also face a higher regulatory burden, particularly in comparison to POs. While hospitals may provide their service mix efficiently, a lack of specialization can make particular services more costly than when they are provided in other settings. However, hospitals may be able to produce services requiring specialized staff or expensive equipment at a lower cost because they can spread their costs over multiple service lines.

SUMMARY OF PHASE II STUDY

The rate comparisons in the first phase of the study were indicative of the differences in Medicare payments across settings but did not provide an accurate measure of the payment differentials for some procedures because the items and services that are included in the unit of payment are not necessarily consistent across settings. In the second phase, RAND researchers tested the effect of standardizing the units of payment on differentials for selected procedures affected by the different packaging rules (Wynn and Hussey, 2010). Because payment differentials across procedures were largely standardized between HOPDs and ASCs with the implementation of the 2008 payment policy changes, the focus of this phase of the study was mostly on procedures performed in the HOPD and PO settings (see Table 2.6).

Using 2007 beneficiary-level administrative data, the study objectives were to document the following for selected procedures furnished in multiple ambulatory settings:

- Differences in actual payments after controlling for differences in the definition of items and services included in Medicare's payments for the procedure.
- Differences in the provision of other items and services (patterns of care) furnished in conjunction with the procedure.

The purpose was to get as close as possible to an "apples-to-apples" comparison of payment differentials for ambulatory services between settings. This was challenging due to differences in packaging rules between settings. In addition, as described earlier, services provided in HOPDs and ASCs have separately reimbursable facility and professional components, while in POs, facility and professional services are reimbursed via a single payment. To address these issues, we analyzed different "levels" of combined payments in an effort to more fully understand the total payment implications of performing the selected procedures in different settings. Differences in payment levels and patterns of care were measured at five levels of service aggregation:

- Level 1: Payments for the "facility" component of procedures offered in different ambulatory settings
- Level 2: Payments after the physician fee schedule PE components for services provided in non-facility settings have been standardized according to OPPS packaging rules
- Level 3: Payments after adding the physician PC of OPPS packaged services to Level 2
- Level 4: Payments after adding other services provided on the same day to Level 3
- Level 5: Payments after adding pre-/post-procedural services provided within a specified time frame to Level 4. We did not examine this level for chemotherapy and IMRT.

We limited our examination of patterns of care associated with chemotherapy to beneficiaries with lung cancer; similarly, we limited our examination of IMRT to beneficiaries with prostate cancer. Our patterns-of-care analyses produced the following findings:

- With the exception of chemotherapy, there were few significant differences in the utilization of OPPS packaged services between settings (Level 2), despite different financial incentives faced by POs, where these services are paid separately, and by HOPDs and ASCs, where payment is packaged with that for the index procedure.
- There were several areas of difference in patterns of care between settings for separately paid services performed on the same day as an index procedure (Levels 3 and 4). Diagnostic testing was more common with HOPD index

procedures than ASC or PO index procedures. Another area of difference between settings was in the use of anesthesia services for endoscopy and colonoscopy index procedures. Professional anesthesia services were billed more frequently in ASCs and POs than in HOPDs.

- There were no significant differences in patterns of care before and after the day of the index procedures (Level 5), with low service volume for most procedures. One exception was laboratory tests, which were more common before and after some HOPD index procedures compared to PO index procedures.

With respect to payment differentials, the key findings were as follows:

- Standardizing the unit of payment using OPPS packaging rules reduces some payment differentials, but large differentials remain.
- The HOPD-ASC differentials still vary for some procedures because ASC services that are commonly performed in POs are capped at the PO rate, which is usually—but not always—lower than the OPPS-based rate.

The payment differentials between HOPDs and POs for selected study procedures are shown in Table 2.7. These are ratios that measure the differential between actual payment levels for HOPD facility services and the portion of the MPFS payment attributable to the *incremental* PE component for PO services (the additional amount the physician receives for a PO service). Level 1 is the ratio of actual payments for each procedure code. Level 2 shows the payments after the PO payments have been standardized based on the 2007 OPPS packaging rules.[10] Standardizing for differences in the packaging policies had the greatest effect on spinal injections and left heart catheterization. Adding the physician professional services tended to produce the least payment differential (Level 3). (Simply adding the same amount to both numerators and increasing the size of both denominators has the effect of reducing the ratios.) With the exception of nerve injections, the ratios increase between Level 3 and Level 4 and/or Level 5, reflecting the higher volume of additional services provided on the same day and in the pre-/postoperative period in hospitals.

[10] In contrast, Figure 2.1 compares the facility payment rate to the full non-facility PE component rate.

Table 2.6
Volume Distribution of Phase II and Phase III Selected Study Procedures, by Ambulatory Setting

CPT Code	Description	Description Used in This Report	2007 Volume, % in HOPD/ASC/PO
43239	Upper GI endoscopy, biopsy	Endoscopy	52/42/6
45378	Colonoscopy, flexible, proximal to the splenic flexure; diagnostic, with or without collection of specimen(s) by brushing or washing, with or without colon decompression	Colonoscopy	50/43/8
62311	Injection, single (not via indwelling catheter), not including neurolytic substances, with or without contrast (for either localization or epidurography), of diagnostic or therapeutic substance(s) (including anesthetic, antispasmodic, opioid, steroid, other solution), epidural or subarachnoid; lumbar, sacral (caudal)	Spinal injection	39/27/35
70553	Magnetic resonance (e.g., proton) imaging, brain (including brain stem); without contrast material, followed by contrast material(s) and further sequences	MRI of brain	54/0/46
72193	Computed tomography, pelvis; with contrast material(s)	CT of pelvis	72/0/28
77418	Intensity modulated treatment delivery, single or multiple fields/arcs, via narrow spatially and temporally modulated beams, binary, dynamic MLC, per treatment session	IMRT	51/0/49
78465	Myocardial perfusion imaging; tomographic (SPECT), multiple studies (including attenuation correction when performed), at rest and/or stress (exercise and/or pharmacologic) and redistribution and/or rest injection, with or without quantification	SPECT	23/0/77
93510	Left heart catheterization, retrograde, from the brachial artery, axillary artery or femoral artery; percutaneous	Left heart catheterization	84/0/16
96413	Chemotherapy administration, intravenous infusion technique; up to 1 hour, single or initial substance/drug	Chemotherapy	23/0/77

NOTE: CT = computed tomography. IMRT = intensity-modulated radiation treatment.
MLC = multileaf collimator (a device). SPECT = single-photon emission computed tomography.

Table 2.7
Ratio of HOPD to PO Payment Rates Across Levels 1–5 for Selected Ambulatory Services, 2007

Procedure	Level 1	Level 2	Level 3	Level 4	Level 5
Endoscopy	2.9	2.9	1.7	1.7	1.6
Colonoscopy	3.6	3.6	1.9	2.0	2.0
Spinal injection	3.4	2.6	2.1	2.0	1.9
MRI of brain	1.2	1.2	1.2	1.2	1.3
CT of pelvis	1.4	1.4	1.3	1.2	1.2
IMRT	0.6	0.6	0.6	0.6	N/A
SPECT	1.2	1.2	1.1	1.2	1.3
Left heart catheterization	1.8	1.1	1.2	1.3	1.3
Chemotherapy	1.1	0.9	0.9	1.1	N/A

SUMMARY OF PHASE III STUDY

This report discusses the results from the third phase of this study, which updated and expanded on the Phase I and Phase II data analyses. The earlier phases used 2007 administrative data that predated important changes in the OPPS packaging rules and the adoption of the OPPS-based fee schedule for ASC services. In Phase III, we used 2008 beneficiary-level data to

- examine changes in patterns of care and payment differentials for the Phase II selected study procedures (after implementation of the expanded OPPS packaging policies)
- examine changes in the distribution of procedures across settings (after implementation of the changes in ASC coverage and payment policies) and within-APC variation between HOPDs and ASCs
- measure the overall payment differential between HOPD, ASC, and PO services rather than the differential for selected services
- consider the policy implications of the findings and options for modifying Medicare payment policies.

The data and methods used for these analyses are outlined in Appendix B. Key findings include the following:

- The overall patterns of care for the selected study procedures were similar in 2007 and 2008. However, there were increases in the payment differentials between the HOPD and PO settings, even after standardizing for the expanded bundling rules in 2008. One contributing factor is the difference in the 2008 update factors under the two payment systems. In 2008, HOPDs received a 3.3-percent increase in the CF compared to a 0.05-percent increase in the MPFS rates.

- The new payment methodologies and additions to the ASC-approved procedure list in 2008 did not immediately cause significant changes in the site of service. Very few of the procedures that were newly approved in 2008 were performed in ASCs in 2008, and the overall share of services performed in ASCs increased by one percentage point between 2007 and 2008, with no significant differences by service type. It is possible that more significant changes have occurred since 2008, outside the time frame of this analysis.
- An issue in adopting the OPPS-based services in the ASC payment system is whether ASCs have the same mix of services within an APC as HOPDs. Our comparison of the within-APC resource intensity of procedures performed in HOPDs and ASCs indicates a similar within-APC service mix. Overall, the analysis supports the current policy of applying a single CF to the OPPS RWs to determine ASC payment rates.
- Interviews conducted during Phase I indicated that ASCs were more efficient than HOPDs in performing surgical services. We confirmed this qualitative finding by analyzing data from the 2006 National Survey of Ambulatory Surgery (NSAS) public-use file. We found that ASCs have nearly 40-percent shorter surgery times than HOPDs. The results reconfirm that ASC costs are likely to be considerably lower than HOPD costs.
- Overall, HOPDs are paid, on average, 3.6 times more than POs for services that are provided in HOPDs; payments for services that are provided in POs would be 4.4 times higher if provided in an HOPD (i.e., payments for PO services are 23 percent of what would be payable if the procedures were performed in an HOPD).

The remaining chapters of this report discuss the Phase III findings that are directly relevant to an analysis of potential options for modifying Medicare payment policies to improve the value of services provided in ambulatory settings. Other findings from this phase are discussed in Appendix C.

3. POLICIES TO INCREASE UNIFORMITY IN PAYMENT UNITS AND DIFFERENTIALS

In this chapter, we discuss two policy options for increasing uniformity in the payment units used to pay for services and for standardizing the differentials across services. The options are to

- apply the OPPS packaging rules to services paid under the MPFS
- use HOPD costs to establish MPFS PE relative values.

These policies would lay the foundation for systematically addressing Medicare payment differentials for *facility-related* costs (i.e., HOPD/ASC payments and the MPFS PE) across settings. They would make the payment differentials more transparent and facilitate consideration of the policies discussed in Chapters Four and Five to increase the value of Medicare services.

APPLY PACKAGING RULES FOR HOSPITAL OUTPATIENT SERVICES TO PHYSICIAN OFFICE SERVICES

Background

As discussed in Chapter Two, the payment systems used for HOPD, ASC, and PO services define the services included in the unit of payment differently. ASC and HOPD payment policies were aligned in 2008, so they now package the same services into these units of payment. However, the MPFS uses substantially different definitions of units of payment for PO services. Differences in the units of payment are the main methodological limitation in comparisons of payment rates across settings.

Until 2008, the OPPS included only "minimal" packaging of services in APC payments. In 2008, CMS increased the number of ancillary and supportive services that are packaged as an "integral part" of a primary service (e.g., guidance services, image processing services, intraoperative services, diagnostic radiopharmaceuticals and contrast media). However, many services furnished on the same day are still paid separately, including most ancillary services (e.g., imaging, diagnostic laboratory tests), expensive drugs (those costing more than $65), and visits to an emergency department or clinic. In addition, certain new drugs and technologies and the acquisition costs of corneal tissue are paid separately via "pass-through" payments.

There are two important differences between MPFS and HOPD/ASC packaging policies. First, less packaging occurs for some PO services that are furnished during the same encounter. Generally, supplies and equipment are packaged into the PE component of the MPFS, but drugs and devices are paid separately. As a result, some services that are packaged in the facility payment as an integral part of the primary procedure when performed in an HOPD/ASC setting are paid as separate procedures under the MPFS. Second, surgical services are bundled into a

"global surgical period" for payment in the MPFS. Each surgical procedure is assigned a global surgical period of 0, 10, or 90 days. While the costs for all services provided on a separate day from the primary procedure are paid separately in the facility payment to an HOPD/ASC, some are bundled into the global period of the MPFS. Any pre- and postoperative care furnished during the global period is assumed to occur in the PO, and the facility-related costs are included in the PE for these services (regardless of whether the procedure itself was performed in a facility or PO). These differences are summarized in Table 3.1.

Table 3.1
Packaging Policies in Ambulatory Settings

Type of Service	Packaged Services in the OPPS-Based Facility Payment to an HOPD/ASC	Packaged Services in MPFS Payments (Work and Related PE Components)
Medical visits and procedures	• Services provided on the same day that are integral to the primary procedure are packaged • Most drugs, supplies, and equipment are packaged • Drugs above a cost threshold are paid separately with separate pass-through for certain new drugs • Many ancillary services paid separately	• Integral services are routinely packaged • Injections are packaged • Supplies are packaged; covered drugs paid separately • Diagnostic tests paid separately
Surgical procedures	• Same policies as for medical visits and procedures • Implanted devices are packaged • Separate pass-through payments for certain new devices • Any pre- and postoperative follow-up clinic services paid separately	• Pre-, intra-, and postoperative care within global surgical period bundled (0 or 10 days post- for minor procedure, 90 days post- plus 1 day pre- for major procedure), including treatment of complications, pain management, and supplies • Initial consult to determine need for surgery paid separately • Return to operating room paid separately • If performed in PO, implanted device or prosthetic would be paid separately
Imaging	• Same policies as for medical visits and procedures • Imaging process procedures that are an integral part of primary procedure are packaged • Contrast media are packaged	• Most supplies are packaged • Contrast media paid separately

The use of different units of service makes the payment differential for facility-related costs less transparent. The comparison of the Medicare OPPS and MPFS payment rates for the facility-related costs associated with a particular service does not account for the fact that—except with respect to services furnished during the 10- or 20-day global period—the OPPS rate includes the cost of a broader set of packaged services than the MPFS rate.

Data Analysis and Results

We investigated the impact of the different packaging/bundling rules on the measurement of payment differentials by constructing an analytic file from the 2008 5-percent sample Medicare claims files. The file contained claims for all beneficiaries with receiving one or more of the study procedures and any other claims for services provided to those beneficiaries on the same day or within a defined time period (typically one day pre- and three days post-). We compared HOPD payments with the office-related portion of MPFS PE payments for selected study procedures. We compared the payments based solely on the applicable procedure code, after additional services were included in the PO payments based on the OPPS packaging rules. Table 3.2 presents our results for spinal injection (CPT 62311).

Table 3.2
Comparison of Level 1 and Level 2 Payment Levels for Facility-Related Costs in HOPDs and POs, Spinal Injections (CPT 62311), 2008

Category	Incremental Mean Payment for Level, HOPD Procedures ($)	Total Mean Payment, HOPD Procedures ($)	Incremental Mean Payment for Level, PO Procedures ($)	Total Mean Payment, PO Procedures ($)	Ratio of HOPD to PO Payment
Level 1 (procedure only)	N/A	433	N/A	94	4.6
Level 2 (OPPS packaged)	0	433	26	120	3.6

Level 1 in Table 3.2 includes payment for the spinal injection procedure only. In HOPDs and ASCs, this is equivalent to the mean total payment to the facility associated with the procedure code for the service. For POs, we divided the MPFS PE payment into professional and office portions.[1] The professional portion is the PE component of the MPFS payable when the

[1] We used the procedure-specific RVUs to make this allocation. For example, we determined the PE component of the payment for PO services by multiplying the total payment by the ratio of the PE RVUs to the total RVUs in the non-facility setting. The ratio of the PE RVUs in the facility and non-facility settings was applied to the PE payment to determine the office and professional services portions. The amount

procedure is provided in a facility setting. As described in Chapter Two, we defined the office-related portion as the PE payment when the procedure is performed in a non-facility setting minus the PE payment when the procedure is performed in a non-facility setting. The difference represents the additional payment that a physician receives for performing the service in the PO and does not include any PE associated with the physician's work. Level 2 in Table 3.2 shows the effect of controlling for differences in the packaging rules by including additional services in the average PO payment based on the OPPS packaging rules. In an HOPD, the incremental payment for Level 2 always equals zero because the payment for the service is already bundled with the index procedure payment. For the PO, we calculated the incremental Level 2 payment as the sum, over all OPPS packaged procedure codes, of the product of the frequency of the service and the mean total payment for the office-related portion of the PE for that service. We calculated the office-related portion of the payment using the same methodology used in Level 1.

The effect of the differences in the packaging rules on the payment differentials for the study procedures is summarized in Table 3.3. The table shows the ratio of HOPD to PO payment rates at Level 1 and Level 2. The first column in that set shows the ratio for Level 1 average 2008 Medicare amounts under the 2008 payment rules (i.e., using the units of service defined in the OPPS and the MPFS payment system). The second column shows the ratio for Level 2, or the hypothetical payment differences for units of service derived by applying OPPS packaging rules to the PO payment rates; specifically, the payment for any service that is provided on the same day as a PO study procedure and that would be packaged under OPPS is added to the PO payment rate. This comparison shows that standardizing the unit of payment substantially reduces the measured payment differential for some, but not all, study procedures. For many of the procedures, changing the unit of service to OPPS packaging rules would not affect the payment differential.

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shown in Table 3.2 is the average Medicare payment amount for the office-related portion in the 2008 claims. For further details, see the discussion of Table 2.4 in Chapter Two.

Table 3.3
Effect of Standardizing Packaging Rules on Measured Payment Differentials for Selected Ambulatory Services

CPT Code	Procedure	Ratio of HOPD Payment to PO Payment for Office-Related PE, 2008 Payment Rules (Level 1)	Ratio of HOPD Payment to PO Payment for Office-Related PE, 2008 OPPS Packaging Rules Applied to PO Services (Level 2)
43239	Endoscopy	3.2	3.1
45378	Colonoscopy	4.0	4.0
62311	Spinal injection	4.6	3.6
70553	MRI of brain	1.2	1.2
72193	CT of pelvis	1.5	1.4
77418	IMRT	0.6	0.6
78465	SPECT	1.9	1.5
93510	Left heart catheterization	2.1	1.4
96413	Chemotherapy	1.1	1.1

In addition to making the payment differentials across ambulatory settings more transparent, adopting uniform packaging rules, in theory, would better align the financial incentives for improving efficiency in each system. Currently, the broader packaging rules used in the OPPS and the ASC payment system create incentives to reduce the use of unnecessary ancillary services. The MPFS does not create the same incentives because the ancillary services are paid separately. However, in analyses of patterns of utilization for selected study procedures, we did not observe greater frequencies of OPPS packaged services in POs relative to HOPDs and ASCs. Table 3.4 provides an example of the utilization of selected OPPS packaged services in conjunction with one study procedure, spinal injection (CPT 62311). The most common packaged service is fluoroscopic guidance, which was reported in Medicare claims at approximately equal rates in POs and HOPDs, despite being paid separately in POs and packaged in HOPDs. Because ASCs are not required to separately identify packaged services, they show very low frequency for these services; however, the PC billings for fluoroscopy guidance are comparable, suggesting that they are provided at similar frequencies. Results for other procedures can be found in Appendix B.

Table 3.4
Frequency of OPPS Packaged Procedures Billed on the Same Day as Spinal Injection Index Procedures (CPT 62311), by Site of Index Procedure, 2008

CPT/ HCPCS Code	Modifier	Description	HOPD (%)	ASC (%)	PO (%)
77003	N/A	Fluoroguide for spine injection	65	6	66
N/A	PC	Fluoroguide for spine injection	N/A	0	6
N/A	TC	Fluoroguide for spine injection	2	18	3
J1040	N/A	Methylprednisolone 80 mg injection	21	N/A	34
J3301	N/A	Triamcinolone acetonide injection NOS	12	N/A	24
J1030	N/A	Methylprednisolone 40 mg inj	12	N/A	17
Q9966	N/A	LOCM 200–299 mg/mL iodine, 1 mL	14	N/A	15
Q9967	N/A	LOCM 300–399 mg/mL iodine, 1 mL	13	N/A	8
J2250	N/A	Injection, midazolam hydrochloride	11	N/A	6
J3010	N/A	Fentanyl citrate injection	10	N/A	4

NOTE: NOS = not otherwise specified.

OPPS packaging applies to services provided by a single HOPD during an encounter. A challenge to the feasibility of this policy is that, in the PO setting, more than one physician may furnish services during an encounter. Table 3.5 shows an example using a single procedure, spinal injection. The table lists the frequency of selected services billed on the same day as the spinal injection that would be packaged under OPPS. The table shows that 71–86 percent of these services were billed by the same physician who billed for the spinal injection. The remaining services either were performed by a different practitioner or are identified as such because of inaccuracies in the claims. A similar pattern was observed for most of the other study procedures, although some types of OPPS packaged services are likely to be performed more frequently by a different practitioner.

Applying OPPS packaging rules to the MPFS would therefore require either a method for dividing the packaged payment among multiple physicians or a policy that holds the primary physician responsible for paying the other physicians. Alternatively, the MPFS packaging policy could include only OPPS packaged items and supplies that are billed by the physician providing the primary service in a PO, such as contrast media and drugs below the OPPS cost threshold for separate payment.

If the OPPS packaging policy were applied to PO services, the unit of service would be the same in the OPPS and MPFS for services with a 0-day global period. However, services with 10- or 90-day global periods would still differ in units because pre- and postoperative services would be packaged in the PO but not in the HOPD.

Table 3.5
Frequency of PO MPFS Claims for Selected Services Performed on the Same Day as Spinal Injection (CPT 62311) Submitted by the Physician Performing the Index Procedure, 2008

CPT/ HCPCS Code for OPPS Packaged Service	Modifier	Description of OPPS Packaged Service	Spinal Injection Procedures with OPPS Packaged Service Claim on Same Day (%)	OPPS Packaged Service Claims Submitted by Physician Performing Spinal Injection (%)
77003	N/A	Fluoroguide for spine injection	66	77
N/A	PC	Fluoroguide for spine injection	6	73
N/A	TC	Fluoroguide for spine injection	3	86
J1040	N/A	Methylprednisolone 80 mg injection	34	78
J3301	N/A	Triamcinolone acetetonide injection NOS	24	75
J1030	N/A	Methylprednisolone 40 mg injection	17	78
Q9966	N/A	LOCM 200-299 mg/mL iodine, 1 mL	15	73
Q9967	N/A	LOCM 300-399 mg/mL iodine, 1 mL	8	71

A peripheral issue raised by the different packaging rules is how the current limit on imaging services provided in the PO is applied. Allowing separate billing for items packaged in the HOPD rate allows the PO payment to exceed the amount that is payable to the HOPD. Packaging contrast media in PO radiology payments, consistent with the OPPS, would address this problem and is discussed in Chapter Five.

Summary

A first step in addressing payment differentials would be to standardize the packaging policies for services furnished during the primary procedure using the OPPS packaging rules. This would consistently define the unit of payment across settings and facilitate greater price transparency because Medicare payment amounts could be compared for similar services without the need to account for services that are an integral part of the procedure but paid separately under the MPFS. These policies would facilitate the measurement (and therefore the adjustment) of payment differentials, because units of service would be defined more consistently across settings. However, the policy also raises a potential payment equity issue. If there are substantial differences across physician practices in providing the OPPS packaged services, a payment based on average utilization would systematically overpay some practices and underpay others. Table 3.6 summarizes the factors and considerations discussed here with regard to standardizing the unit of payment by applying packaging rules to PO services.

Table 3.6
Summary of Considerations Related to Standardization of the Unit of Payment

Criteria	Considerations
Consistency with value-based care	Creates new incentives for value-based care by expanding the scope of packaging under the MPFS, although effects are expected to be limited based on preliminary analyses.
Administrative feasibility	Requires new billing and claims processing procedures for PO services. Difficult to administer when packaged services are provided by more than one practitioner.
Site-of-service payment equity	Introduces similar financial incentives and unit-of-service definitions in each setting. Ultimately, payment equity effects would be determined by the payment rates for the newly defined package of services and whether there is systematic variation across physicians in the frequency with which the packaged services are provided.
Price transparency	Facilitates the measurement of payment differentials.

USE HOSPITAL COSTS TO ESTABLISH PHYSICIAN FEE SCHEDULE PRACTICE EXPENSE RELATIVE VALUE UNITS

Background

Medicare uses two different cost-finding methodologies to establish payment rates under the OPPS and MPFS. For HOPD services, Medicare uses *accounting costs* reported in annual cost reports filed by hospitals to determine OPPS payment rates. Direct and indirect costs are allocated to each ancillary service department through a cost-finding methodology and then apportioned to Medicare based on a ratio of Medicare charges to total charges for the ancillary service department. The methodology relies on accurate cost finding and on charges that are consistently related to costs. However, there is evidence that charging practices are influenced by a number of factors (including competition, payer mix, and cost allocation practices) and that charges have become less meaningful measures of cost over time (Dobson et al., 2005). Concerns have been raised about the accuracy of the claims accounting methodology that CMS uses to allocate costs reported on OPPS claims to specific services. In particular, the practice of marking up higher-cost items to a lesser extent than lower-cost items has distorted the APC RWs for services involving high-cost items and services, such as device implants (Dalton, Freeman, and Bragg, 2008).

For services paid under the MPFS, CMS uses a "bottom-up" approach that takes into account recommendations by the AMA RUC regarding the specific resources required to perform a particular service, input prices for supplies and equipment, and specialty-specific survey information on PE per hour. Potentially misvalued services have been identified by various parties, including CMS, the Medicare Payment Advisory Commission (MedPAC), the AMA RUC, and the U.S. Government Accountability Office, and steps have been taken in recent years

to identify, review, and appropriately adjust some procedures. The Patient Protection and Affordable Care Act (Pub. L. 111-148) requires a review of potentially misvalued procedures. It includes codes that have experienced substantial changes in PEs, as well as other categories of codes that might have misvalued PE RVUs, including recently established codes for new technologies or codes that are frequently billed in conjunction with a single service.

Method for Determining PE RVUs. Currently, *direct*-cost PE RVUs are determined under the MPFS by procedure code in a two-step process:

1. CMS calculates the resource costs using refined direct PE inputs (clinical staff, equipment, and supplies) typically required to furnish a service based on its review of recommendations from the AMA's RUC.
2. The total current direct RVUs for services are reallocated during the annual update process based on the direct PE costs so that the relationship between the direct PE RVUs for any two services reflects the relative relationship between their direct PE costs and any changes in the direct PE RVUs are budget-neutral. To allocate equipment costs, CMS assumes a 75-percent utilization rate for high-cost diagnostic imaging equipment (CT and MRI scanners) and a 50-percent utilization rate for other equipment.

Indirect expenses (administrative labor, office expense, and all other expenses exclusive of malpractice insurance) are based on specialty survey data on indirect PE costs incurred per hour worked. CMS allocates indirect expenses to individual services based on the sum of direct PE RVUs and the greater of either clinical labor costs or the physician work RVUs.

The methodology for calculating the facility and non-facility PE RVUs is the same but is applied independently. To maintain budget neutrality during the annual update process, the aggregate direct and indirect cost pools are scaled so that they do not exceed the current aggregate cost pools. Other than services with a 10- or 90-day global period (for which the pre- and postoperative care is assumed to occur in the PO), facility-setting services have no direct PE RVUs, and indirect expenses are allocated to these services based only on the work component.

Method for Determining OPPS RWs. OPPS RWs are determined by estimating the median cost for the procedures assigned to the APC using Medicare claims and cost report data that reflect both direct and indirect costs. The RW for each APC is based on its median cost relative to a midlevel office visit. When the weights are recalibrated each year, the changes are "budget-neutral" relative to estimated payments using the RWs in effect prior to recalibration.

Variation in Payment Differentials. Because of the differences in the unit of service (APC versus procedure code) and the different methodologies used to develop the facility-related payment (cost-based RW versus PE RVUs), there is no consistent pattern in how payments for individual procedures vary across settings under current policy. To illustrate, Table 3.7 compares

the relative costs determined under the OPPS to the relative costs determined under the MPFS for APC 337 (MRI and Magnetic Resonance Angiography Without Contrast, followed by contrast), the APC to which the study procedure CPT 70553 (MRI of the brain without contrast followed by contrast material and further sequences) is assigned. The third column shows the median cost for each procedure (based on 2009 data) that was used to determine the 2011 OPPS payment rate of $533.60 for the APC shown in the fifth column. The fourth column shows the relationship of the median cost for a given procedure to the median cost for CPT 75561, the procedure with the lowest RVU under the MPFS. Columns six through eight contain comparable information on the TC of the procedures under the MPFS based on 2011 fully implemented RVUs. The RVUs for each procedure are shown in the sixth column, and the relationship between the RVU for a given procedure to the RVU for the TC of CPT 75561 is shown in the seventh column. The payment rates shown in the eighth column are based on a CF of $33.9764 and do not account for the cap on imaging procedures, which would limit the MPFS payment to the OPPS rate. As shown in the last column, the ratio of MPFS payments to OPPS payments in the single APC range from 0.66–0.86 for procedures unaffected by the imaging cap to 1.11 (CPT 70546 and 70549) before the cap is applied. The variation in MPFS payments within the APC is substantial considering the "two-times" rule that is used to group procedure codes into APCs based on comparable resource usage.

A major step toward increasing uniformity in the payment differentials would be to use the same methodology to develop the payment rates. The processes used to establish both the RVUs and hospital costs have limitations that would need to be weighed in assessing this policy. One approach, which we explore next, would be to use the OPPS cost data to allocate PEs under the MPFS. It is more feasible than the alternative approach of using the MPFS RVUs in the OPPS rate-setting process because the HOPD cost data essentially include all procedures furnished in either a facility or non-facility setting, whereas the MPFS has no PE RVUs (other than for the PC) for services furnished only in facility settings.

In addition to bringing greater consistency to the payment differentials across HOPDs and POs, there are several other advantages to using the OPPS cost data to establish PE RVUs. First, it creates a methodology for systematically addressing payment differentials across settings. In this regard, Section 3134 of the Patient Protection and Affordable Care Act authorizes the Secretary of the Department of Health and Human Services to conduct surveys, other data collection activities, studies, or other analyses to facilitate the review and appropriate adjustment of potentially misvalued services and to consolidate individual services into packaged codes for payment under the MPFS.

Second, this approach reduces the dependency in the MPFS rate development process on the RUC process by drawing on an existing process and readily available data to establish

payment rates and address potentially misvalued procedures. Concerns have been raised that the RUC-based estimates of the amount of labor, equipment, and supplies and the prices used in the RVU calculations could lead to an unrealistic estimate of actual costs. The accuracy of the estimations is hampered by the lack of current information on indirect practice expenses for many specialties.

Of particular concern is the influence of physician specialty societies on the RUC (Goodson, 2007). For example, there is evidence that the Relative Value Update Committee's median intraservice time estimates for surgical procedures are significantly longer than intraservice times from operative logs, leading to an overstatement of the practice expense costs of surgical procedures relative to non-invasive procedures (McCall, Cromwell, and Braun, 2006). Most RUC recommendations tend to increase estimates of the resources used to provide services, with little consideration for possible productivity gains. In a budget-neutral process, the effect is to reduce relative payment rates for services with unchanging resource use requirements (e.g., evaluation and management visits) (Ginsburg and Berenson, 2007). In this regard, we found that if we estimated PO costs without applying the scaling factors used in the MPFS rate-setting process, on average, PO costs were higher than HOPD costs (see Appendix C). Estimating procedure-specific indirect costs is also challenging; CMS recently revised its methodology for allocating indirect costs to individual procedure codes, but the 2011 MPFS final rule acknowledges the continuing methodological difficulty in doing so.

A third benefit of using OPPS-based cost estimates is that it would eliminate the need for carrier pricing of new services, such as CPT 70559 (MRI of the brain with and without dye) in Table 3.8.

Both rate development processes have shortcomings, and it is not readily apparent whether the OPPS methodology more accurately reflects relative costs than the RUC process. A potential disadvantage of using the OPPS-based cost estimates is the APC groupings. If there is significant within-APC variation across physician practices, practices providing more resource-intensive services would be disadvantaged. We did not investigate this issue during our study, but we note that the "two-times" rule for APC procedure groupings limits the amount of cost variation within an APC. Further, the OPPS rate-setting process produces procedure-specific costs that could be used in lieu of APC median costs if further analysis finds significant within-APC variation across physician practices.

Table 3.7
Comparison of Relative Costs for APC 337 Procedures and 2011 Payment Differentials

1	2	3	4	5	6	7	8	9
CPT Code	Description	HOPD Median Cost (2009) ($)	Ratio of Median Cost of Procedure to Median Cost of CPT 75561	2011 OPPS Payment ($)	2011 Fully Implemented MPFS TC RVU	Ratio of RVU for Procedure to RVU for CPT 75561	2011 MPFS Fully Implemented Payment Before Cap ($)	Ratio of MPFS Payment to OPPS Payment
70543	MRI orbit, face, and/or neck without contrast followed by with contrast	525.89	1.15	533.60	13.10	1.26	445.09	0.83
70546	Magnetic resonance angiograph head without contrast followed by with contrast	525.68	1.15	533.60	17.38	1.68	590.51	1.11
70549	Magnetic resonance angiograph neck without contrast followed by with contrast	448.54	0.98	533.60	17.39	1.68	590.85	1.11
70553	MRI brain without contrast followed by with contrast	536.93	1.17	533.60	12.80	1.24	434.90	0.82
70559	MRI brain during intracranial procedure without contrast followed by with contrast	685.39	1.50	533.60	Carrier-priced	Carrier-priced	Carrier-priced	Carrier-priced
71552	MRI chest without contrast followed by with contrast	527.58	1.15	533.60	15.79	1.52	536.49	1.01
72156	MRI neck/spine without contrast followed by with contrast	531.55	1.16	533.60	12.52	1.21	425.38	0.80
72157	MRI chest/spine without contrast followed by with contrast	533.71	1.17	533.60	11.41	1.10	387.67	0.73
72158	MRI lumbar spine without contrast followed by with contrast	544.21	1.19	533.60	12.46	1.20	423.35	0.79
72197	MRI pelvis without contrast followed by with contrast	517.99	1.13	533.60	13.33	1.29	452.91	0.85
73220	MRI upper extremity without contrast followed by with contrast	478.68	1.05	533.60	13.46	1.29	457.32	0.86
73223	MRI joint upper extremity without contrast followed by with contrast	506.42	1.11	533.60	12.48	1.20	424.03	0.79
73720	MRI lower extremity with contrast followed by without contrast	468.69	1.03	533.60	13.40	1.30	455.28	0.85
73723	MRI joint lower extremity without contrast followed by with contrast	485.96	1.06	533.60	12.43	1.20	422.33	0.79
74183	MRI abdomen without contrast followed by with contrast	527.58	1.15	533.60	13.39	1.29	454.94	0.85
75561	Cardiac MRI for morphology and function with contrast	457.22	1.00	533.60	10.37	1.00	352.34	0.66
75563	Cardiac MRI with stress imaging and contrast	577.54	1.26	533.60	12.38	1.19	420.63	0.79

NOTE: The 2011 MPFS fully implemented payment before cap is based on $33.9764 CF prior to application of the imaging cap.

Potential Options for Using OPPS Costs to Establish PE RVUs. There are different policy options for using HOPD cost data to determine the RVUs:

- Median cost data could be used to establish either procedure-specific or APC-level relative values for the PE component. Since the APCs are groupings of clinically coherent procedures with similar resource costs, establishing APC-level values may be sufficient and would provide greater consistency in payments across HOPD and PO settings. If there are substantial within-APC variations across physician practices, using APC-level relative values would reduce payment accuracy. Also, it could lead to physician practices "skimming" less costly procedures and referring the more costly ones to the hospital.
- The HOPD cost data could be used to establish the total (direct-plus-indirect) PE RVUs for non-facility settings or could replace only the direct PE RVUs. POs have a higher percentage of indirect costs than HOPDs, and the percentage of indirect costs also varies much more than in HOPDs (Wynn et al., 2008). The cost data that are used to develop the OPPS RWs include both direct and indirect expenses and are most comparable to the total PE inputs for the non-facility setting. If the cost data were used in lieu of both direct and indirect PE RVUs in the non-facility setting, the payment differentials for facility-related services provided in POs and HOPDs would be uniform.

This latter option raises an issue regarding how the PE for facility settings (largely indirect expenses) should be determined. The current method of allocating indirect expenses across procedures provided in both the facility and non-facility setting based on the sum of the work RVUs and direct PE RVUs would no longer be valid. One option would be to develop a new methodology to allocate indirect PE expenses to services provided in the facility setting (e.g., time). Another option would be to replace only the direct PE RVUs with the OPPS RWs and to retain the current MPFS method for allocating indirect expenses. Under the latter option, the payment differential between the HOPD and PO settings would continue to vary because of variation in MPFS indirect expense allocations.

Data Analysis and Results

A full examination of alternative methods and the implications of using HOPD costs to establish MPFS PE RVUs was beyond the scope of this study. As a preliminary analysis, we explored the likely redistributional impacts by substituting on a budget-neutral basis the OPPS RWs for the direct cost RVUs. We then allocated indirect expenses on a budget-neutral basis

using the revised OPPS-based direct PE RVUs and the physician work RVUs. Carrier-priced services and services that had facility-setting PE RVUs only were excluded from the analysis.

Using the OPPS-based methodology to calculate MPFS PE RVUs on a budget-neutral basis would lead to significant redistribution of MPFS PE RVUs across services. Some categories of services would be allocated additional MPFS PE RVUs under the OPPS-based methodology, while other categories would be allocated fewer PE RVUs. Table 3.8 summarizes these redistributional effects using Berenson-Eggers Type of Service (BETOS) codes to group categories of services. The table shows the weighted mean ratio of 2011 MPFS PE RVUs under the OPPS-based methodology compared to the status quo methodology, using service volume as the weight. Under the OPPS-based methodology, PE RVUs for non-facility services would increase 41 percent for evaluation and management services; decrease 25 percent and 7 percent for imaging services and diagnostic tests, respectively; and remain basically unchanged for procedures. The MPFS PE for facility-based services would change relatively little under the OPPS-based methodology, which is largely a function of the PE for most services including indirect costs only (and therefore not affected by the change in direct costs) and the separate indirect cost allocation for facility and non-facility setting services.

Within each of these categories (defined by the first digit of the BETOS code), there would be different effects for subcategories of services. The lower half of Table 3.8 shows these subcategories as defined by the first two digits of the BETOS code. In the imaging category, the MPFS PE for advanced imaging services would decrease by a greater amount than for standard imaging services. In the evaluation and management category, the MPFS PE for non-facility office visits and specialist services would increase, but the home-visit PE would decrease. In the procedures category, the MPFS PE for major procedures would increase (except cardiology procedures) but minor procedure non-facility PE would decrease. Under the MPFS, the non-facility setting PE for major procedures that are generally performed in facility settings is the same as the PE for the facility setting, so the OPPS-based method accounts for office costs that are not currently accounted for in the PE RVUs for the non-facility setting.

Table 3.8
Average Ratio of MPFS PE RVUs Calculated Using an OPPS-Based Methodology Compared to the Average 2011 Status Quo PE RVUs

First Digit of BETOS Code	Facility Services	Non-Facility Services
[I] Imaging	0.99	0.75
[M] Evaluation and management	0.88	1.41
[P] Procedures	0.87	1.00
[T] Tests	1.00	0.93
Total	0.95	1.18
First Two Digits of BETOS Code	**Facility Services**	**Non-Facility Services**
[I1] Standard imaging	0.99	0.82
[I2] Advanced imaging	0.97	0.51
[I3] Echography/ultrasonography	1.00	0.71
[I4] Imaging/procedure	1.02	0.61
[M1] Office visits	1.02	1.37
[M4] Home visit	0.77	0.75
[M5] Specialist	0.87	1.75
[P1] Major procedure	0.93	1.57
[P2] Major procedure, cardiovascular	0.97	0.85
[P3] Major procedure, orthopedic	0.69	2.15
[P4] Eye procedure	0.58	2.17
[P5] Ambulatory procedures	0.76	2.71
[P6] Minor procedures	0.84	0.70
[P7] Oncology	1.14	0.67
[P8] Endoscopy	0.85	1.59
[P9] Dialysis services	0.69	0.67
[T1] Lab tests	0.98	0.44
[T2] Other tests	1.01	1.14
Total	0.98	1.18

NOTE: Weighting is by procedure frequencies. T1 includes only laboratory services that are payable under the MPFS that have either a PE component (e.g., clinical pathology consultations) or a TC component (e.g., cytopathology). Clinical lab tests paid under the Clinical Diagnostic Laboratory Fee Schedule are not included.

The OPPS-based methodology for calculating PE RVUs would also have an effect on site-of-service payment differentials within APCs. Table 3.9 illustrates the effect of the OPPS-based methodology for calculating MPFS PE RVUs on payment differentials for similar services. The table shows the OPPS payment rates and MPFS TC PE payment rates for services in APC 337, the APC shown in Table 3.7. In Table 3.9, payment rates using the OPPS-based PE methodology are shown along with the status quo OPPS and MPFS rates from Table 3.7. Under the status quo PE

methodology, the ratio of MPFS payments to OPPS payments in the single APC range from 0.66–0.86 for procedures unaffected by the imaging cap to 1.11 (CPT 70546 and 70549) before the cap is applied. After the cap is applied, the ratio for these two codes would be 1.0.

Under the OPPS-based PE methodology, the MPFS payments in this APC would range from 0.31 to 0.33 of the OPPS rate paid to HOPDs. The range is attributable to differences in the indirect PE allocation.

A similar pattern was observed for other APCs. Within APCs, PO payments vary less under the OPPS-based methodology compared to the status quo. To quantify this effect, we calculated the standard deviation of PO payment rates in each APC under the status quo and the OPPS-based methodology. The mean standard deviation payment for MPFS services across all APCs was $117 under the status quo and $51 under the OPPS-based methodology.

Summary

A major step toward increasing uniformity in the payment differentials would be to use the same methodology to develop the payment rates. Methodological concerns have been raised regarding both the OPPS and MPFS methods for estimating the costs that are the basis of relative payment rates. However, it is more feasible to apply the OPPS cost-finding methodology to the MPFS than vice versa. At a minimum, the OPPS-based costs could be used to identify procedures that are potentially misvalued by current MPFS rate-setting methods. Using the OPPS-based costs to develop MPFS PE RVUs would result in significant shifts in relative payment amounts for services in the MPFS. It would also reduce the variation in HOPD-PO payment differentials across services, so the payment differentials would be more transparent. Using the APC groupings to establish PE RVUs instead of procedure-specific RVUs would reduce payment accuracy for individual procedures and could lead to patient skimming if there are systematic differences in procedure mix within a given APC. Table 3.10 summarizes the factors and considerations discussed here with regard to using hospital costs to establish MPFS PE RVUs.

Table 3.9
Comparison of 2011 Payment Differentials for APC 337 Procedures Using the MPFS Status Quo RVUs and OPPS-Based RVUs

CPT Code	Description	2011 OPPS Payment Rate ($)	2011 MPFS Fully Implemented Payment Before Cap ($)	Ratio of MPFS Payment to OPPS Payment	MPFS OPPS-Based Payment ($)	Ratio of MPFS OPPS-Based Payment to OPPS Payment
70543	MRI orbit/face/neck without contrast followed by with contrast	533.60	445.09	0.83	173.18	0.32
70546	Magnetic resonance angiograph head without contrast followed by with contrast	533.60	590.51	1.11	182.23	0.34
70549	Magnetic resonance angiograph neck without contrast followed by with contrast	533.60	590.85	1.11	181.81	0.34
70553	MRI brain without contrast followed by with contrast	533.60	434.90	0.82	180.51	0.34
70559	MRI brain during intracranial procedure without contrast followed by with contrast	533.60	Carrier-priced	Carrier-priced	Carrier-priced	Carrier-priced
71552	MRI chest without contrast followed by with contrast	533.60	536.49	1.01	178.44	0.33
72156	MRI neck/spine without contrast followed by with contrast	533.60	425.38	0.80	180.96	0.34
72157	MRI chest/spine without contrast followed by with contrast	533.60	387.67	0.73	179.55	0.34
72158	MRI lumbar spine without contrast followed by with contrast	533.60	423.35	0.79	177.85	0.33
72197	MRI pelvis without contrast followed by with contrast	533.60	452.91	0.85	176.65	0.33
73220	MRI upper extremity without contrast followed by with contrast	533.60	455.28	0.85	177.83	0.33
73223	MRI joint upper extremity without contrast followed by with contrast	533.60	422.33	0.79	178.44	0.33
73720	MRI lower extremity without contrast followed by with contrast	533.60	457.32	0.86	180.52	0.34
73723	MRI joint lower extremity without contrast followed by with contrast	533.60	422.33	0.79	177.06	0.33
74183	MRI abdomen without contrast followed by with contrast	533.60	454.94	0.85	180.09	0.34
75561	Cardiac MRI for morphology and function with contrast	533.60	352.34	0.66	175.20	0.33
75563	Cardiac MRI with stress imaging and contrast	533.60	420.63	0.79	175.68	0.33

NOTE: MPFS OPPS-based payment is based on a $33.9764 CF prior to application of the imaging cap.

Table 3.10
Summary of Considerations Related to Using OPPS Median Costs to Establish MPFS PE RVUs

Criteria	Considerations
Consistency with value-based care	There are concerns about the accuracy of OPPS-based cost estimates, and the OPPS-based cost estimates may not be generalizable to the PO setting. However, there are sufficient issues with misvalued codes in the MPFS and in the RUC process to consider this alternative.
Administrative feasibility	Draws on an existing administrative process to establish and update the PE RVUs.
Site-of-service payment equity	Creates a mechanism to address payment differentials in a systematic way, particularly if APC-level costs were used. However, APC-level payments potentially raise questions about payment accuracy and adverse patient selection for hospitals.
Price transparency	Reduces the variation in payment differentials across services, particularly if procedure-specific rates are used.

4. POLICIES THAT ADDRESS PAYMENT DIFFERENTIALS

Chapter Three discussed our analyses to standardize for differences in unit of service definitions. After doing so, we found that substantial site-of-service differentials remain for some services. The differentials vary by type of service and within service types, and, for the most part, they are not fully explained by differences in the nature of the service or patient characteristics. These differentials potentially create perverse incentives that are contrary to value-based purchasing. This chapter considers policies that could be used to address these differentials. For some subsets of services, Medicare already follows policies that limit payment differentials between settings. Policies that further reduce site-of-service payment differentials should increase the likelihood that care is delivered cost-efficiently to Medicare beneficiaries and could potentially reduce Medicare spending. Policies that address the site-of-service differential involve two basic questions:

- What is an appropriate differential between settings?
- What services should be included in the revised payment policy?

In this chapter, we first discuss two basic alternatives that could be used to address inappropriate payment differentials:

- base payment on the justifiable cost differences in providing care in various ambulatory settings.
- base payment on the cost of providing medically appropriate care in the least costly setting.

We then identify several types of services that might be included in a policy to reduce payment differentials across ambulatory settings. The policies require a standard definition of the services included in the unit of payment. The policies could be applied at different levels of packaging, but there should be consistent packaging rules for at least the primary procedure (i.e., OPPS packaging rules, in order to uniformly apply the policy across settings).

DETERMINING THE APPROPRIATE DIFFERENTIAL BETWEEN SETTINGS

There are two basic policy approaches to determining the appropriate differential between settings. The first would establish payment differentials for the affected services based on justifiable cost differences in providing care in the range of ambulatory settings. The second would determine payments based on providing medically appropriate care in the least costly setting. As discussed next, these policies are not mutually exclusive. For example, payment could

be based on the payment for providing services in the least costly (PO) setting with an add-on to recognize higher justifiable costs for providing services in HOPDs and ASCs.

Payment Differentials Based on Justifiable Cost Differences

One challenge in implementing this approach is to determine actual cost differences, since there are no comparable sources of cost data across settings. As discussed in Chapter Three, Medicare uses two very different cost-finding approaches to establish rates under the OPPS and MPFS. With respect to ASC services, sources of data that can be used to estimate the costs of specific procedures in ASCs are scarce. The U.S. Government Accountability Office (2006) performed a survey of ASC costs to evaluate the applicability of APCs to ASC payments, but the data are not available to the public. The Medical Group Management Association publishes survey results for a limited number of single- and multispecialty ASCs, including aggregate financial data. Some states, such as California, also collect and make available for public use some aggregated financial data on licensed ASCs that can be linked to ASC administrative data.

Ideally, resource costs would be used to measure the cost difference across settings. Resource costing identifies each component of a health care activity, determines the type and amount of resources used for that component, and attaches unit costs to each resource so that the cost of the component and the overall cost of the activity can be calculated. It is an expensive cost-finding methodology that may not be feasible for use on a broad scale in a payment system.

After determining the cost differentials between settings using available data, another challenge is to determine how much of the cost differential is attributable to justifiable cost differences versus inefficiencies and the different approaches to estimating procedure-level costs.

HOPD-ASC Payment and Cost Differentials. The HOPD-ASC payment differential is currently determined by budget-neutrality constraints on the ASC payment rates but could be established using cost differentials. Our preliminary analysis of California financial data suggests that the cost differential was comparable to the 2008 CF (about 67 percent of the OPPS CF) (Wynn et al., 2008). Since that time, the ASC payment rates have eroded due to the application of budget-neutrality provisions during the annual recalibration of the RW and lower update factors (CMS, 2010a). ASCs are now paid about 56 percent of the OPPS rate for non–office-based procedures.

MedPAC and others have recommended that CMS collect cost data from ASCs so that the payment rates can be compared to the cost of providing services. In the absence of an ASC CF based on cost, a more transparent and consistent relationship between HOPD and ASC services could be maintained over time by using the same RWs for ASC and HOPD services. Currently, a separate budget-neutrality factor is applied to the OPPS RWs to ensure that estimated ASC payments are not affected by the annual recalibration of the RWs. The 2011 adjustment factor is

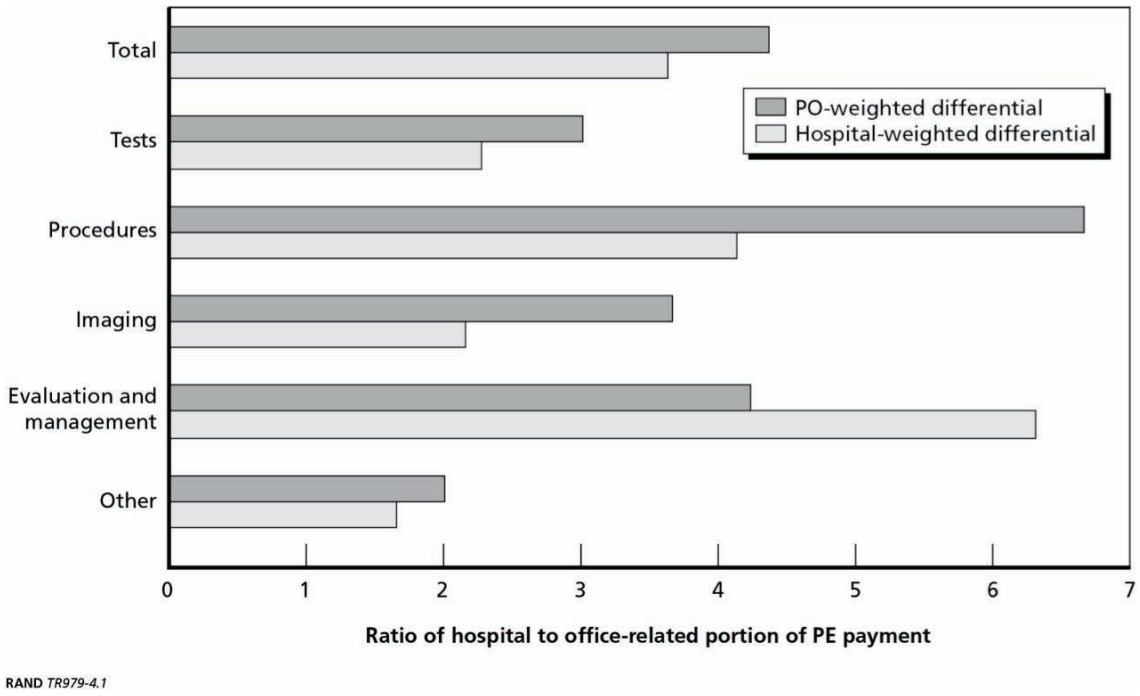
0.924 (i.e., the ASC RW is 7.6-percent lower than the OPPS RW). The same RWs could be used under both systems by making a single budget-neutrality calculation for both HOPDs and ASCs. A drawback to the single budget neutrality adjustment is that ASC aggregate payments would be affected by recalibration changes attributable to HOPD non-surgical services. The alternative would be to make an ASC-specific budget neutrality adjustment to the conversion factor rather than the relative weights. Under the latter approach, the payment differential between HOPDs and ASCs would continue to fluctuate, but the differential would be more transparent because it would require only a comparison between the conversion factors. This alternative would result in the same aggregate ASC payments as under current policy.

HOPD-PO Payment Differentials. We used available data and documents from the 2011 rulemaking processes for both the OPPS and the MPFS to develop measures of the overall payment differentials between services provided in both settings. To measure payment differentials, we compared the 2011 OPPS standard payment rate for the APC to which the procedure is assigned to the office-related portion of the PE component for PO services (i.e., the difference between the PE for non-facility and facility settings) without regard to differences in the definition of units of service or multiple-procedure discounting. The relative proportion of services provided in each setting varied by procedure code. We weighted the payment rates in both settings by the HOPD volumes to compare the payments for services furnished by hospitals with what the payments would be if the services were furnished in POs. Similarly, we weighted the payment rates in both settings by the PO volumes to compare the payments for services furnished in POs with what the payments would be if the services were furnished in HOPDs.

Our results are summarized by type of service in Figure 4.1. Overall, HOPDs are paid, on average, 3.6 times more than what would be paid for the office-related PE component of the services in the PO setting, and facility payments for services that are provided in POs and other non-facility settings would be 4.4 times higher if provided in an HOPD (i.e., the office-related PE component of PO services are 23 percent of the HOPD facility payments). The ratios are different because the mix of services provided in each setting is different. The markedly different ratios for procedures are likely attributable to some surgical services for which there is no separately determined non-facility PE RVU being performed in POs. An example is cataract surgery (which was performed 5 percent of the time in a PO). The MPFS PE payment is the same when services are provided in an HOPD/ASC or PO (making the office-related portion of the PE zero). Our results should be interpreted as preliminary, exploratory findings because they do not account for packaging differences. Nevertheless, it is unlikely that standardizing according to the OPPS

packaging rules would alter the overall finding that the payment differentials are substantial, vary by type of procedure, and likely exceed the cost differentials.[1]

Figure 4.1
Ratio of HOPD Facility Payments to Office-Related Portion of PE Payments for PO Services, by Type of Service, 2011



Payments in All Settings Determined by the Payment Rate for the Least Costly Setting

Medicare has already adopted this policy for several types of services, such as diagnostic laboratory tests that are paid under the Clinical Laboratory Fee Schedule, outpatient rehabilitation therapies, and office-based procedures provided in an ASC. Extending the policy to additional HOPD services raises questions about how the costs attributable to maintaining hospital standby and emergency services should be paid. Currently, these services are recognized as a "public good" and the costs are being passed to all users through higher markups for all services, including those that could be provided in a less costly setting. If hospitals stop providing services that can be provided in a less costly setting, the allocated cost for hospital-only

[1] We explored developing an overall measure of cost differential, but we were unable to determine the extent to which the MPFS direct and indirect costs should be scaled to reasonably approximate actual costs. See Appendix A for a more detailed discussion of the methodology and Appendix C for the sensitivity analysis of the results.

services will increase, and expensive diagnostic equipment that must be maintained for inpatient and emergency services may be underutilized. Potential solutions are as follows:

- Continue to pay for some or all of the costs of standby services. The amount could be standardized and made more transparent through a percentage add-on for all services (e.g., 120 percent of amount payable in the least costly setting).
- Pay more for services that can be provided only in a hospital setting to offset the impact of paying less for services that can be provided in lower-cost settings. This would eliminate the current cross-subsidization of costly standby services and shift the higher costs of providing ambulatory services in a hospital to services that can only be provided in that setting.
- Create a new and separate subsidy for "standby capacity," independent of fee-for-service payments for individual services. Essentially, this policy would make a separate payment for the higher costs attributable to hospital standby services as a "public good" and pay for ambulatory services based on the amount payable in the least costly setting. The issue of an appropriate subsidy for standby capacity could be examined in conjunction with a reevaluation of the adjustments for indirect medical education and having a disproportionate share of low-income patients under health care reform.

Other Policy Options

Within the two basic alternatives outlined here, there are other options that could address the differential, including the following:

- Base the payment for hospital outpatient services on a blend of the HOPD and PO rates. This option, which was in place prior to the implementation of the OPPS, allows some recognition of higher costs.[2] The blended payment differential would vary by procedure, based on the size of the current payment differential between the two settings.
- Establish a uniform markup for targeted HOPD services that is less than the amount of the current payment differential. In Chapter Three, we discussed standardizing the HOPD-PO differential using the OPPS RWs in the PE

[2] Prior to implementation of the OPPS, hospitals were paid a blended rate for ASC-approved ambulatory surgery (42-percent cost payment amount and 58-percent ASC rate amount), radiology (42-percent cost payment amount and 58-percent MPFS technical component), and other diagnostic tests exclusive of clinical laboratory tests (50-percent cost payment and 50-percent MPFS payment).

component of the MPFS. If this approach were adopted, the OPPS CF for targeted services could be reduced to a multiple of the MPFS CF. Ideally, the markup above the MPFS CF would be based on the estimated value of HOPD standby costs and other justifiable cost differences, such as higher infrastructure and staffing costs.

- Impose a ceiling on the markup. Current policies limit MPFS payments for diagnostic radiology services to the amount payable under the OPPS. The corridor of payment variation could be further reduced by imposing a cap on HOPD services (e.g., cap the OPPS rate at a multiple of the MPFS rate). Payment variation could also be reduced by creating a floor for PO procedures. Either approach rests on confirming that the MPFS non-facility rates are appropriately established and, in particular, that the method for allocating indirect PE costs is reasonable. As discussed in Chapter Three, the current policies may overallocate indirect expenses to facility-based services.

TYPES OF SERVICES THAT COULD BE INCLUDED IN A POTENTIAL REVISED POLICY

In this section, we identify several types of services that are candidates for policies addressing site-of-service differentials and estimate the effects of paying for these services at the rate of the least costly setting. Candidate services are those that could be appropriately provided in either a HOPD or PO setting to virtually all patients. Here, we discuss four categories of potential services: ASC-covered office-based procedures, other office-based procedures, low-cost procedures assigned to Level 1 APCs, and services furnished by provider-based entities.

ASC-Covered Office-Based Procedures

CMS defines office-based procedures for the purposes of the ASC payment system as procedures that are commonly performed in a PO. Generally, the definition includes procedures that are performed more than 50 percent of the time in a PO setting. Payment for office-based procedures performed in an ASC is capped at the amount payable under the MPFS for services provided in a PO; however, services that were approved ASC procedures before 2008 are exempt from the payment limitation.

As of 2011, CMS had defined 559 procedures as "office-based." Table 4.1 lists the highest-volume HOPD services among the ASC-covered office-based services. It shows the difference between the OPPS, ASC, and PO rates for these services. The ASC rate is based on the lower of the fully transitioned MPFS non-facility setting PE, or 56 percent of the OPPS rate. For PO services, both the non-facility setting PE and the office-related portion of the PE (the difference

between the fully transitioned PE for the non-facility and facility settings) are shown. There is no difference in the PE for facility and non-facility settings for two procedures that do not have a physician work component: CPT 36430 (blood transfusion service) and CPT 51798 (ultrasound urine capacity measure).[3] Generally, these services are payable under the MPFS only when they are provided in a non-facility setting. The MPFS rates are based on fully implemented RVUs and a $33.9764 CF.

Table 4.1
Top 20 Office-Based ASC-Covered Procedures, by HOPD Volume

CPT Code	Description	HOPD Volume	OPPS Rate ($)	ASC Rate Basis	ASC Rate ($)	MPFS Non-Facility PE ($)	Office-Related Portion of Non-Facility PE ($)
36430	Blood transfusion service	553,817	233.61	MPFS	30.58	30.58	N/A
51702	Insertion of temporary bladder catheter	286,442	46.23	OPPS	26.00	48.59	37.37
29580	Application of paste boot	242,941	77.15	MPFS	31.26	31.26	16.31
20610	Drain/injection of major joint/bursa	222,566	183.78	MPFS	48.59	48.59	28.88
12001	Repair superficial wound(s)	126,041	91.81	MPFS	51.30	51.30	38.73
29125	Apply forearm splint	104,817	77.15	OPPS	43.40	44.85	24.46
17000	Destruction of premalignant lesion	97,845	62.70	OPPS	35.27	55.38	23.44
12002	Repair superficial wound(s)	94,761	91.81	OPPS	51.64	58.10	42.47
17003	Destruct of premalignant lesion (2–14)	82,250	29.80	MPFS	4.08	4.08	2.38
51701	Insertion of bladder catheter	77,540	46.23	OPPS	26.00	33.64	24.80
51798	Ultrasound urine capacity measure	75,410	46.23	MPFS	16.99	16.99	N/A
12011	Repair superficial wound(s)	73,473	91.81	OPPS	51.64	63.20	48.59
11100	Biopsy skin lesion	67,888	103.14	OPPS	58.01	71.01	51.30
11721	Debride nail (6 or more)	65,582	62.70	MPFS	22.76	22.76	17.33
29515	Application of lower leg splint	60,630	77.15	OPPS	43.40	43.83	22.42
10060	Drainage of skin abscess	59,222	102.67	OPPS	57.75	67.61	18.01
30901	Control of nosebleed	58,092	78.04	OPPS	43.90	52.32	36.69
69210	Removal of impacted ear wax	49,367	46.23	OPPS	26.00	28.88	18.01
38221	Bone marrow biopsy	45,757	257.53	MPFS	99.89	99.89	73.05
67028	Injection of eye drug	44,134	223.98	MPFS	48.25	48.25	1.70

NOTE: ASC rate basis is determined by comparing 56 percent of the OPPS rate and the 2011 fully implemented MPFS non-facility setting PE using a $33.9764 CF.

[3] Although classified as a surgical procedure in the CPT list, CPT 51798 is a radiology service performed by a technician.

As a maximum savings estimate, capping the OPPS payment for ASC-covered office-based procedures at the MPFS PE for the non-facility setting would reduce total Medicare payments for these services by about 51 percent, or $410 million using the 2011 fully implemented rates. Paying at the lesser of the OPPS rate or 150 percent of the MPFS PE would save up to $325 million. However, the list of high-volume ASC-covered office-based procedures is a mix of elective and non-elective procedures. The underlying assumption that there are no substantial differences in the nature of the procedure or patient characteristics may not apply to all listed procedures. An example is the procedure with the highest HOPD volume, blood transfusion (CPT 36430),[4] which would also generate the most savings. The OPPS rate for the procedure is $233.61, compared to $30.58 when it is furnished in an ASC or PO. The differential may be attributable in part to packaging differences (which are not accounted for in the table), but there may also be differences between patients receiving blood transfusions as a hospital outpatient service and those who receive a transfusion in an office setting, typically as an oncology patient. This suggests that any potential policy should be implemented for selected procedures or situations only (e.g., to address the payment differential for blood transfusions in conjunction with oncology treatments) rather than on an across-the-board basis for all ASC-covered office-based procedures.

For these high-volume office-based procedures, 56 percent of the OPPS rate is often lower than the MPFS non-facility setting rate. While the rationale for paying the ASC less than would be payable to the PO for these services may not be readily apparent, we note that with the exception of CPT 51702 (insert temporary bladder catheter), the ASC payment exceeds the additional PE payment (the office-related portion) that is made when the service is performed in a PO. In Chapter Six, we discuss why the total payment is higher when an office-based procedure is performed in an ASC than in a PO and suggest that equivalent ASC/PO payments could be established by reducing the ASC payment to the difference between the MPFS non-facility and facility PE components.

Other Procedures Commonly Performed in Physician Offices

In addition to office-based procedures that are on the list of ASC-covered procedures, other high-volume office-based procedures may be candidates for policies addressing payment differentials. Table 4.2 lists additional high-volume office-based procedures (i.e., accounting for

[4] Note that this is not the blood bank set of procedures that are coded 86850–86999, but only the provision of the components by infusion into the patient.

more than 50 percent of Medicare volume in the PO setting) and compares the payment rate for the facility component of these services under both the OPPS and the MPFS. Many of these procedures are diagnostic tests, in which case the OPPS rate is compared to the fully implemented MPFS rate for the TC of the procedure. On average, the OPPS payment rate for these procedures is 1.8 times higher than the MPFS PE rate when weighted by HOPD volume.

In addition to capping the PO payment rate for services at the HOPD rate, approaches could also be considered that would reduce the differential by limiting the amount that HOPDs are paid for non-ASC services that are commonly performed in POs. As a maximum savings estimate, paying for office-based non-ASC procedures at the MPFS non-facility PE rate would reduce total Medicare payments for these services by about 32 percent, or $1.1 billion using the 2011 MPFS fully implemented rates. Paying at the lesser of the OPPS rate or 1.5 times the MPFS non-facility PE rate would save up to $665 million, while paying the lower of the OPPS rate or a 50/50 blend of the OPPS and the MPFS PE rate would save up to $526 million before adjusting for packaging. Actual savings would be lower after differences in packaging are taken into account. As was the case with office-based ASC-covered procedures, applying a limitation to categories of procedures, such as diagnostic tests, may be more appropriate than an across-the-board policy.

Table 4.2 shows that the MPFS PE rate for a PO service is higher than the OPPS rate for some services. Capping all MPFS payments for PO services at the OPPS rates (not limited to office-based procedures) would reduce Medicare payments by up to $204 million before adjusting for differences in packaging of services; savings would be higher if the cap included OPPS packaged services. The procedures with the highest estimated savings are shown in Table 4.3.

Table 4.2
Non-ASC High-Volume HOPD Procedures with More Than 50-Percent PO Volume (Top 20 Procedures by HOPD Volume)

CPT Code	Description	HOPD Volume	OPPS Rate ($)	MPFS Non-Facility PE Rate ($)	Savings at 1.0 Times MPFS ($ million)	Savings at 1.5 Times MPFS ($ million)	Savings at 50/50 Blend ($ million)
96372	Therapeutic/prophylactic/diagnostic injection subcutaneous/intramuscular	2,726,015	26.35	16.99	25.5	16.3	12.8
88305	Tissue exam by pathologist	2,686,912	36.48	63.20	0	0	0.0
77418	Radiation treatment delivery IMRT	1,178,236	438.22	450.87	0	0	0.0
77080	Dual-energy X-ray bone density axial	864,830	70.52	82.22	0	0	0.0
96413	Chemotherapy IV infusion, 1 hour	828,831	205.86	116.20	74.3	55.1	37.2
93306	Transthoracic echocardiography with Doppler, complete	772,337	402.39	118.58	219.2	200.9	109.6
96366	Therapeutic/prophylactic/diagnostic IV, intravenous nutritional fluid, additional hour	672,593	26.35	14.27	8.1	6.2	6.0
73510	X-ray exam of hip	662,250	45.04	26.84	12.1	8.5	0.0
93880	Extracranial study	614,772	152.99	203.86	0	0	7.2
73030	X-ray exam of shoulder	579,356	45.04	20.05	14.4	12.2	4.3
72100	X-ray exam of lower spine	520,425	45.04	28.54	8.6	5.6	2.2
90471	Immunization administration	474,520	26.35	16.99	4.4	2.8	5.4
73630	X-ray exam of foot	472,592	45.04	22.08	10.8	8.8	5.9
72170	X-ray exam of pelvis	414,607	45.04	16.65	11.8	10.4	9.7
72148	MRI lumbar spine without contrast	407,816	342.93	295.59	19.3	0	7.7
72110	X-ray exam of lower spine	407,143	75.86	38.05	15.4	12.3	12.3
90862	Medication management	401,890	75.13	13.93	24.6	23.5	3.5
73562	X-ray exam of knee, 3 views	375,910	45.04	26.50	7.0	5.0	0
76700	Ultrasound exam abdomen, complete	354,781	96.28	96.83	0	0	12.8
Total	Top 20 procedures by volume	N/A	N/A	N/A	447.4	260.7	223.7
Total	All procedures	N/A	N/A	N/A	1,052.1	665.0	526.1

Table 4.3
High-Volume PO Procedures with MPFS Non-Facility Fully Implemented 2011 Rates Exceeding OPPS Rates

CPT Code	Description	2009 PO Volume	2011 Non-Facility PE ($)	OPPS APC	2011 OPPS Rate ($)	Estimated Savings ($ million)
11765	Excision of nail fold, toe	69,337	114.16	0013	62.70	3.6
12052	Intermediate wound repair, face/mucous membranes	56,638	196.04	0133	91.81	5.9
13121	Repair of wound or lesion	72,160	270.79	0134	217.77	3.8
17110	Destruction of benign lesion, 1–14	1,324,776	81.54	0013	62.70	25.0
17311	Mohs 1 stage head/neck/hands/feet/genitalia/other location	448,885	413.15	0694	369.62	19.5
31231	Nasal endoscopy, diagnostic	335,968	151.53	0072	138.54	4.4
36147	Access AV dialysis graft for evaluation	100,154	683.27	0676	161.68	52.2
51784	Anal/urinary muscle study	189,668	110.76	0126	76.52	6.5
67228	Treatment of retinal lesion	77,478	627.20	0247	386.44	18.7

Under current law, MPFS payment for the TC of diagnostic radiology services is capped at the amount payable under the OPPS. The cap is added after multiple procedure discounting is applied to the MPFS rates, but without regard to the OPPS combined APCs for tests that are commonly performed together. For services furnished in PO settings, several refinements might be considered that would further value-based purchasing:

- Multiple-procedure discounting policies for surgical procedures apply to both settings, but discounting for imaging services applies only to services provided in a PO or IDTF. CMS has developed composite APCs instead of discounting rules to pay for multiple HOPD imaging services that are commonly performed during the same encounter. Assuming that the two different approaches continue, the comparison would be more consistent if the limitation were implemented either prior to any procedure discounting (by comparing the rates for individual services) or after the respective rules for multiple procedures have been applied. The latter approach is more consistent with a policy that limits the PO payment to the amount that would be payable if the services were performed in an HOPD.
- Using a straight rate comparison does not ensure that the PO payment is limited to the amount that would be payable if the services were performed in an HOPD, because different packaging rules apply. Even if the OPPS packaging rules were

not adopted for PO services (see Chapter Three), a rate comparison based on those rules would ensure that the total PO payment for the service does not exceed the amount payable in the HOPD.

Low-Cost Services Assigned to Level 1 APCs

An alternative to identifying office-based procedures on a procedure-specific basis would be to define the relevant services by APC (e.g., Level 1 APCs). This would result in more consistent payment across procedures that have been determined to be clinically similar and require comparable resources in HOPDs. We assessed the overlap between the two definitions by comparing the percentage of HOPD volume attributable to "office-based" procedures in Level I APCs relative to other APCs. The results in Table 4.4 show that only a small percentage of the procedure volume in Level 1 APCs is attributable to office-based procedures (5.2 percent). Office-based procedures are also included in other APCs (2.8 percent of total procedure volume in non–Level 1 APCs). However, the overlap can be significant for individual APCs. For example, all but one of the 24 procedures assigned to APC 19 (Level I Excision/Biopsy) are commonly performed in an office setting. Selecting those APCs with a high percentage of office-based procedures may be a way to confirm that the procedures are likely to be similar across settings while providing a consistent payment policy across all procedures assigned to that APC.

Table 4.4
Comparison of Office-Based Procedures in Level 1 and Other APCs

APC Level	HOPD Volume	% Office-Based
Level 1	33,402,627	5.2
Other	74,931,038	2.8

Services Provided by Off-Campus Provider-Based Entities

Under Medicare rules, provider-based entities are owned and operated by hospitals but not located on the hospital's main campus. If the entities are clinically and financially integrated with the hospital and meet distance and other criteria, services furnished by these entities are paid under the OPPS at the same rates as other hospital outpatient services. However, it is unlikely that these entities incur the types of costs that justify higher payments to hospitals for ambulatory services—namely, hospital standby and emergency services. Their cost structures, prior to allocation of hospital overhead costs, are likely to be more similar to other community-based practices than to HOPDs.

There has been a substantial increase in hospital purchases of provider practices in recent years, largely to expand the hospital's referral base and to position the hospital system as an accountable care organization. However, the consequences are increased Medicare payments and beneficiary coinsurance, as well as additional competition for community-based practices.

We do not have data that will allow us to estimate the proportion of hospital outpatient services furnished in off-campus provider-owned and -operated facilities. These services are not separately identifiable in the Medicare administrative data. However, hospital financial data reported to California's Office of Statewide Health Planning and Development for 2008–2009 provide some indication of the scope of the issue: About 30 percent of clinic visits and 14 percent of surgeries occurred in satellite facilities that operated under the hospital's license in off-site locations. The Medical Group Management Association's 2009 survey of physician placement starting salaries is another indicator of expanded hospital ownership of physician practices: Sixty-five percent of established physicians and 49 percent of physicians hired out of residency were placed in hospital-owned practices, with physicians serving large Medicare populations more likely to want to move to hospital-employed practices.

The expansion of provider-based entities has major implications for Medicare payments for ambulatory services. The trade press indicates that purchases of physician practices are prevalent in the fields of cardiology and oncology. A comparison of Medicare administrative data for 2006 and 2009 indicates that, over this period, the proportion of cardiology ambulatory visits handled by HOPDs (including provider-based entities) increased by about 1 percent, but the preponderance of visits continue to be handled by POs (95.7 percent). However, even a 1-percent shift represents a significant increase in Medicare payments, since payments increased not only for management and evaluation services but also for related ancillary services, such as electrocardiograms, stress tests, and SPECT. Declining Medicare payments (e.g., the elimination of the consultation codes in 2009 and reduced nuclear imaging payments in 2010) have been credited with fueling the shift (which means the 2009 data may be too early to detect the trend).

For oncology practices, one reason cited for the growth is the opportunity to expand the patient base for drugs purchased under the 340B discount drug purchase plan.[5] The program allows facilities to purchase outpatient drugs at prices below market. Because the OPPS payment rates for drugs furnished to hospital outpatients are the same for all hospitals without regard to

[5] Acute care hospitals with a disproportionate-share hospital adjustment of 11.75 percent are eligible to participate. The Patient Protection and Affordable Care Act extended eligibility to cancer hospitals, sole community hospitals, rural referral centers, and critical-access hospitals.

whether the drugs were purchased through the 340B program, hospitals have an incentive to increase margins by expanding their patient base for chemotherapy administration. At the same time, changes in Medicare payments for chemotherapy drugs furnished in POs have limited the ability of oncologists to profit on these drugs and have increased the attractiveness of affiliating with a hospital. The percentage of chemotherapy administration (CPT 96413) occurring in HOPDs increased from 23 to 26 percent between 2007 and 2009. The payment for chemotherapy administration is 10-percent higher in the HOPD.

Potential Policy Exclusions

The foregoing sections discussed several policies that would limit Medicare's payment for certain HOPD services based on the amounts payable for the same services in POs. The assumption underlying these policies is that the services provided in the HOPD setting are comparable to those provided in the PO setting. If some types of patients seeking HOPD care require more resource-intensive care than what is typically provided in POs, exclusions from the policy may be needed to ensure that Medicare beneficiaries continue to have access to medically appropriate HOPD care. We investigated two potential refinements to a policy limiting payment for HOPD office-based services to the MPFS PE payment for PO services:

1. The limit could apply to referral services only (i.e., where the patient is referred by a community physician for diagnostic testing and does not receive therapeutic services as an outpatient). Patients receiving referral services are most likely to be comparable to patients treated in POs. However, when we investigated how often referrals occurred among the diagnostic procedures examined in our study, we found that very few patients received a hospital evaluation and management visit on the day of or the day before the test, suggesting that most diagnostic services are referral services. Further, adding the exception could create incentives for unnecessary evaluation and management services.
2. Services provided in conjunction with an emergency department visit could be excluded from the limit. Services that result in an inpatient admission are already excluded through the bundling of these services into Medicare's payment for the inpatient stay. We found a relatively low incidence of testing in conjunction with an emergency room visit that did not result in an admission. For example, the MRI study procedure had an associated emergency department visit about 5 percent of the time. Excluding services provided in conjunction with an emergency department visit would increase the administrative burden and

might create incentives for unnecessary emergency room visits prior to high-cost diagnostic testing.

Summary

Various policies could be considered to increase value for Medicare services by reducing the payment differential for selected services provided in multiple provider settings. This goal, however, must be balanced with payment equity and access considerations. As shown in Table 4.5, reducing payment to provider-based entities creates the least tension between value and payment equity and raises fewer issues related to justifiable cost differences and service comparability than the other policies considered in this chapter.

Table 4.5
Summary of Considerations Related to Addressing the Payment Differential

Criteria	Considerations
Consistency with value-based care	Any of the policy options discussed in this chapter would promote value-based care by encouraging the provision of services in the least costly setting. However, these options could increase the cost of providing inpatient and emergency services and result in excess hospital capacity.
Administrative feasibility	Policies that base payment on justifiable cost differences are problematic because of data limitations. Paying provider-based entities at the PO rate could reduce administrative burdens, since the provider-based determination would be limited to the question of whether the entity is on the hospital's main campus. Once this determination is made, this and the other policies considered in this chapter can be implemented through rate-setting and claims processing systems.
Site-of-service payment equity	The most equitable policy would be to base differentials on justifiable cost differences; if the payment differentials are addressed through a different policy, consideration should be given to hospital standby costs.
Price transparency	Policies that make the differential more uniform would also increase price transparency.

5. OTHER POLICIES TO INCREASE THE VALUE OF MEDICARE SERVICES

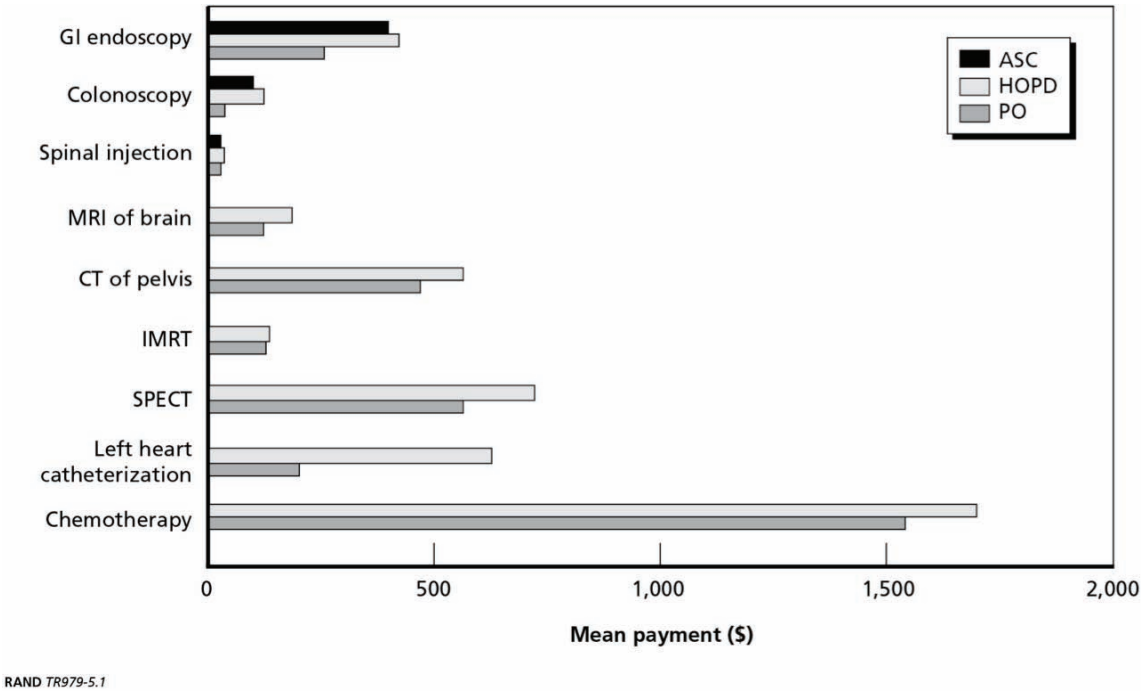
Chapter Four discussed potential options for increasing the value of Medicare services by addressing payment rate differentials. In this chapter, we discuss other policies that would increase the value of Medicare services that are related to differences in patterns of care across settings or where care is provided. We first discuss a potential policy to bundle routine pre-procedural tests into a broader unit of payment. We then discuss two policies that address duplicate payments for (1) separately billed anesthesia care provided for procedures that already include moderate sedation in the payment for the primary procedure and (2) office-based procedures provided in ASCs. Finally, we discuss educational efforts to increase provider and beneficiary awareness of payment differentials across ambulatory settings.

EXPAND BUNDLING FOR ROUTINE PRE-PROCEDURAL TESTS

Differences in the utilization of related but separately paid services on the same day or in a short time window relative to the primary procedure are another source of payment heterogeneity across settings. Expansion of bundling policies would create incentives against the use of services with no or little marginal benefit in all settings. These policies could address payment differentials that are related to differences between settings in the propensity for discretionary utilization of separately paid services.

Utilization for same-day services is typically higher in the HOPD setting. In particular, utilization of laboratory tests was higher in HOPDs than in other settings. A more detailed explanation of differences in the patterns of service utilization between ambulatory settings for the procedures examined in this study can be found in Appendix C. Figure 5.1 compares the total payment for services provided on the same day as a study procedure across ambulatory settings. The payments reflect both utilization and price differences between settings. The same-day services included in the figure are limited to those that are not packaged or bundled in any setting. Payments for same-day services were highest in the HOPD setting for all nine of the study procedures. The procedures with the largest site-of-service differentials in same-day service payments involve a significant amount of pre-procedural testing (left heart catheterization, SPECT).

Figure 5.1
Payments for Services Provided on the Same Day as Selected Study Procedures, by Ambulatory Setting, 2008



The expansion of bundling policies to include additional same-day services would create new incentives to encourage the more efficient use of these services. Pre-procedural testing is not bundled under any current Medicare payment system for ambulatory services. Expanding the HOPD bundle of services to include routine pre-procedural tests would encourage reduced use of these services. While pre-procedural testing is routine for many services, the site-of-service variations in patterns of care suggest that there may be gray areas in the appropriateness of testing for certain patients and services.

This policy would change the OPPS status for certain tests to indicate that they would be included in the bundled rate when performed with a significant procedure. However, a challenge to the feasibility of this policy is that pre-procedural testing may be performed the day before (or potentially several days before) the primary procedure. Current OPPS packaging/bundling policy covers only services provided on the same day. If the timing of pre-procedural testing is discretionary, affected providers could react to the policy change by moving testing to the day before the primary procedure or to another facility ("unbundling"). For this reason, it may be necessary to expand the OPPS packaging/bundling policy to include a short time window prior to the significant procedure. Table 5.1 presents a summary of the considerations related to the expansion of bundling policies.

Table 5.1
Summary of Considerations Related to Expanded Bundling for Pre-Procedural Tests

Criteria	Considerations
Consistency with value-based care	This policy would create new incentives for hospitals not to provide routine pre-procedural testing that is not clinically appropriate. However, hospitals may "unbundle" testing services by referring patients to another setting for pre-procedural testing or by performing the testing outside the bundling time window.
Administrative feasibility	This policy would require significant changes to Medicare claims processing and billing procedures.
Site-of-service payment equity	This policy could attenuate site-of-service differentials in the frequency of pre-procedural testing but may require risk adjustment.
Price transparency	This policy would have no independent effect on price transparency.

Table 5.2 shows the timing of pre-procedural testing for left heart catheterization (CPT 93510) in the HOPD and PO. Testing was more common in HOPDs than in POs. In HOPDs, testing was more common on the day of the index procedure but was also sometimes performed on the day before. Some, but not all, of the pre-procedural testing was performed in the index hospital (i.e., the hospital in which the left heart catheterization was performed). This may reflect a higher proportion of catheterizations being done in HOPDs for acute-onset chest pain for which there would have been no opportunity for pre-procedural testing. If an expanded bundling policy were adopted for this procedure, risk adjustment may be needed to take into account elective versus emergency catheterizations that do not lead to an inpatient admission.

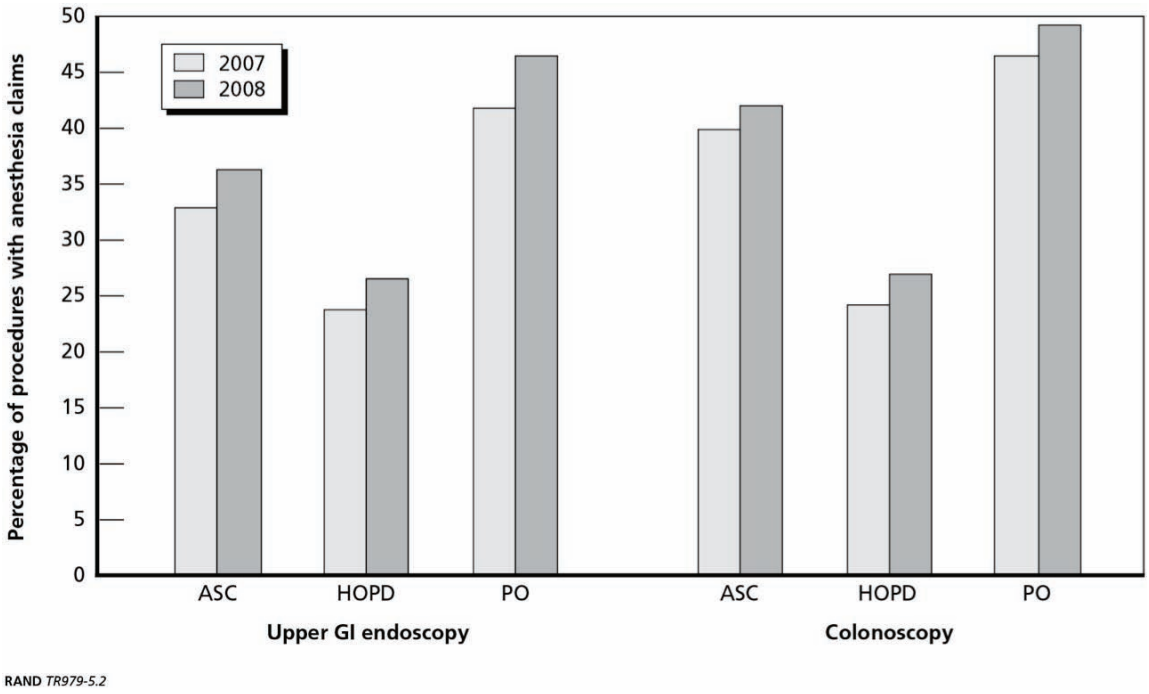
Table 5.2
Frequency of Pre-Procedural Testing on the Same Day and Day Before a Left Heart Catheterization (CPT 93510), 2008

CPT Code	Description	% of HOPD Index Procedures with Test Billed Same Day	Of Those Billed Same Day, % Index Hospital	% of HOPD Index Procedures with Test Billed Day Before	Of Those Billed Day Before, % Index Hospital	% of PO Index Procedures with Test Billed Same Day	Of Those Billed Same Day, % Index Physician	% of PO Index Procedures with Test Billed Day Before	Of Those Billed Day Before, % Index Physician
93005	Electrocardiogram, tracing	42	99	9	92	3	79	0	N/A
36415	Routine venipuncture	31	99	11	90	9	88	2	40
80048	Metabolic panel total calcium	30	99	8	94	4	90	0	N/A
85025	Complete blood count with automated differential white blood cell count	29	99	10	90	5	93	0	N/A
85610	Prothrombin time	34	99	10	92	1	79	0	N/A
80061	Lipid panel	17	100	3	94	6	86	0	N/A
85730	Thromboplastin time, partial	21	99	7	92	0	N/A	0	N/A
85027	Complete blood count, automated	12	100	3	96	0	N/A	0	N/A

EXPAND BUNDLING FOR ANESTHESIA PROVIDED FOR APPENDIX G PROCEDURES

Appendix G of the CPT codebook (AMA, 2009) lists procedures that include moderate (conscious) sedation in the procedure description. The list includes high-volume procedures, such as colonoscopies and upper GI endoscopies. Moderate sedation is not billed separately when provided by the physician who performs the procedure. However, anesthesia services (typically, monitored anesthesia care) provided by an anesthesiologist or, in many states, other individuals trained in anesthesia administration (such as nurse anesthetists) may be billed separately for these procedures without reducing the payment to the physician performing the diagnostic or therapeutic procedure. Analysis of the study procedures showed a substantial increase in the use of anesthesia services between 2007 and 2008 and higher usage rates in ASCs and POs than in HOPDs (see Figure 5.2).[1] This increase is partly attributable to the increased use of propofol but also to growing financial arrangements between surgery centers and anesthesia providers.

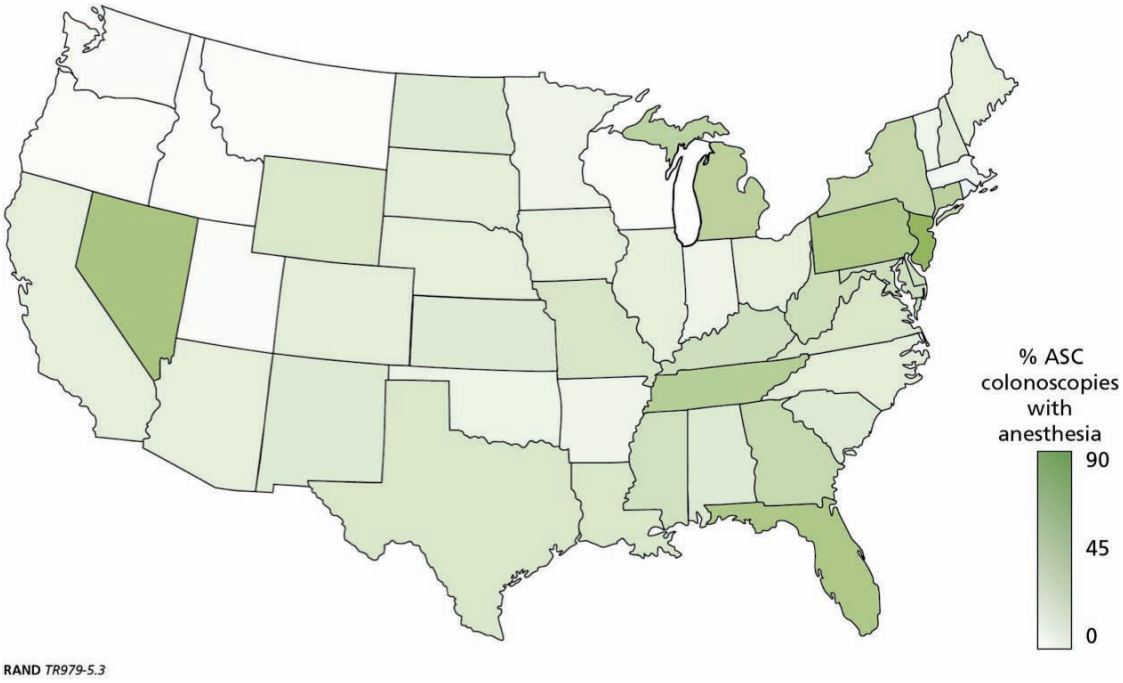
Figure 5.2
Separately Billed Anesthesia Services, by Ambulatory Setting, 2007 and 2008



[1] In 2007, 8 percent of colonoscopies were performed in POs, 43 percent in ASCs, and 50 percent in HOPDs. Six percent of upper GI endoscopies were performed in POs, compared to 42 percent in ASCs and 52 percent in HOPDs.

Our analyses of patterns of care also identified wide geographic variation in the use of professional anesthesia services for both colonoscopies and upper GI endoscopies. Figure 5.3 summarizes the proportion of colonoscopies that had separate billings for anesthesia services in 2008. Medicare has not issued a national coverage determination as to the medical necessity of anesthesia care for endoscopic procedures.

Figure 5.3
Anesthesia Services Provided in ASCs, 2008



Separate payments for anesthesia services provided with Appendix G procedures mean that Medicare is paying twice for sedation: once to the physician performing the procedure and again to the anesthesia provider. Bundling the anesthesia payment would reduce incentives to provide medically unnecessary anesthesia care. The duplicate payment could be eliminated in creating the rate for the bundle. This approach would generate incentives for efficiency but would require either developing a method to allocate payments between the physician performing the procedure and the anesthesiologist or holding the physician performing the procedure accountable for paying the anesthesiology provider. Alternatively, the RVUs for these procedures could be reduced to eliminate the value included for moderate sedation (using the modifier for a reduced service, –52) when anesthesia is separately billed. This alternative eliminates the duplicate payment but retains incentives to provide separately billable anesthesia services. If this alternative were chosen, it should be accompanied by a national coverage

determination regarding the medical conditions for which separate anesthesia services are medically necessary. Table 5.3 presents a summary of these considerations.

Table 5.3
Summary of Considerations Related to Bundling Anesthesia Payments for Appendix G Procedures

Criteria	Considerations
Consistency with value-based care	This policy would create new incentives to provide medically appropriate anesthesia services in the most efficient manner.
Administrative feasibility	This policy would require minimal changes in Medicare billing procedures if the performing physician were responsible for paying the anesthesiologist.
Site-of-service payment equity	This policy should reduce variation in the use of anesthesia services across settings. Because it is related to payment for professional services, it does not directly address site-of-service facility differentials in payment for Appendix G procedures.
Price transparency	This policy should increase price transparency by making the total payment inclusive of any anesthesia care.

MODIFY ASC PAYMENTS FOR OFFICE-BASED SERVICES

When office-based services are performed in an ASC, Medicare makes separate payments to the ASC and to the performing physician. The ASC facility payment is equal to the MPFS PE payment for a PO service. The professional payment for services provided in an ASC also includes a PE payment for a facility setting. As a result, the total payment is higher when an office-based procedure is performed in an ASC. An example is provided in Table 5.4.

This payment method creates an incentive to provide office-based procedures in ASCs rather than in POs, particularly for physician-owned ASCs that are co-located with the PO, such as eye surgery centers. A new policy option would reduce ASC payments to the difference between the non-facility and facility PEs in the MPFS. This is equivalent to the office-related portion of the PE payment, or the additional amount that a physician receives when a procedure is performed in a PO instead of a facility setting. In the example in Table 5.4, the ASC payment would be reduced to $37.37 ($186.19–$148.82). Implementing this policy across all office-based procedures paid on the basis of the MPFS rate would reduce Medicare ASC spending by $18 million, or 61 percent of ASC spending for these services in 2011. It would essentially lower the total payment for a procedure to the amount that was paid for office-based ASC procedures prior to the 2008 changes, when the physician was paid for performing the procedure in a non-facility setting. Reverting to the former policy would generate the same savings but would not provide a separate payment to the ASC. A summary of these conclusions is presented in Table 5.5.

Table 5.4
Payment for an Office-Based Service, Laser Surgery of Eye (CPT 65855), in ASCs and POs, 2011

Payment Type	ASC ($)	PO ($)
Professional Services Payment	N/A	N/A
Work	135.57	135.57
Malpractice liability	21.07	21.07
Practice expense (facility PE)	148.82	N/A
Practice expense (non-facility PE)	N/A	186.19
Facility Payment	186.19	N/A
Total	**491.65**	**342.83**

SOURCE: CMS 2011 National Physician Fee Schedule Relative Value File.
Payment rates shown are fully implemented, not reflecting transitions.

Table 5.5
Summary of Considerations Related to Modifying ASC Payment for Office-Based Services

Criteria	Considerations
Consistency with value-based care	Eliminates the double payment for PE for office-based services provided in ASCs and removes an incentive to shift office-based services to ASCs.
Administrative feasibility	Requires only a change in the calculation of the ASC fee schedule for office-based services.
Site-of-service payment equity	The ASC's payment would be the same as the additional amount the physician receives for performing the service in a PO but, unlike the physician, the ASC is not able to offset an inaccurately low office-related PE payment with an inaccurately high professional-related PE.
Price transparency	No effect.

EDUCATIONAL EFFORTS TO INFORM BENEFICIARIES AND PROVIDERS

The payment differentials for ambulatory services are also accompanied by significant differences in the amount that beneficiaries are required to pay out of pocket. Table 5.6 summarizes the Medicare and beneficiary responsibilities for payment for an illustrative procedure, spinal injection (CPT 62311), in 2008. The payments are standardized for consistent packaging using the OPPS packaging/bundling rules. The total beneficiary (or secondary payer) responsibility varies widely between settings—$105 in an HOPD, $72 in an ASC, and $35 in a PO.

Table 5.6
Average Medicare and Beneficiary Responsibility for Payment for Spinal Injection Procedures in Three Ambulatory Settings, 2008

Setting	Medicare Payment ($)	Beneficiary Payment ($)
HOPD	344 (facility) 55 (professional) **399 (total)**	89 (facility) 16 (professional) **105 (total)**
ASC	217 (facility) 55 (professional) **272 (total)**	57 (facility) 15 (professional) **72 (total)**
PO	**123**	**35**

At the time when physicians and patients make the decision about where to schedule ambulatory services, they may not understand the cost implications of their decision regarding the site of service. Under this payment option, Medicare would provide educational materials to inform providers and beneficiaries of the comparative costs of obtaining care in different venues. The aim of these educational materials would be to drive volume toward lower-cost settings, reducing costs for beneficiaries and Medicare. This would build on the current CMS Consumer Health Care Initiative to make cost and quality information available. The initiative publishes information by setting an average payment for high-volume procedures, but it does not do so in a format that facilitates price comparisons across settings and it does not show the related beneficiary liability (CMS, 2006).

The effectiveness of this policy would likely be mitigated by the prevalence of supplemental coverage for out-of-pocket expenses for Medicare beneficiaries. Most Medicare beneficiaries (89 percent) had supplemental coverage through an employer, Medigap, Medicaid, or Medicaid Advantage in 2007 (Cubanski et al., 2009). However, providers and beneficiaries may respond to differences in prices in the Medicare program despite supplemental insurance coverage; comparative information is more likely than the currently available information to facilitate value-based care decisions. A summary of these considerations is presented in Table 5.7.

Table 5.7
Summary of Considerations Related to Educational Efforts to Inform Beneficiaries and Providers

Criteria	Considerations
Consistency with value-based care	The option promotes value-based care by encouraging the provision of care in lower-cost settings. However, the effectiveness could be mitigated by supplemental coverage limiting beneficiary out-of-pocket responsibility.
Administrative feasibility	Development of educational materials would require significant effort. However, this policy option would not require changes to Medicare payment policies.
Site-of-service payment equity	The option potentially increases the market share for lower-cost providers.
Price transparency	The option improves price transparency by providing educational materials identifying payment differentials.

6. OPTIONS RELATED TO BROADER PAYMENT REFORM

In this chapter, we discuss several other policy options that would not only address payment differentials but also aim to improve Medicare value-based purchasing in other ways. Some of these policies are being explored through existing initiatives. We discuss three policies here: (1) expanding bundling to episodes of care, (2) rationalizing payment for evaluation and management services, and (3) making performance-based incentive payments (see Table 6.1). Because these are broader policies that have been less researched at this stage, we do not assess them against criteria.

Table 6.1
Policies Requiring Further Policy Development

Policy	Rationale
Expand bundling to episodes of care for selected procedures.	Encourage efficiency in the provision of a series of related treatments.
Rationalize payment for evaluation and management services.	Further work is needed to understand how these services differ across the settings.
Make performance-based incentive payments.	Use value-based purchasing policies under development to mitigate payment differentials between settings.

EXPAND BUNDLING TO EPISODES OF CARE

Medicare is currently testing the expanded bundling of payments to episodes of care for selected cardiovascular and orthopedic surgical procedures in the Medicare Acute Care Episodes Demonstration. In previous demonstrations, Medicare tested expanded bundling for coronary artery bypass graft surgery and cataract removal surgery. Medicare also recently expanded payment bundling for end-stage renal disease treatment. This type of policy could apply to other services in the future (Hussey et al., 2008). Two of the services we studied could be potential candidates for bundled payment across an episode of care: IMRT and chemotherapy, for which we observed a large volume of related, recurring services over a course of treatment. These bundles could range from a weekly bundle, such as that examined in this study, to an expanded bundle for a course of treatment.

EVALUATION AND MANAGEMENT SERVICES

Evaluation and management services are paid at several levels. This policy option would change the methods used for determining these levels to increase standardization both between settings and across facilities. Under current policy, HOPDs are instructed to develop their own

rules to determine the payment level for an HOPD clinic visit, so there is a lack of consistent definitions at the visit level across hospitals. Furthermore, there is a lack of standardization in the definitions of levels in HOPDs and in POs, where the physician's professional services determine the applicable PE. In this study, we did not analyze differences in evaluation and management services provided in different settings. Further work is needed to understand how the nature of these services differs across the settings and the implications for changes to payment policies (Hospital Evaluation and Management Coding Panel, 2003).

PERFORMANCE-BASED INCENTIVES

This policy option would reward providers of low-cost, high-quality care through incentive payments based on achievement against performance measures. Medicare has implemented a pay-for-reporting program for HOPDs. In addition, the Patient Protection and Affordable Care Act mandated a series of new value-based purchasing programs covering ASCs, HOPDs, and physicians. These programs could affect site-of-service payment differentials. For example, an episode-based measure of resource usage would encourage service provision in the least costly setting.

7. SUMMARY AND DISCUSSION

This report presented a series of policy options to improve value by addressing the differential in the amount Medicare pays for similar facility services in various ambulatory settings, as summarized in Table 7.1. These payment differentials are attributable to how the current payment systems have evolved and generally do not reflect differences in patient characteristics or variation in the nature of the procedures, and they exceed the cost differentials for the procedures.

Generally, hospitals are paid more than POs for comparable services, but there are still some exceptions to this rule. There is no clear rationale for the higher PO payments. One policy that might be considered would be to cap all PE payments for services that are provided in a non-facility setting at the payment rate under the OPPS. This policy currently applies with respect to imaging services. However, an "apples-to-apples" application of this policy requires adopting the OPPS packaging rules, at least with respect to the comparison, if not on an across-the-board basis.

At the same time, the higher payments for services provided in HOPDs do not appear to be justified based on differences in patient characteristics or the content of services provided in HOPDs relative to other ambulatory settings. Measuring justifiable cost differentials is challenging and may not be feasible for rate-setting purposes. Nevertheless, this suggests that a policy of capping payment based on the amounts payable in the least costly setting needs to be tempered by policies that recognize the higher cost structures for HOPDs and ASCs relative to POs. However, a differential payment may not be warranted for services furnished by provider-based entities that offer services in community settings.

Some services provided in a non-facility setting may be undervalued. This observation comes from our comparison of the PE for the professional and office-related portions of the PE for non-facility settings as well as our analysis of the impact of replacing the direct cost component of the PE RVUs with the OPPS RWs. The impact analysis of using the OPPS RWs for the direct-cost PE RVUs is exploratory but suggests that evaluation and management services are undervalued relative to tests and procedures. Further work is needed to analyze issues identified in the analysis, but the results might be used in the interim to identify potentially mispriced procedures and to examine alternatives for allocating indirect costs. The current methodology appears to overallocate indirect costs to services provided in facility settings, thereby underpaying services provided in a PO or other non-facility setting. Alternative cost allocation policies, such as dividing space costs into direct and administrative space costs and allocating indirect costs based on time rather than work should be considered.

Table 7.1
Summary of Policy Options

Policies Increasing Uniformity in Payment Units and Differentials	**Rationale**	**Assessment**
Apply OPPS packaging/bundling rules to PO services.	Consistently define the unit of payment across settings and facilitate greater price transparency.	Facilitates policies to improve value, payment equity, and price transparency. Administration would be moderately difficult.
Use OPPS costs to establish MPFS PE RVUs.	Increase uniformity across services in payment differentials.	Facilitates policies to improve value, payment equity, and price transparency. Uses existing administrative processes.
Policies Addressing Payment Differentials	**Rationale**	**Assessment**
Base payment differentials on justifiable cost differentials.	Create neutral incentives for providing care in a medically appropriate setting.	Promotes value-based care and payment equity across settings. Administratively burdensome and impractical to determine justifiable cost differences at the service level.
Base payment differentials on payments in least costly setting.	Drive care to least costly medically appropriate setting.	Promotes value for services provided in multiple settings but increases cost of hospital-only services. Increases price transparency if implemented with policies that make the differential more uniform.
Reduce the differential through payment ceilings/floors or blended rates.	Reduce payment differential for comparable services.	Could be structured to promote value-based care but could raise site-of-service equity issues. Does not increase price transparency. Minimal increase in administrative burden.
Other Policies to Increase Value-Purchasing	**Rationale**	**Assessment**
Expand bundling to include routine pre-procedural tests.	Encourage more efficient use of these services, which are provided more frequently in HOPDs than POs and ASCs.	Likely to improve value-based care, moderately difficult administratively.
Remove physician overhead PE component from ASC payment for office-based services.	Eliminate incentive to shift services from PO to ASC.	Likely to improve value-based care, relatively feasible administratively.
Expand bundling for anesthesia provided for Appendix G services.	Eliminate a duplicate payment for sedation.	Likely to improve value-based care, moderately difficult administratively.
Educational efforts to inform beneficiaries and providers.	Drive volume toward lower-cost settings.	Provides greater price transparency, promotes value-based care by encouraging lower-cost settings, does not require changes in Medicare payment policy but would require development of educational materials.

With respect to services provided in ASCs, the relationship between the HOPD and ASC payment rates has eroded since 2008 because of freezes in the ASC update and budget-neutrality constraints on the RWs. Our analysis suggests that the current payment rates may not be adequate to cover the estimated cost of care; nevertheless, access to ASC services does not seem to be a problem (MedPAC, 2011). In addition, office-based procedures provided by an ASC are overpaid relative to what would be payable in the PO, which appears contrary to the intent of covering these procedures when they are provided by an ASC.

This report discussed some broad policy options that might be considered in addressing inappropriate payment differentials. Some policies are more promising than others in terms of increasing value for the Medicare program, and some require more policy development before they could be implemented. In establishing policy priorities, it is important that the system improvements that lay the foundation for increasing value over time be considered as well as short-term refinements that could be implemented fairly easily. Within the broad policy options explored in the report, there are specific steps that might be undertaken to advance the most promising policies. Next, we discuss specific steps that should be considered within three categories of activities:

- laying the foundation for policies addressing payment differentials in the longer term
- implementing short-term policies to reduce excessive site-of-service differentials
- continuing development of other long-term policy options.

LAYING THE FOUNDATION FOR LONG-TERM REFORM

Systematically addressing the payment differentials requires adopting comparable definitions of units of service and is facilitated if the differentials are uniform across services. The policies explored in this report with the potential to increase uniformity in the payment units and differentials would lay the foundation for addressing payment differentials. However, they need to be complemented by other policy development activities before payment differentials can be systematically addressed. The following steps should be considered:

1. *Consistently define the package of services across settings.* The policy creates price transparency but, more importantly, it is needed for consistent application of policies that address payment differentials. A policy will be needed for situations in which multiple providers furnish services that are packaged into the unit of payment. While an important first step, the administrative burden of implementing the policy may not be warranted unless it is followed by steps to address the payment differentials in a systematic way.
2. *Develop a method for using hospital costs to set MPFS RVUs*. Our analyses were exploratory, and additional analyses are needed to fully develop this policy. If

refinements were made in the allocation of indirect costs, the OPPS RWs could substitute for the entire PE RVU in non-facility settings. This has the advantage of making the differential uniform across settings, but it raises issues of payment accuracy. Further analysis is needed to determine whether procedure-level costs should be used in lieu of APC median costs. Even if the hospital cost-based PE RVUs were not adopted for payment, they could be a valuable tool in evaluating RUC recommendations and identifying potentially mispriced procedures.

3. *Collect ASC payment data*. The cost data are needed to evaluate how well the ASC payment rates reflect the actual cost of providing services and whether changes should be made to the CF. Ideally, the relationship between the hospital and ASC rates should be more transparent and consistent over time and not altered annually by different update and budget-neutrality factors.
4. *Explore alternative ways to measure and subsidize hospital standby costs*. A uniform payment differential between OPPS and PO non-facility PE rates—similar to the HOPD-ASC differential—is a logical outcome of using hospital costs to establish the non-facility PE component of the physician fee schedule. The amount of the differential could reflect the overall difference in the cost of providing hospital outpatient services relative to community-based services. This should create neutral incentives regarding where care is furnished. Alternatively, the rates could be the same across settings, but hospitals' higher infrastructure costs could be recouped through higher payments for hospital-only services or subsidized through a separate payment that is not directly tied to payments for individual services. Further research is needed to determine the impact of hospital standby costs and other "justifiable" costs not attributable to an individual patient in a hospital's ambulatory care costs, as well as to determine the implications of alternative ways to account for these costs.

INCREASE VALUE BY REDUCING EXCESSIVE PAYMENT DIFFERENTIALS

In the longer term, standardizing the unit of payment and the differentials by type of service would provide a tool to systematically address payment differentials across settings. In the interim, there are immediate steps that could be taken to increase value for the Medicare program:

1. *Pay for services provided in hospital off-campus clinics at the PO and ASC rates.* Services furnished by "provider-based" entities are not separately identifiable from other outpatient services in the Medicare claims data. At a minimum, immediate steps should be taken to identify these services so that the scope of the issue can be determined. However, there is little rationale for paying these

facilities more than other community-based providers for comparable services, and the recent growth in provider-based entities contributes to an unnecessary increase in both Medicare spending and beneficiary liabilities. One question is whether a current CMS-designated provider-based entity should be "grandfathered" or whether the revised policy should be applied to both existing and future provider-based entities. One approach might be to phase out the payment differential for existing provider-based entities while applying the new policy to any new off-campus facilities. A challenge will be in drawing the line between on-campus and off-campus entities, but this should be no more burdensome than applying the current criteria for provider-based designation.

2. *Establish limits on OPPS payments for office-based diagnostic procedures*. In the short term, it is reasonable to concentrate on reducing payment differentials for office-based diagnostic procedures. Other procedures—mainly, ASC-approved office-based procedures—are lower-volume and thus raise more questions about differences in patient characteristics across settings than the diagnostic procedures, most of which are performed on patients referred from POs for diagnostic tests. Limiting payment for OPPS procedures to a multiple of the TC (e.g., 1.5 times the MPFS rate) rests on two assumptions: that the non-facility setting PE RVU is reasonable and that the rate contains a reasonable allowance for hospital standby and other justifiable costs that are not attributable to individual patients. Results from the analysis of using OPPS RWs to establish PE RVUs suggests that non-facility radiology RVUs are not undervalued (and, in fact, may be overvalued). The percentage add-on that is incorporated into the payment rate should include a reasonable allowance for higher hospital infrastructure costs. A relatively high percentage add-on would address the most excessive rates and could be lowered over time as policies to account for higher standby and other justifiable costs are further developed. This policy would be facilitated by uniform packaging rules.
3. *Package radiology procedures subject to the OPPS limitation.* The OPPS limitation on radiology services is applied to the procedure code and does not take into account differences in the packaging rules. Even if the OPPS packaging rules are not applied to all physician services, the limit should be applied to the same bundle of services included in the OPPS rate for radiology services (i.e., it should include contrast media). Furthermore, it should consistently account for multiple procedures during the same encounter.

4. *Cap MPFS non-facility PE payments at the OPPS rate.* The MPFS rates for several high-volume procedures are higher than the OPPS rates. Given that hospitals have higher infrastructure costs, higher PO rates do not appear warranted. The current cap for diagnostic radiology procedures could be extended to other services. As with the current cap, the packaging rules should be consistent in applying the cap.
5. *Remove physician overhead PE component from ASC rates for office-based surgical procedures.* The duplicate payment is the same as the PE component of the fee schedule payment made to the physician performing the procedure. Paying the ASC for the difference between the facility and non-facility setting PE would return total payments to their pre-2008 levels. The portion paid to the ASC would increase if the potential undervaluing of PO procedures were addressed.
6. *Expand bundling for anesthesia for Appendix G procedures.* Bundling the anesthesia payment with the primary payment for these procedures is a significant departure from current policy but provides greater incentives for efficiency than paying the primary provider a reduced amount when anesthesia is billed separately. If separate payments continue (and in light of the increased use of screening colonoscopies under the Patient Protection and Affordable Care Act), anesthesia usage rates are likely to continue to increase significantly.

CONTINUE DEVELOPMENT OF OTHER LONG-TERM POLICY OPTIONS

Our study focused on payment differentials for individual items and services. Evaluation and management services were not a focus of this study but warrant attention, particularly if services furnished by hospital off-campus entities continue to be paid as hospital services. Further, the role of payment differentials should be considered as policies are developed to introduce incentives to improve the quality and efficiency of care provided to Medicare beneficiaries. Provisions in the Patient Protection and Affordable Care Act of 2010, including the Medicare shared savings program for accountable care organizations (Section 3022), the hospital value-based purchasing program (Section 3001), and the physician fee schedule value-based payment modifier (Section 3007), are designed to create new incentives to provide high-value care. A challenge will be to exclude excessive payment differentials from the baseline for these programs. Doing so will ensure that measured savings are attributable to gains in delivering care more efficiently rather than the savings created by payment differentials that do not reflect actual differences in the cost of providing care.

APPENDIX A. METHODOLOGY

This appendix details the methodologies used in this study, which was conducted in three phases. The methodologies used in Phase I and Phase II were discussed in detail in working papers provided to the Assistant Secretary of Planning and Evaluation in the U.S. Department of Health and Human Services at the conclusion of each phase. This appendix provides an overview of the methods used in these first two phases; the working papers with additional detail are available from the authors upon request. The appendix also includes details on the methodology used in Phase III, which is documented in this report.

PHASE I

The first phase of our study involved an exploratory analysis using a set of high-volume services that are performed in multiple ambulatory settings. We used the selected services to document at the procedure code level the differences in the 2008 Medicare fee schedule *rates* across HOPDs, ASCs, and POs. These rate comparisons are indicative of the differences in Medicare payment rates across settings, but they do not necessarily provide an accurate measure of the *payment* differentials for some procedures because the items and services that are included in the unit of payment are not necessarily consistent across settings. We reviewed Medicare policy instructions and coding guidance to identify where there may be issues related to comparability. However, we did not adjust the rate comparisons because doing so would require analyses of claims data that were not conducted until Phases II and III of the study. We supplemented our analysis of Medicare payment differentials with an analysis of private insurance payment differentials for the procedures examined. Our data source for this analysis was the Thomson Medstat MarketScan® database of commercial insurance claims for 2005.

The first phase of the study also included an analysis of the cost of providing care in each setting. To explore differences in the costs of providing services across settings, we drew on the available data and methods used in the OPPS and physician fee schedule rate-setting processes. This allowed us to examine procedure-level cost differences in both total estimated cost and the percentage attributable to indirect costs. For ASCs, data limitations required that we take a different approach. We used 2005 administrative data and financial reports from ASCs collected by California's Office of Statewide Health Planning and Development to estimate a cost per RW that was analogous to the OPPS CF.

After documenting the payment and cost differentials across settings for the study procedures, our next task was to explore the factors beyond the rate-setting methodologies that

might account for the differences. Based on a review of earlier studies, we identified four factors in addition to the underlying infrastructure differences that might explain differences in the cost of providing services: patient characteristics, accreditation and regulation, service content, and coding. Although data would be optimal to determine the contributions of each of these factors, in most situations, such data were unavailable or their use was infeasible for the current study. Therefore, we used an approach that analyzed data where possible and extensively supplemented these data with the opinions of professionals who performed the procedures included in our study. We used a semistructured interview approach to obtain this information from physicians in the relevant specialties.

Our selection of the study procedures and methodological approach was guided by a technical expert panel, convened at an all-day meeting at the beginning of the study. The group met once again by phone after our interviews and cost analyses were completed. We used input from the panel members and the findings from our interviews and cost analyses to frame the options for potential policy changes and to identify areas in which additional research was needed.

PHASE II

In the second phase of the study, we selected for in-depth analysis nine high-volume procedures performed in two or more ambulatory settings. These procedures were different from those analyzed in Phase I. We then measured differences in payments and patterns of care for these study procedures. We constructed an analytic file from the 2007 5-percent sample Medicare claims files from the Chronic Condition Data Warehouse. The file contained claims for all beneficiaries with receiving one or more of the study procedures and any other claims for services provided to those beneficiaries on the same day or within a defined time period (typically one day pre- and three days post-).

We then measured differences in payment levels and patterns of care at five levels of service aggregation.

Level 1: Payments for the "Facility" Component of Procedures Offered in Different Ambulatory Settings

Level 1 includes payment for the "facility" component of the study procedures only. In HOPDs and ASCs, this is equivalent to the mean total payment to the facility associated with the procedure code. For POs, we divided the payment into professional and office-related components. For study procedures that can be billed as separate TCs and PCs, we defined the facility payment rate as the TC payment rate. For study procedures without a TC, we defined the office-related payment rate as the difference in PE in the physician's professional payment rate

when the procedure is performed in a facility versus a non-facility setting. The difference represents the additional payment that a physician receives for performing the service in a PO and does not include any PEs associated with professional services.

Level 2: Payments After Standardizing PE Components for Services Provided in Non-Facility Settings

Differences in the definition of the services provided during an encounter that are packaged into the payment for the primary procedure have implications for payment comparisons.[1] Under the OPPS, services that are integral to the primary procedure and provided during the same encounter are packaged into the APC payment rate. In 2007, this included anesthesia, surgical supplies, inexpensive drugs, implanted devices, and prosthetics. Less "packaging" occurs for some PO services that are furnished during the same encounter. Some items and services that are bundled for payment as an integral part of the primary procedure when performed in an HOPD are paid separately under the MPFS. For example, a separate payment is made if fluoroscopic guidance (CPT 77003) is used when a single lumbar spinal injection (CPT 62311) is performed in a non-hospital setting. In the HOPD, the payment for the fluoroscopic guidance is packaged into the APC payment for CPT 62311.[2] In 2007, the year of the Phase II analysis, there were also differences in packaging between HOPDs and ASCs (although these were standardized in 2008).

We used the 2007 OPPS packaging/bundling policies to standardize the unit of payment for the study procedures. We identified services bundled under OPPS based on the payment indicator codes in Addendum B of the final 2007 OPPS rule. In an HOPD, the incremental payment for Level 2 always equaled zero because the payments were bundled with the index procedure payment. For POs, we calculated the incremental Level 2 payment as the sum—across all OPPS packaged procedure codes—of the frequency of the service and the mean total payment for the facility portion of that service. We calculated the facility portion of the payment using the same methodology used in Level 1. For ASCs, the incremental Level 2 payment was calculated as

[1] In theory, the "global surgical period" applicable to a surgical procedure (0, 10, or 90 days) could also affect payment comparisons. All pre-, intra-, and postoperative care provided during the global period by the surgeon, including supplies and treatment for complications and pain, is bundled into a single payment. As a result, the surgeon does not receive a separate PE payment for services in the 10- or 90-day postoperative period, as applicable. However, a separate amount would be payable under the OPPS if the follow-up care were provided in an HOPD. Because the candidate study procedures are either nonsurgical with no global period or surgical with a 0-day global period, the global surgical period policy does not have implications for the payment comparisons in this study.

[2] Injection of contrast during fluoroscopic guidance is an inclusive component and is not reported or paid separately in either setting.

the sum—across all OPPS packaged procedure codes—need product of the frequency of the service and the mean total facility payment for the service.

Level 3: Payments After Adding Physician Services Associated with OPPS Packaged Services to Level 2

The levels thus far compared facility-related payments without taking into account a physician's professional services. With respect to PO services, the Level 2 comparison involved only the PE component of physician services provided in non-facility settings (or, where applicable, the TC of diagnostic tests). When the payment comparison was expanded to include physician professional services in Level 3, the same PE component was added to each setting (i.e., the PE for performing the procedure in a facility setting).

We calculated the incremental Level 3 payment as the sum—across all OPPS packaged procedure codes, including the index procedure—of the frequency of the service and the mean total payment for the service's PC. We found that the frequency of professional bills for the index procedure provided in HOPDs and ASCs was always lower than the frequency of the facility bill for the index procedure. In calculating the Level 3 payment amount, we assumed that the frequencies of professional and facility bills for the index procedure were equal in order to improve comparisons to PO rates. The professional portion of PO payments was calculated using the same methodology used in Levels 1 and 2.

Level 4: Payments After Adding Other Services Provided on the Same Day to Level 3

Level 3 combined the payments for the index procedure and bundled services without regard to other primary procedures that might be furnished on the same day. Level 4 takes into account all other procedures that were performed on the same day, including non-primary procedures. The payment comparison for Level 4 includes facility, physician, and other services, such as clinical laboratory diagnostic tests, regardless of the site of service.

We calculated the incremental Level 4 payment as the sum—across all separately paid procedure codes billed on the same day as an index procedure—of the frequency of the service and the mean total payment for the service. The incremental Level 4 payment amount was the total of both the facility and professional payments.

Level 5: Payments After Adding Pre- or Post-Procedural Services Provided Within a Specified Time Frame to Level 4

Level 5 expands the payment comparison to include services that are provided within a time window before or after the index procedure is performed. The purpose of this analysis was

to obtain a more comprehensive picture of the relative costliness of performing the study procedure in alternative ambulatory settings, taking into account both price and utilization.

We calculated the incremental Level 5 payment as the sum—across all separately paid procedure codes billed according to the defined pre/post period surrounding an index procedure—of the product of the frequency of the service and the mean total payment for the service. The incremental Level 5 payment amount was the total of both the facility and professional payments.

PHASE III

In the third phase of our study, we updated the analyses from Phase II using 2008 claims data. We also performed several other analyses, as described in this section.

Calculating MPFS Practice Expense Using OPPS Relative Weights to Estimate Direct Costs

We modeled 2011 payments for the PE component of fee schedule payments for physician and other practitioner services using fully transitioned 2011 rates. In doing so, we used standardized rates (i.e., we made no adjustment for geographic differences or Health Professional Shortage Area bonuses). We also priced each service as a single procedure without regard to multiple-procedure discounts or the imaging limit. Contractor-priced services were excluded.

We created an analytic data file that included procedure codes and RVUs for all services in the 2011 MPFS (Addendum B of the final rule). We added 2009 utilization data from the utilization data file published with the 2011 final rule. We calculated utilization separately for facility and non-facility services and for procedure code modifiers TC, 26, and blank (including all other modifiers).

For each procedure code/modifier combination in the analytic file, we added a direct cost estimate based on OPPS RWs from Addendum B of the 2011 OPPS final rule. The direct cost estimate was set to zero for facility services, non-facility services with modifier 26 (PC), and any service without an OPPS RW (e.g., OPPS packaged services). For services with a global period, we added the OPPS RWs for visits during the global period, using a file supplied by CMS to estimate the number and type of visits during the global period for each procedure code.

We then scaled the direct cost estimates to match the total direct costs under the 2011 payment methodology. We calculated a total direct cost pool equaling the sum of

$$\text{PE RVU} \times \text{volume of services} \times \text{average direct PE percentage}$$

across all procedure codes, treating non-facility and facility services separately. We calculated a direct-cost scaling factor by dividing this direct-cost pool by the total OPPS-based direct-cost estimates and applied it to each OPPS-based direct-cost estimate.

We allocated indirect costs to services using methods similar to those used by CMS in 2011. Indirect costs were allocated to services based on an allocator calculated using service-specific indirect-cost percentages supplied by CMS, the work RVU, the calculated direct-cost RVUs based on OPPS RWs, and clinical labor direct PE RVUs from the status quo RUC methodology for services with technical and professional components. We departed from the CMS methodology in that we did not use clinical labor direct PE RVUs to allocate indirect costs for services without technical and professional components with clinical labor direct PE RVUs greater than work RVUs. In our sensitivity analysis, we also departed from the CMS approach in that we allocated indirect costs on the basis of work RVUs for all services. This methodology eliminates all RUC-based estimates and did not significantly change the results. We scaled indirect costs to the total pool of indirect costs under the current methodology with the same approach used to scale direct costs. We then adjusted indirect costs using an indirect practice cost index supplied by CMS. Finally, we calculated a total PE RVU by adding indirect and direct PE RVUs and then performed a final budget-neutrality adjustment. The results of this analysis are discussed in Chapter Three.

Anesthesia Utilization for Endoscopy Procedures

We examined the utilization of anesthesia when endoscopy procedures are performed and whether there was variation across the type of setting and geographic region. We studied two procedures of interest: (1) CPT 43239, upper GI with biopsy with CPT 740, anesthesia, upper GI visualize, and (2) CPT 45378, diagnostic colonoscopy with CPT 810, anesthesia, lower intestinal scope. We calculated the frequency with which these combinations of endoscopy and anesthesia were billed together as a percentage of all claims for the two endoscopy procedures. We then conducted analyses using 2007 and 2008 carrier and outpatient Medicare claims. We used physician specialty codes on claims to determine the frequency of administration by an anesthesiologist. We then compared results across Medicare administrative contractor regions. Key findings from this analysis are discussed in Chapter Five.

Surgical Times

The 2006 NSAS public-use data file, a survey of ambulatory procedures performed in hospitals and ASCs, was used for all analyses. The NSAS uses a multistage probability design to sample hospitals and ASCs in the United States. In the 2006 survey, 142 of 189 eligible hospitals

and 295 of 397 eligible ASCs responded. For each sampled facility, we used systematic random sampling to select a sample of ambulatory surgery visits. Data were then abstracted for selected visits using a medical abstract form.

All analyses in this study were restricted to visits during which a single surgical procedure was performed, Medicare was the principal source of payment, and the patient was routinely discharged to customary residence. We compared hospitals and ASCs on procedures in the following diagnostic groups: nervous system (ICD-9-CM procedure codes 01.0–05.9), eye system (ICD-9-CM procedure codes 08.01–16.99), cardiovascular system (ICD-9-CM procedure codes 35.00–39.99), digestive system (ICD-9-CM procedure codes 42.01–54.99), musculoskeletal system (ICD-9-CM procedure codes 76.01–84.99), integumentary system (ICD-9-CM procedure codes 85.0–86.99), and miscellaneous diagnostic and therapeutic procedures (ICD-9-CM procedure codes 87.01–99.99). We also compared the settings by selected procedures: release of carpal tunnel (ICD-9-CM procedure code 04.44), extraction of lens (ICD-9-CM procedure codes 13.1–13.6), other endoscopy of the small intestine (ICD-9-CM procedure code 45.13), endoscopic polypectomy of the large intestine (ICD-9-CM procedure code 45.42), closed (endoscopic) biopsy of large intestine (ICD-9-CM procedure code 45.25), other local excision or destruction of lesion or tissue of skin and subcutaneous tissue (ICD-9-CM procedure code 86.3), upper GI endoscopy, biopsy (ICD-9-CM procedure codes 45.16 and 44.14), and diagnostic colonoscopy (ICD-9-CM procedure codes 45.22, 45.23, and 46.85). Only procedures that had at least 25 unweighted observations for both facility types were analyzed.

Our main outcome of interest was surgical time. We assessed four time periods in our analyses: total time (the time between when the patient entered the operating room and left postoperative care), surgery time (the time between when surgery began and when surgery ended), operating room time (the length of time spent in the operating room), and postoperative time (the length of time spent in postoperative care). The overall results from this analysis are discussed in Chapter Two.

Analysis of Shift of Site of Services Following Implementation of the Revised ASC Payment Methodology in 2008

We calculated changes in the distribution of surgical procedures between POs, ASCs, and HOPDs between 2007 and 2008. For services that were approved in ASCs in 2008, we calculated 2007 and 2008 volumes using 2007 and 2008 carrier and outpatient Medicare claims. We divided these services into three categories: (1) those that were ASC-approved procedures in 2007, (2) non–office-based procedures that were ASC-approved in 2007 but not 2008, and (3) office-based procedures that were ASC-approved in 2007 but not 2008. In some analyses, we excluded

geographic regions with low ASC volume (hospital referral regions with less than 20 percent of total volume for 2007 ASC-approved procedures in ASCs). The results from this analysis are summarized in Appendix C.

Comparison of the Within-APC Complexity of Services Provided in HOPDs and ASCs

We calculated the volume of services at the procedure-code level provided in ASCs and HOPDs using the 2009 ASC Limited Data Set and the 2009 OPPS CPT Medians file. We measured the "intensity" of each service using the OPPS median cost estimate. We then calculated a volume-weighted average cost for each APC for HOPDs and ASCs. Key findings from this analysis are summarized in Appendix C.

Comparison of Payment Rates Across Settings

We developed an overall measure of payment differentials for services that are provided in multiple ambulatory settings under current policies. For outpatient services, we used the 2011 OPPS standard rate. For non-facility settings, we used the difference between the fully implemented PE RVUs for the non-facility and facility setting multiplied by a $33.9742 CF. We used the difference in the RVUs because this is the incremental amount that is paid for performing the service in a non-facility setting. We used the fully implemented PE RVUs because they reflect the RVUs after the transition for changes in the MPFS utilization assumptions for major equipment. For consistent comparisons, this required us to estimate the amount payable for office-based ASC procedures assuming that the fully implemented RVUs are used under the MPFS. We estimated the payment for affected ASC procedures as the lower of 0.56 of the OPPS rate or the MPFS rate calculated using the fully implemented PE RVUs and the $33.9742 CF. We calculated the ratio of the HOPD to ASC rate and the HOPD to PO rate at the procedure code level. We weighted the ratios by HOPD volume to estimate how much was paid to hospitals relative to ASCs and non-facility settings for services provided by HOPDs, and we weighted the ratios by the non-facility setting volume to estimate how much was paid under the OPPS relative to the MPFS for services provided in non-facility settings, and so on. The results are summarized in Chapter Four. The comparison should be considered preliminary because it does not take into account differences in the units of payment (bundling) and differences in multiple procedure discounting.

Estimated Savings for Reducing Payment Differentials

We estimated the 2011 total program savings (Medicare and beneficiary or other secondary payer) that would result from various alternatives for addressing the payment differential. For each estimate, we compared the 2011 OPPS standard rate and the 2011 fully

implemented MPFS payments for services furnished in non-facility settings. Most estimates involved reducing the OPPS rate by capping it at a multiple of the MPFS rate or by using a blend of the OPPS and MPFS rates. At the procedure code level, we determined the difference between the current OPPS rate and the policy being examined and then multiplied by the HOPD volume (from 2009) to estimate savings. A similar approach was taken with respect to estimating the savings for capping the MPFS rate at the OPPS rate. The results are discussed in Chapter Four. These are preliminary estimates that do not take into account differences in the units of payment (bundling) or differences in multiple-procedure discounting.

Comparison of HOPD and PO Costs

We also explored developing an overall measure of cost differentials by comparing the costs for procedures done in both facility and non-facility settings (i.e., there are MPFS non-facility setting PE RVUs as well as a median cost for the procedure when performed in an HOPD). For services provided in the HOPD setting, we used the median cost reported for each procedure code. Estimating the cost for services provided in the PO setting required a decision regarding how the scaling factors should be used in the estimate. These factors are used to scale the direct and indirect cost inputs to the aggregate direct and indirect cost pools, respectively. The respective cost pools are then computed as the sum of the product of the current aggregate PE (aggregate direct and indirect) RVUs, the CF, and the average direct or indirect PE percentage from the survey data. The direct cost estimates are established to measure the *relative* values for the procedures and may not accurately reflect the *actual* costs of providing the services. In particular, the costs are estimated for each procedure and do not reflect efficiencies of providing multiple procedures. The scaling factors serve two functions: They impose budget neutrality, and they assure that the allocation between direct and indirect costs is consistent with the survey data. The indirect scaling adjustment factor (0.37) has a greater impact than the direct scaling adjustment factor (0.5). We do not report the results in the body of this report because our treatment of the scaling factors would be arbitrary in the absence of data indicating the relationship between aggregate practice costs attributable to Medicare patients and aggregate Medicare payments. We include a sensitivity analysis of this issue in Appendix C.

APPENDIX B. PHASE II KEY STUDY FINDINGS

In this appendix, we summarize key Phase II study findings with respect to patterns of care and payments at five levels of service aggregation:

Level 1: Payments for "facility" component of study procedures in different ambulatory settings

Level 2: Payments after the MPFS PE components for services provided in non-facility settings are standardized for OPPS packaging rules

Level 3: Adding the physician PC of OPPS packaged services to Level 2

Level 4: Adding other services provided on the same day to Level 3

Level 5: Adding pre/post services provided within a specified time frame to Level 4.

DIFFERENTIALS IN PATTERNS OF CARE

Table B.1 summarizes the significant differences in patterns of care between settings across all of the procedures examined in our study.

With the exception of chemotherapy, there were few significant differences in the utilization of OPPS packaged services, despite different financial incentives faced by POs, where these services are paid separately, and by HOPDs and ASCs, where payment is bundled with that for the index procedure. For two study procedures, left heart catheterization and spinal injection, there were several OPPS packaged services that were nearly always performed in both settings. Accounting for these services reduces (but does not eliminate) the payment differential observed in analyses of payment rates for the index procedure alone. One area of difference between settings was in the use of anesthesia services for endoscopy and colonoscopy index procedures. Professional anesthesia services were billed more frequently in ASCs and POs than in HOPDs, despite the fact that HOPDs would be expected to have greater access to anesthesiology services.

There were several areas of difference in patterns of care between settings for separately paid services performed on the same day as an index procedure. Diagnostic testing was more common with HOPD index procedures than with ASC or PO index procedures. This pattern was observed for multiple index procedures and may reflect differences in urgent versus elective procedures. There were also several differences between settings in the use of multiple procedures. CT of the pelvis is often performed with CT of another body area (most commonly the abdomen) in both HOPDs and POs, but more frequently in POs. However, the effect on the

payment differential is mitigated by the fact that the payment rates for the combination procedures are higher in HOPDs than in POs. Other imaging studies were also sometimes performed on the same day as MRI of the brain index procedures, but the rates did not vary significantly between HOPD and PO settings. Endoscopy and colonoscopy index procedures are often performed in conjunction with related, separately paid procedures, and this was more common in HOPDs and ASCs than in POs.

There were no significant differences in patterns of care before and after index procedures, with low service volume for most procedures. One exception was laboratory tests, which were more common before and after some HOPD index procedures compared to PO index procedures.

PAYMENT DIFFERENTIALS

Figure B.1 summarizes the Level 1 payment differential between HOPDs and ASCs and between HOPDs and POs. Level 1 reflects payment for the facility portion of the index procedures only and is similar to the analyses we performed in Phase I of this study. Similar to those results, we found that HOPDs were paid more than POs for all index procedures other than IMRT. The magnitude of the differential varied widely across study procedures.

A primary objective of this phase of the study was to determine whether the payment differentials observed in Level 1 were affected by consideration of bundled services, professional services, and patterns of service utilization on the same day and in a narrow time window surrounding the study procedure. We found that for several of the study procedures, standardizing for differences in bundling policy by including payments for the facility portion of PO payments for services that are bundled in the HOPD (Level 2) reduced payment differentials. However, the effect was negligible for several procedures with a low volume of OPPS packaged services. Including professional payments for the study procedure and OPPS packaged services in Level 3 did not significantly change payment differentials. Figure B.2 summarizes the results after standardizing the OPPS package and adding the physician professional services.

There were some significant differentials in same-day services between settings. As seen in Figure B.3, these payments added more to the total HOPD payments than to the PO payments for most study procedures. As a result, the ratio of HOPD to PO payments in Level 4 increased slightly for several of the procedures.

Table B.1
Summary of Differentials in Patterns of Service Utilization Between Ambulatory Settings

Procedure	OPPS Packaged Services	Same-Day Services	Pre/Post Services
Upper GI endoscopy	Anesthesia more common in POs and ASCs than in HOPDs	• Multiple procedures (e.g., colonoscopy) more common in ASCs and HOPDs than in POs • Evaluation and management more common in POs • Lab tests more common in HOPDs	No significant differences
Colonoscopy	• Anesthesia more common in POs and ASCs than in HOPDs • Injections more common in HOPDs than in ASCs and POs	N/A	No significant differences
Spinal injection	Fluoroscopic guidance common and performed at similar rates in 3 settings; explains part of the PO Level 2 price differential	Evaluation and management visits more common in POs	No significant differences
MRI of brain	No significant differences	• Other imaging studies common in both settings but paid at higher rate in HOPDs • Lab tests more common in HOPDs	Lab tests more common in HOPDs
CT of pelvis	No significant differences	• Combination CT scans more common in POs but paid at higher rate in HOPDs • Diagnostic testing more common in HOPDs • ER visits in HOPDs	No significant differences
IMRT	No OPPS packaged services	Stereoscopic guidance more common in POs than in HOPDs	Not analyzed

Procedure	OPPS Packaged Services	Same-Day Services	Pre/Post Services
SPECT	No significant differences	• Adenosine injection more common in POs • Electrocardiogram common in both settings but paid at higher rate in HOPD • Doppler exams slightly more common in POs • Lab tests more common in HOPDs	Lab tests more common in HOPDs
Left heart catheterization	Four procedures (injections and imaging supervision/interpretation) performed with almost all index procedures in both settings; explains most of the Level 1 price differential	Electrocardiograms and lab tests more common in HOPDs	Lab tests more common in HOPDs
Chemotherapy	Almost every OPPS packaged drug billed more frequently in POs than in HOPDs	• Sequential infusion of additional drugs more common in POs than in HOPDs • Some drugs more commonly provided in HOPDs and some more commonly provided in POs • Evaluation and management visits more common in POs than in HOPDs	Not analyzed

Figure B.1
Level 1 Ratios of HOPD to ASC and HOPD to PO Payments, 2007

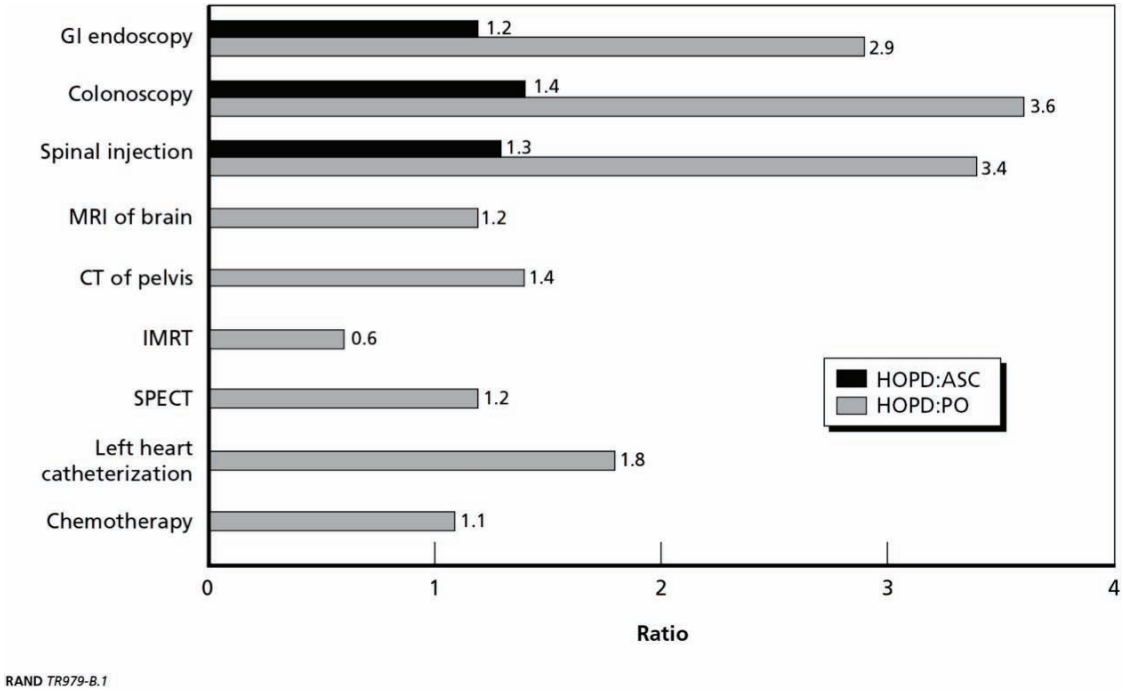


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Figure B.2
Level 3 Ratio of HOPD to ASC and HOPD to PO Payments, 2007

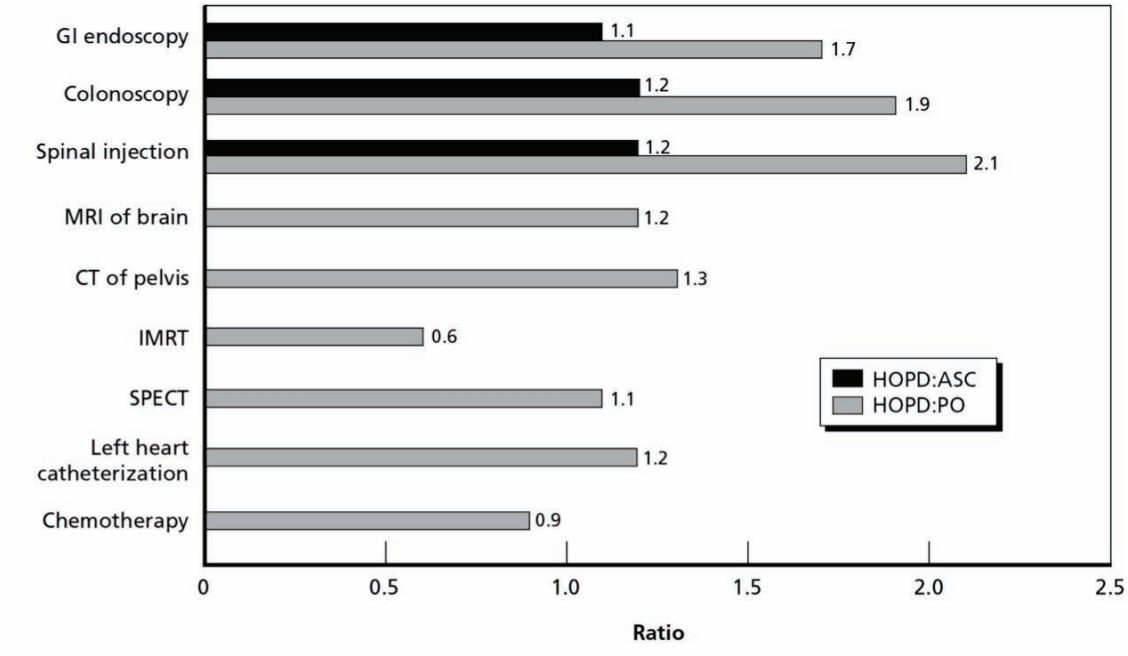

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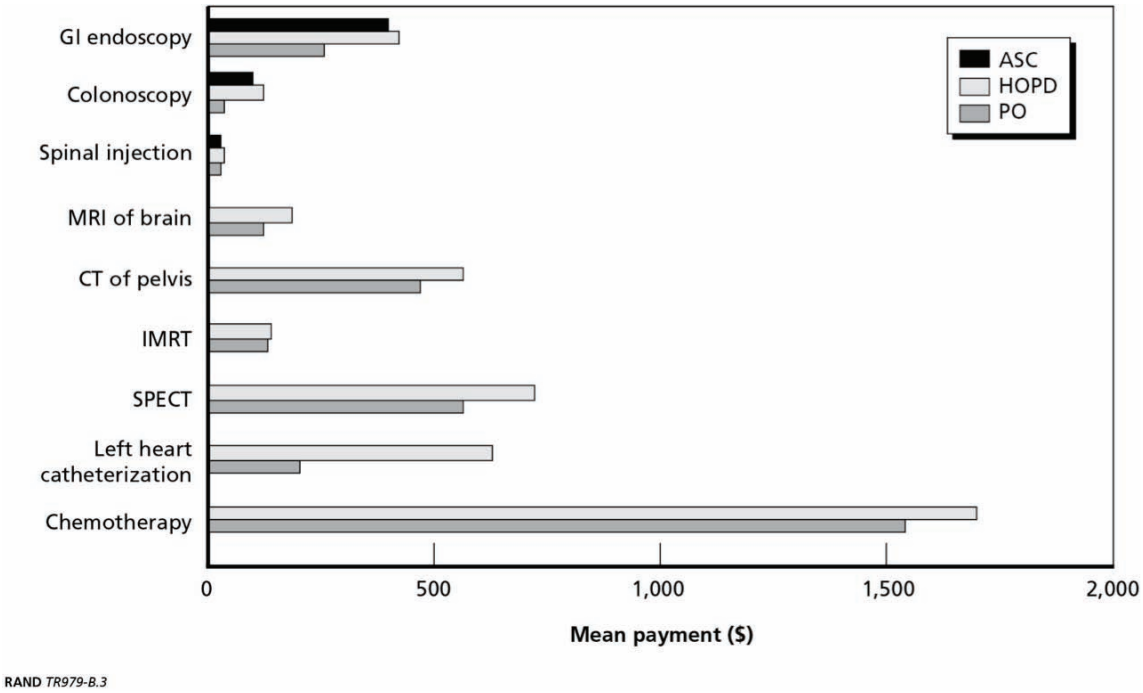
Figure B.3
Average Payments for Same-Day Services



RAND *TR979-B.3*

The inclusion of pre/post services in Level 5 also had only slight effects on payment differentials. There were relatively low volumes of pre/post services observed for the selected study procedures, with few differences in care patterns between settings other than for SPECT.

Figure B.4 summarizes the payment differential across the five levels for all procedures that are furnished in both HOPD and PO settings. Standardizing for differences in the bundling policies had the greatest effect on spinal injections and left heart catheterization (Level 2). Adding the physician professional services tended to produce the least payment differential. (Simply adding the same amount to both numerators and increasing the size of both denominators has the effect of reducing the ratios.) With the exception of spinal injections, the ratios increased between Level 3 and Level 4 and/or Level 5, reflecting the higher volume of additional services provided on the same day and in the pre/post period.

Table B.2 summarizes HOPD-ASC payment differentials across the five levels of comparison for all the study procedures. In contrast to the HOPD-PO differentials, HOPD-ASC payment differentials were similar across settings, reflecting the changes in ASC payment policy implemented in 2008. Analysis of professional, same-day, and pre/post services had the potential to increase differentials, but it had little effect due to the few differences in care patterns between HOPDs and POs.

Figure B.4
Ratio of HOPD to PO Payments Across Five Levels of Payment Differential

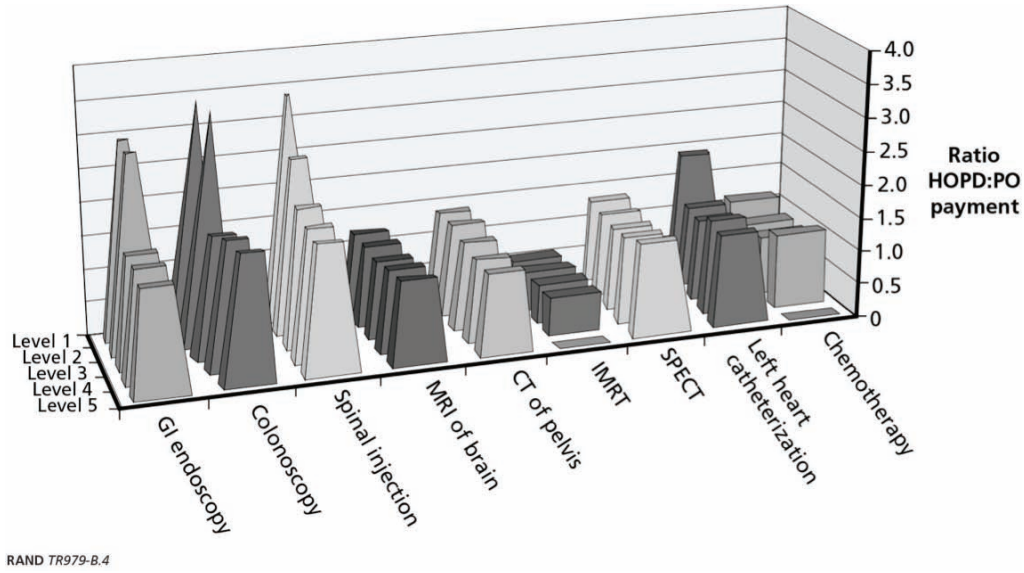


Table B.2
Ratio of HOPD to ASC Payments for Selected Ambulatory Procedures, Five Levels of Payment Differential, 2007

Procedure	Level 1	Level 2	Level 3	Level 4	Level 5
Upper GI endoscopy	1.2	1.2	1.1	1.1	1.1
Spinal injection	1.3	1.3	1.2	1.2	1.2
Colonoscopy	1.4	1.4	1.2	1.2	1.2
IMRT	0.6	0.6	0.6	0.6	N/A
Chemotherapy	1.1	0.9	0.9	1.1	N/A

APPENDIX C. ADDITIONAL PHASE III FINDINGS

In this appendix, we summarize key Phase III study findings that are not otherwise presented in the main body of this report.

ANALYSIS OF THE SHIFT IN SITE OF SERVICES FOLLOWING IMPLEMENTATION OF THE REVISED ASC PAYMENT METHODOLOGY IN 2008

In 2008, ASCs transitioned to a new Medicare payment system and new procedures were added to the ASC-approved list. The purpose of this analysis was to measure the effects of these policy changes on the site of service of ambulatory procedures. Table C.1 shows the volume of ASC-approved services provided in ASCs and other settings in 2007 and 2008. We analyzed the results nationally ("all hospital referral regions") and in a sensitivity analyses limited to hospital referral regions with significant ASC penetration (i.e., more than 20 percent of volume for 2007 ASC-approved procedures performed in ASCs).[1]

The share of services performed in ASCs increased overall by one percentage point between 2007 and 2008. The increase was less than one percentage point in hospital referral regions with high ASC penetration. There were no significant differences by service type.

Very few of the procedures newly approved in 2008 were performed in ASCs in 2008. A greater share of the non–office-based procedures approved in 2008 were performed in ASCs (5 percent of total volume) compared to office-based procedures approved in 2008 (less than 1 percent of total volume). These results were consistent when limited to areas with high ASC penetration.

These results show that new payment methodologies and additions to the ASC-approved procedure list in 2008 did not immediately cause significant changes in the site of service. It is possible that more significant changes have occurred since 2008, outside the time frame of this analysis.

[1] Hospital referral regions are defined in the Dartmouth Atlas by where patients are referred for major cardiovascular surgical procedures and for neurosurgery.

Table C.1
Volume of ASC-Approved Procedures in 2007 and 2008

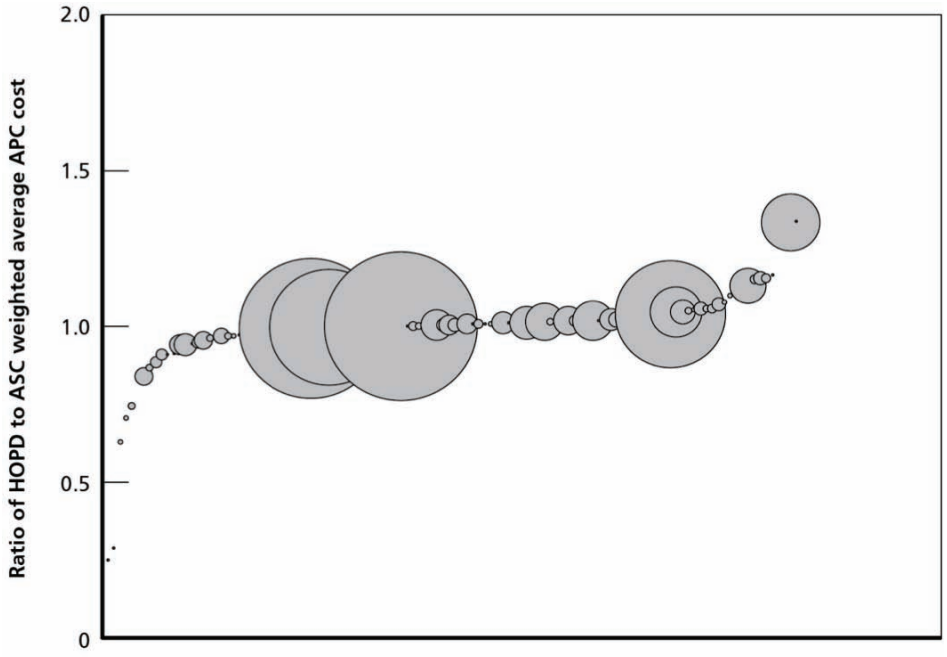
Service Group	Total Volume, 2007	ASC Volume, 2007	% ASC Volume, 2007	Total Volume, 2008	ASC Volume, 2008	% ASC Volume, 2008	% Change in ASC Volume, 2007–2008
Total approved in 2007	1,354,841	336,870	25	1,337,104	345,704	26	1
Gastrointestinal	382,080	121,054	32	369,144	124,751	34	2
Ophthalmology	365,480	99,285	27	346,821	98,188	28	1
Orthopedics	10,702	2,839	27	10,593	2,876	27	1
Skin/musculoskeletal	380,075	81,325	21	386,306	85,550	22	1
Other	216,504	32,367	15	224,240	34,339	15	0
Total approved in 2008 (office-based)	N/A	N/A	N/A	3,848,495	14,702	0	N/A
Total approved in 2008 (non–office-based)	N/A	N/A	N/A	49,846	2,449	5	N/A
Hospital Referral Regions with More Than 20% ASC Volume for 2007 Approved Procedures	**Total Volume, 2007**	**ASC Volume, 2007**	**% ASC Volume, 2007**	**Total Volume, 2008**	**ASC Volume, 2008**	**% ASC Volume, 2008**	**% Change in ASC Volume, 2007–2008**
Total approved in 2007	816,611	272,098	33	831,556	276,245	33	0
Gastrointestinal	240,663	100,636	42	240,655	102,201	42	1
Ophthalmology	168,280	73,763	44	167,497	72,482	43	–1
Orthopedics	6,927	2,263	33	7,029	2,290	33	0
Skin/musculoskeletal	258,871	68,504	26	266,702	70,916	27	0
Other	141,870	26,932	19	149,673	28,356	19	0
Total approved in 2008 (office-based)	N/A	N/A	N/A	2,601,087	11,232	0	N/A
Total approved in 2008 (non–office-based)	N/A	N/A	N/A	32,777	1,923	6	N/A

Comparison of the Within-APC Complexity of Services Provided in Hospital Outpatient Departments and ASCs

The purpose of this analysis was to investigate whether the mix of procedures covered by an APC payment was comparable between HOPD and ASC settings. This has implications for whether a single CF is appropriate for ASC services paid based on the OPPS or whether multiple CFs should be considered to reflect within-APC variation.

Figure C.1 shows the within-APC complexity of services provided in HOPDs and ASCs. For each procedure, we used the OPPS median file produced during the 2010 rulemaking process that contains the median cost for each procedure. We calculated an RW based on the median cost for the procedure. For each APC, we calculated a volume-weighted average of the calculated RW for procedures provided by HOPDs and ASCs.

Figure C.1
Weighted Within-APC Average RW of Services in HOPDs Compared to ASCs, by APC, 2007



NOTE: Each bubble is an APC; size of bubbles = volume of ASC services. APCs with < 250 ASC services not shown.
RAND *TR979-C.1*

Figure C.1 shows the ratio of the HOPD average RW to the ASC average RW for each APC. Each bubble in the figure represents an APC, and the size of the bubble represents the volume of ASC procedures in that APC. The results are sorted by the HOPD-to-ASC ratio from left to right, so the bubbles on the far right represent APCs with the highest average RWs in

HOPDs compared to ASCs. For most APCs, the ratio is close to 1.0, which indicates similar intensity of services in HOPDs and ASCs. The median ratio across all APCs was 1.01. There were several APCs with higher intensity in HOPDs and several APCs with higher intensity in ASCs. Overall, the analysis supports applying a single CF to the OPPS RWs. There were two APCs with HOPD-to-ASC ratios of 1.3: APC 52, Level IV Musculoskeletal Procedures Except Hand and Foot, and APC 204, Level I Nerve Injections.

Comparison of HOPD and PO Costs

The purpose of this analysis was to develop an overall measure of HOPD-PO cost differentials by comparing the cost of procedures performed in both settings. We were unable to produce results from the analysis because of uncertainty over the relationship between Medicare aggregate MPFS payments for services provided in non-facility settings and the estimated aggregate costs of providing the services. We first estimated procedure-level costs without regard to the scaling factors that are used in the annual rate-setting process. This approach aggregates the estimated cost of each individual service and does not take into account efficiencies from providing multiple services rather than individual services. Without being able to control the sum of the individual cost estimates to an estimate of Medicare's share of total practice costs in non-facility settings (analogous to Medicare's share of costs reported for hospital outpatient services), the approach likely overestimates the cost of providing services in the non-facility setting. As seen in Table C.2, the estimated overall cost of providing services in non-facility settings under this approach would be less than the estimated cost of providing those services in HOPD settings. When weighted by the non-facility volume, the overall ratio of the HOPD median cost to MPFS non-facility costs is 0.96.

We then estimated procedure-level costs by applying the scaling factors that are used in the annual rate-setting process. The scaling factors control to the available cost pools, which are a function of estimated MPFS aggregate expenditures rather than estimated aggregate costs for Medicare services. This approach likely understates the cost of providing services in a non-facility setting. Together, the two estimates set an upper and lower bound on the cost estimate. Using the lowest cost estimate, on average, the cost of services provided in non-facility settings is 2.4 times higher than when the services are provided in HOPDs; however, the hospital payment is 4.4 times higher (see Chapter Four). These results should be considered exploratory because the comparison does not take bundling differences into account. However, based on our analysis of the effect of bundling on the payment differential for selected procedures, it is not likely that standardizing for the bundling differences would alter an overall finding that the payment differential exceeds the cost differential.

Table C.2
Mean Ratio of HOPD Median Cost to MPFS Non-Facility Costs

Type of Service and BETOS Category	Number of Codes	Mean Weighted by HOPD Volume Before Applying Scaling Factors	Std Error Weighted by HOPD Volume Before Applying Scaling Factors	Mean Weighted by HOPD Volume After Applying Scaling Factors	Std Error Weighted by HOPD Volume After Applying Scaling Factors
[I] Imaging	522	0.993	0.106	2.123	0.151
[M] Evaluation and management	95	1.197	0.145	3.012	0.354
[O] Other	9	0.749	0.019	1.912	0.045
[P] Procedures	1,541	0.931	0.072	2.269	0.18
[T] Tests	250	0.901	0.202	2.160	0.488
Total	2,417	1.003	0.061	2.362	0.135
Type of Service and BETOS Code	**Number of Codes**	**Mean Weighted by PO Volume Before Applying Scaling Factors**	**Std Error Weighted by PO Volume Before Applying Scaling Factors**	**Mean Weighted by PO Volume After Applying Scaling Factors**	**Std Error Weighted by PO Volume After Applying Scaling Factors**
[I] Imaging	480	0.842	0.075	2.010	0.173
[M] Evaluation and management	95	0.902	0.065	2.294	0.165
[O] Other	9	0.694	0.167	1.811	0.433
[P] Procedures	1,502	1.213	0.237	3.038	0.613
[T] Tests	243	1.018	0.26	2.465	0.627
Total	2,329	0.961	0.077	2.412	0.192

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