



Hospital volume responses to Medicare's Outpatient Prospective Payment System: Evidence from Florida[☆]

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ABSTRACT

Effective in 2000, Medicare's Outpatient Prospective Payment System (OPPS) sets pre-determined reimbursement rates for hospital outpatient services, replacing the prior cost-based methods of reimbursement. Using Florida outpatient discharge data, we study the effect of OPPS on hospital outpatient volume. We find that on average Medicare rate cuts either decreased or had no significant effect on Medicare volume, but increased private fee-for-service (FFS) volume. We also find that responses vary with the hospital's "exposure" to Medicare payment changes, where exposure is measured as the baseline Medicare patient share. Compared to less exposed hospitals, highly exposed hospitals responded with larger increases in private FFS volume and with smaller decreases (in some cases, even increases) in Medicare volume when payment rates fell. Our results are consistent with provider demand inducement.

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1. Introduction

The Balanced Budget Act of 1997 established the Medicare Outpatient Prospective Payment System (OPPS), which went into effect on August 1, 2000. Prior to OPPS, Medicare reimbursed hospitals based on actual costs incurred in outpatient care delivery. Under OPPS, Medicare now classifies hospital outpatient services into approximately 800 ambulatory payment classifications (APCs) based on clinical and cost similarity. Regardless of the actual treatment cost, all services in the same APC are reimbursed at the same predetermined amount, with

adjustments for local labor costs, certain hospitals, and outlier cases.

Little is known about the impacts of OPPS on outpatient utilization, even though the use of prospective payment systems (PPS) has been studied widely in inpatient and several other healthcare delivery settings.¹ This may reflect the complexity of the program; some have called the transition to OPPS "the most complex and difficult programmatic change in the history of Medicare" (Mohr and Kintala, 2003). Nonetheless, policies that affect hospital outpatient spending are of significant interest. From 2002 to 2007, Medicare outpatient spending per beneficiary grew 47% while inpatient

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¹ To our knowledge, the only study of PPS in the outpatient setting is a working paper by Becker (2007). His study examines changes in reimbursements and costs caused by OPPS using data from 1999 and 2000. For PPS studies in other care settings, see, for example, Cutler (1995) on Medicare PPS in inpatient acute care, Norton et al. (2002) on Medicaid PPS in inpatient psychiatric care, Sood et al. (2008) on Medicare PPS in inpatient rehabilitation care, White (2003) and Grabowski et al. (2010) on Medicare PPS in skilled nursing facility care, and McCall et al. (2003) on PPS in Medicare home health care. In general, many studies find evidence that providers respond to the financial incentives of PPS by reducing lengths of stay and other measures of resource use. Also see Salkever (2000) and Chalkley and Malcomson (2000) for reviews of the effects of Medicare inpatient PPS on hospital costs, length of stay, and other measures of resources.

spending grew only 18% (MedPAC, 2009a), and outpatient services currently constitute more than 20% of Medicare's total payments to hospitals (MedPAC, 2010). Medical technological advancement is likely to further shift many conventional inpatient services to outpatient settings.

In this study, we examine the effect of OPSS-induced payment changes on the volume of hospital outpatient services provided to Medicare patients. In addition, we examine an important yet understudied response to Medicare prospective payment systems, the potential for changes in non-Medicare volumes. In the voluminous PPS literature, very few studies test for changes in services reimbursed by non-Medicare payers (Sloan et al., 1988 and Scheffler et al., 1994, both on inpatient PPS, are notable exceptions). None of the studies of the newer forms of PPS, to the best of our knowledge, examines how Medicare payment changes affect services reimbursed by non-Medicare payers.² We consider several theoretical explanations for the effects of OPSS on multiple payers, including a slight modification of the physician demand inducement model in McGuire (2000) to fit the hospital setting; in the modified model, physicians serve as agents for both their patients and the hospital in which they work, as in Ellis and McGuire (1986).

We test for volume effects using Florida outpatient discharge data from 1997 to 2008 to construct counts of outpatient surgical procedures by payer for each hospital and year. To obtain the post-OPSS reimbursement rates, we follow guidelines on APC rate determinations published in quarterly issues of the *Federal Register*; for the pre-OPSS years, we develop an algorithm to impute hospital-specific Medicare payment rates from discharge records and Medicare Cost Reports. The imputed Medicare payment rates for the top ten most common surgical procedures show an average decrease of 22% in the five-year period before and after implementation of OPSS. Our results suggest that, on average, OPSS-induced rate reductions either decreased or left unchanged the number of procedures provided to Medicare patients and increased the number of procedures provided to patients covered by private fee-for-service (FFS) insurance.

We also find that Medicare and private FFS volume responses to OPSS varied by the hospital's exposure to Medicare. Following a standard approach in the PPS literature, we measure a hospital's "exposure" to OPSS as the hospital's baseline Medicare patient share (Salkever, 2000, p. 1527). We find that highly exposed hospitals responded with smaller decreases in outpatient service provision to Medicare patients relative to less exposed hospitals; in some instances highly exposed hospitals actually increased Medicare volume. In terms of private FFS volume, Medicare rate reductions led to larger increases at highly exposed hospitals compared to less exposed hospitals. These results are consistent with provider-induced demand: hospitals for which Medicare patients are more important are more likely to increase volume in order to compensate for lost revenue from Medicare reimbursement rate cuts.

This paper proceeds as follows: Section 2 provides background information on OPSS, and Section 3 describes the conceptual framework for examining its effects on volume paid by Medicare and non-Medicare payers. Sections 4 and 5 describe our data and empirical approach. Regression results are presented in Section 6, and Section 7 concludes.

2. Background on the Outpatient Prospective Payment System (OPSS)

Prior to the implementation of OPSS in August 2000, Medicare used "a confusing mix" of different payment methods for hospital outpatient services (Wynn, 2005, p. 5).³ Depending on the type of service, the reimbursement rate could be either: (a) the lesser of costs or charges; (b) the lesser of costs, charges, or a blended rate; or (c) a fee schedule. In particular, payment for medical visits, therapy and rehabilitation services, and certain surgeries were based on hospitals' reasonable costs or customary charges. ASC-approved surgical procedures and certain radiology and diagnostic procedures were reimbursed at the lesser of costs, charges, or a blended rate which combined the lesser of costs or charges with a fee schedule.⁴ For clinical laboratory services, prosthetics and orthotics, and durable medical equipment, hospitals were paid according to fee schedules. To make things even more complicated, these methods were applied retrospectively on an aggregate basis only when Medicare determined the final settlement payment after hospitals submitted their annual cost reports (MedPAC, 1999).

Under this mostly cost-based reimbursement system and in a period where technological changes shifted more care from inpatient to ambulatory settings, Medicare payment for hospital outpatient services rose sharply. Between 1983 and 1997, for example, MedPAC (1999) reports an annual rate of increase of 12%. Due in part to concerns that existing payment methods provided little incentive for hospitals to lower costs, the Balanced Budget Act (BBA) of 1997 and the Balanced Budget Reconciliation Act (BBRA) of 1999 established a prospective payment system for hospital outpatient services, the OPSS, effective on August 1, 2000.

OPSS applies to almost all hospitals participating in Medicare and to most hospital outpatient services.⁵ It essentially is a new fee schedule that groups outpatient services, sets the same predetermined payment rate per service or procedure for all services in each group, and makes necessary adjustments in certain circumstances.⁶ Multiple services are grouped into Ambulatory Payment Classifications (APCs) according to their clinical and cost similarity (CMS, 2010). For example, as of October 2007, APC

³ Note that OPSS and its precursor fee schedules pertain to the reimbursement of hospital costs; Medicare uses a separate fee schedule to reimburse physicians who work in hospital outpatient settings.

⁴ An ASC is an Ambulatory Surgery Center. Medicare reimburses ASCs for performing only those surgeries on an "ASC-approved list." In 1999, about 2500 surgical procedures were on the ASC-approved list (MedPAC, 1999). Most of the surgical procedures we examine in this paper are ASC-approved.

⁵ Some small groups of hospitals are not subject to OPSS; hospitals in Maryland (which are paid under the state's all-payer waiver provisions), Critical Access Hospitals, and Indian Health Services and Tribal hospitals are exempt (CMS, 2010). Examples of excluded services are ambulance services, physical and occupational therapy, and speech-language pathology services (Federal Register, 2000, p. 18442).

⁶ Despite the similarities in their names, important differences exist between OPSS and prospective payment systems (PPS) used in other healthcare delivery settings such as inpatient acute care, inpatient rehabilitation, mental health, and home healthcare settings. In particular, because payment under OPSS typically is for a particular service or procedure, OPSS essentially just changes the reimbursement rate per service or procedure. As implemented under the BBA of 1997 and the BBRA of 1999, OPSS does not contain any bundled payment provisions. OPSS does include some "packaging," or cases where payment for the primary service also includes reimbursement for ancillary or supportive services that are considered integral to the primary service. Ancillary services that are packaged include routine supplies, anesthesia, operating and recovery room use, inexpensive drugs, and some others (CMS, 2010). In contrast, those other prospective payment systems typically involve substantial service bundling, reimbursing for units of treatment such as hospital discharges or home healthcare episodes. For example, payments under the widely studied Medicare inpatient PPS are based on the diagnosis-related group associated with the patient's admission, and in most cases, the hospital is reimbursed a flat pre-determined amount for all services provided to the patient during the entire hospital stay.

² Newer forms include PPS in skilled nursing facilities (effective 1998), in home health care (effective 2000), and in inpatient psychiatric hospitals, long term care hospitals, and inpatient rehabilitation hospitals (all effective 2002).

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