



# Effects of Medicare payment reform: Evidence from the home health interim and prospective payment systems



Peter J. Huckfeldt<sup>a,\*</sup>, Neeraj Sood<sup>a,b,c</sup>, José J. Escarce<sup>a,c,d</sup>, David C. Grabowski<sup>e</sup>, Joseph P. Newhouse<sup>c,e</sup>

<sup>a</sup> RAND Corporation, Santa Monica, CA, United States

<sup>b</sup> University of Southern California (USC), Los Angeles, CA, United States

<sup>c</sup> National Bureau of Economic Research (NBER), Cambridge, MA, United States

<sup>d</sup> University of California – Los Angeles, Los Angeles, CA, United States

<sup>e</sup> Harvard University, Boston, MA, United States

## ARTICLE INFO

### Article history:

Received 4 August 2012

Received in revised form 31 August 2013

Accepted 11 November 2013

Available online 17 December 2013

### JEL classification:

H42

H51

I11

I18

### Keywords:

Medicare

Treatment intensity

Selection

Prospective payment

## ABSTRACT

Medicare continues to implement payment reforms that shift reimbursement from fee-for-service toward episode-based payment, affecting average and marginal payment. We contrast the effects of two reforms for home health agencies. The home health interim payment system in 1997 lowered both types of payment; our conceptual model predicts a decline in the likelihood of use and costs, both of which we find. The home health prospective payment system in 2000 raised average but lowered marginal payment with theoretically ambiguous effects; we find a modest increase in use and costs. We find little substantive effect of either policy on readmissions or mortality.

© 2014 Elsevier B.V. All rights reserved.

## 1. Introduction

With the passage of the Patient Protection and Affordable Care Act (ACA), policymakers face the challenge of minimizing health care costs while maintaining or improving quality of care. One prominent approach shifts provider payment from fee-for-service to episode-based payments to improve efficiency and accountability. For example, the Center for Medicaid and Medicare Services is currently piloting programs that provide a fixed payment for an acute hospital stay and any subsequent post-acute care (Medpac, 2013a). However, these reforms require an appropriate definition of a treatment “episode” and understanding the effects of alternate payment rules.

How can prior experience with payment change inform the current efforts to reform Medicare payment? The Medicare home health benefit has transitioned through multiple payment regimes and thus provides an excellent laboratory to study the influence of marginal and average payment changes on home health admissions, provider costs, and Medicare costs.

In 1983, in an attempt to curtail rapidly increasing inpatient hospital costs, Medicare instituted the Inpatient Prospective Payment System, which provides a single payment for the inpatient stay, based on principal diagnosis, complications and comorbidities, procedure use, and local wages. However, post-acute services including home health care were still reimbursed on a cost basis subject to upper limits. As a result, admissions, patient visits, and resource use skyrocketed in home health agencies, resulting in Medicare home health expenditures increasing from \$2 billion in 1987 to \$17 billion in 1997 (Medpac, 2002).

In the Balanced Budget Act of 1997 (BBA, 1997), Congress responded to spiraling post-acute care use by mandating

\* Corresponding author at: RAND Corporation, 1776 Main Street, Santa Monica, CA 90401, United States. Tel.: +1 310 393 0411.

E-mail address: [huckfeld@rand.org](mailto:huckfeld@rand.org) (P.J. Huckfeldt).

prospective payment systems for post-acute care. Because a workable system for home health agencies was not available, Congress mandated the almost immediate adoption of an interim payment system (IPS) in October 1997. The IPS imposed substantially lower limits on Medicare reimbursement to home health agencies. It reduced average payments per visit, instituted an annual per-patient payment cap, and effectively eliminated marginal reimbursement past the limits. Subsequently, Medicare devised a home health agency prospective payment system (PPS) that provided reimbursement for each 60-day home health episode as a function of patients' clinical status, functional status, and service use (Medpac, 2011a). The PPS, implemented in October 2000, increased average payments to home health agencies, but, by some metrics, marginal reimbursement within a 60-day home health episode was further reduced.<sup>1</sup>

A number of papers examine the impacts of the home health IPS and PPS on payments, costs, and patient outcomes. Previous research has shown that the IPS reduced both the probability of using home health and the number of visits per patient (McCall et al., 2001, 2003; McKnight, 2006). This decrease in utilization was concentrated in less healthy Medicare patients but had little or no effect on adverse health outcomes (McKnight, 2006). Additionally, the number of home health agencies fell by over 30% between 1997 and 2000 (Medpac, 2011b). Exiting facilities were more likely to be recent market entrants, were located in more competitive markets, and provided a higher number of visits per patient; however, newer entrants that remained were more likely to expand their service area (Porell et al., 2006). Research on the PPS is more limited, but finds a greater use of therapy relative to home health aide visits, with small changes in patient outcomes or quality of care (McCall et al., 2004; Schlenker et al., 2005; Medpac, 2010).

In this paper, we contribute to the previous literature by analyzing the home health IPS and PPS in a single unified framework, contrasting their differing effects on marginal and average reimbursement. Ideally, we would be able to estimate separate elasticities of treatment with respect to average and marginal reimbursement. However, because changes in average and marginal reimbursement occurred simultaneously, we pursue a reduced form approach that contrasts the IPS (which reduced both average and marginal reimbursement) with the PPS (which increased average reimbursement but reduced marginal reimbursement). As part of this strategy, we compare the effects of each reform on average payments to hypothesize the behavioral responses specific to the accompanying changes in marginal reimbursement. We describe a conceptual framework that models home health agencies' admission and treatment policies as a function of Medicare reimbursement policy and provides separate predictions for the IPS and the PPS. We develop an empirical strategy that simulates changes in admissions and resource use after each policy shift for a constant cohort of patients, thereby controlling for patient selection or changes in the composition of patients over time. Additionally, we estimate admission and treatment functions for a single cohort of patients, and use the estimates to simulate admission probabilities and resource use for successive patient cohorts in order to isolate selection effects. We also investigate the impacts of each policy on costs in other post-acute care settings and patient outcomes including mortality and hospital readmission. Finally, we estimate heterogeneous effects on admissions and costs based on differential changes in Medicare payments to gauge the relative importance of average and marginal reimbursement. Throughout our empirical

analysis, we use a rich dataset comprised of 100 percent Medicare acute and post-acute care claims, denominator files, and provider data over the period 1996 through 2002. Our focus is on patients discharged from hospitals after one of three primary diagnoses: stroke, hip fracture, or lower extremity joint replacement.

Our conceptual model predicts that home health agencies' admissions and resource use will decrease with the IPS, but shows that the PPS has ambiguous effects due to offsetting changes in marginal and average reimbursement. Our estimates confirm that the IPS substantially decreased Medicare payments. We show that this decline in average and marginal reimbursement led to a sharp decline in home health admissions and resource use conditional on admission. In contrast, while the PPS increased average payments to providers above pre-IPS levels (in nominal terms), admissions and resource use conditional on admission increased only slightly. In both cases, we find little change in admissions or resource use conditional on admission due to patient selection. Despite the large changes in Medicare payments to home health agencies over the sample period, we find little evidence of substitution toward or away from other post-acute facilities as a result of the IPS or PPS. In addition, we find little evidence that payment reforms affected mortality or readmissions. We find heterogeneous effects on costs that vary with differential changes in average payments. Overall our results suggest that providers are responsive to both marginal and average reimbursement in determining treatment intensity and admissions, but changes in resource use and admissions induced by these payment changes had little impact on the patient health outcomes that we investigated.

The paper proceeds as follows. Section 2 provides background on home health agencies and changes in reimbursement policy. Section 3 discusses our conceptual framework. Section 4 describes the data, Section 5 discusses the empirical strategy, Section 6 describes the results, and Section 7 concludes.

## 2. The home health IPS and PPS

The Medicare home health benefit provides skilled nursing, physical therapy, nurse aide, and medical social work services for Medicare beneficiaries who require such services (as judged by a physician) and are unable to leave their homes without difficulty, but who do not require inpatient care. Other post-acute care settings (such as skilled nursing and inpatient rehabilitation facilities) provide similar services, but for patients who need to receive such care in an inpatient setting (and in the case of inpatient rehabilitation, are able to complete three hours of intensive therapy each day). In addition, while Medicare only pays for episodes in skilled nursing facilities and inpatient rehabilitation facilities after a hospital stay, beneficiaries may receive home health services outside of the post-hospital discharge period if otherwise eligible. In 2011, 3.4 million fee-for-service patients received the home-health benefit, resulting in \$18.4 billion in Medicare home health expenditures (Medpac, 2013b).

In 1983, the Medicare inpatient prospective payment system was implemented, providing a single payment to providers for an acute care episode as a function of patients' principal diagnosis, procedures used, complications and comorbidities, and adjustments based on local labor market conditions. Acute care length-of-stay steadily decreased in the years immediately following the acute PPS, with little immediate change in post-acute use (Newhouse, 2002). Court decisions in the late 1980s, however, held certain regulations governing eligibility for post-acute services to be illegal. Specifically, *Fox versus Bowen* in 1986 (for skilled nursing) and *Duggan versus Bowen* in 1988 (for home health services) expanded the criteria for eligibility for receiving post-acute

<sup>1</sup> There are outlier payments for exceptionally costly patients, per visit payments for "short stay" outliers, and until 2008 agencies received additional payment for providing 10 or more rehabilitation visits.

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات