Journal of Health Economics 49 (2016) 46–58

Contents lists available at ScienceDirect

Journal of Health Economics

journal homepage: www.elsevier.com/locate/econbase

Shock, but no shift: Hospitals' responses to changes in patient insurance mix ☆

Kathryn L. Wagner *

Department of Economics, College of Business Administration, Marquette University, David Straz Hall #418, P.O. Box 1881, Milwaukee, WI 53201, USA

ARTICLE INFO

Article history:
Received 10 November 2015
Received in revised form 6 June 2016
Accepted 21 June 2016

JEL classification:
I11
I13

Keywords:
Medicaid
Health insurance
Hospitals
Cost shifting
Disability

ABSTRACT

Medicaid reimburses healthcare providers for services at a lower rate than any other type of insurance coverage. To account for the burden of treating Medicaid patients, providers claim that they must cost-shift by raising the rates of individuals covered by private insurance. Previous investigations of cost-shifting has produced mixed results. In this paper, I exploit a disabled Medicaid expansion where crowd-out was complete to investigate cost-shifting. I find that hospitals reduce the charge rates of the privately insured. Given that Medicaid is expanding in several states under the Affordable Care Act, these results may alleviate cost-shifting concerns of the reform.

1. Introduction

Health care providers receive lower reimbursements from Medicaid than any other type of health insurance. In 2012, the average Medicaid reimbursement rate was only 66 percent of the Medicare rate which is typically lower than the rate from commercial insurance plans (Zuckerman and Goin, 2012). The Medicaid rate must be accepted as payment-in-full which means that providers receive no additional coinsurance payments nor can they extract any additional fees from a Medicaid patient even if the reimbursement rate is less than the total cost of care. As a result, health services providers receive less compensation from a Medicaid patient relative to a patient with any other form of health coverage and often argue that rates are not even enough to cover costs. In order to subsidize the low rates from Medicaid patients, some suggest that hospitals raise prices for privately insured patients to subsidize Medicaid patients. Don George, the President and CEO of Blue Cross Blue Shield of Vermont wrote that

> "When government reimbursements are insufficient to cover the cost of the services a facility provides to Medicare or Medicaid beneficiaries, hospitals charge patients with private insurance enough to cover not only the cost of their services, but the shortfall created by government reimbursements as well." (George, 2014)

Charging higher private rates to make-up for public shortfalls is referred to as cost shifting and has been believed by health care administrators to be a key strategy for managing low public reimbursement rates.[1] A study by the Milliman Institute estimated that the cost-shift from public to private patients was a total of $88.8 billion or 15 percent of all medical costs in 2006/2007 (Fox and Pickering, 2008). In this article I focus on dynamic cost-shifting – a phenomenon in which a negative exogenous shock to revenue causes an increase in prices for privately insured patients.

Economists have proposed several theoretical models of hospital pricing behavior, but they produce conflicting predictions regarding the practice of dynamic cost shifting. A key takeaway from these models is that cost shifting depends on whether a hospital acts as a profit maximizer or as a utility maximizer and there is no consensus on which behavior is most common to the hospital.[2] Given

☆ I am grateful to William Evans, Daniel Hungerman, Ethan Lieber, and numerous seminar participants at the University of Notre Dame.

* Department of Economics, College of Business Administration, Marquette University, David Straz Hall #418, P.O. Box 1881, Milwaukee, WI 53201, USA. Tel.: 414 288 3409; fax: 414 288 5757.
E-mail address: kathryn.l.wagner@marquette.edu.

[1] Dennis Vonderfecht, CEO of Mountain States Health Alliance stated that "Existing government health care programs such as Medicaid fall short of covering actual health care costs – meaning the company depends on 'cost-shifting' to private insurance patients, who pick up more than the cost of treatment." (McCown, 2009).

[2] For example, see Sloan et al. (1978), Dranove (1988), Morrisey (1996), Showalter (1997), Clement (1997), Zwanziger et al. (2000), Rosenman et al (2000), and Friesner and Rosenman (2002).

http://dx.doi.org/10.1016/j.jhealeco.2016.06.008
0167-6296/

the inconclusive nature of the theoretical predictions, it is not surprising that the large empirical literature that has sought to estimate the existence and extent of cost shifting has produced a broad range of estimates.[3]

The goal of this paper is to test the cost-shifting hypothesis by exploiting recent Medicaid expansions for individuals with disabilities that reduced the average revenue per patient received by hospitals. Wagner (2015) demonstrated that these Medicaid expansions led to 100 percent crowd-out of private health coverage among the disabled population. Crowd-out occurs when newly eligible individuals with private health insurance drop their current health plans in favor of public coverage through Medicaid. Since crowd-out in the disabled Medicaid expansions was complete, the take-up of Medicaid by newly eligible individuals was offset by an equal reduction in private insurance coverage. This movement of patients from private (generous reimbursement) to Medicaid (less generous reimbursement) insurance generates lower revenues per admission and is simply a drop in revenue for health care providers. Using this change in revenue, this paper tests for the presence of cost-shifting among a population of disabled patients.

This paper is unique along a number of dimensions. First, the majority of work on hospital cost shifting has used changes to the Medicare program as a source of a shock to provider revenues. Medicaid, however, is a state run program and is inherently different from the federally run Medicare program. There are often additional expenses associated with Medicaid (lower reimbursement rates for certain procedures, difficult administrative practices, and different beneficiaries) that lead to Medicaid patients being less profitable to physicians than Medicare. Due to this difference in profitability, health care providers may have greater incentive to cost-shift in response to changes in the Medicaid program. Additionally, the cost-shifting discussion has gained steam throughout the implementation of the policies stipulated under the Patient Protection and Affordable Care Act (PPACA). Given that one of the largest pieces of the PPACA is the expansion of the Medicaid programs in several states, examining hospital responses to an increase in Medicaid beneficiaries is especially relevant.

Second, most empirical approaches to identify cost shifting behavior have relied on changes in the actual public reimbursement rate as the source of shock to provider revenue but there are concerns that public reimbursement rates may be strategically chosen by the government in response to private prices (Glazer and McGuire, 2002). Public and private patients share, to a certain degree, the privileges and procedures offered by the hospital even though private patients pay more for these services. If government payers are aware that hospitals will offer these shared services so long as private patients will pay for them, they may adjust their rates to optimize the benefit from the "commonality" of care public patients have with private patients. Thus, empirical cost shifting estimates using changes in public reimbursement rates for identification may be biased by reverse causality. The shock to revenues used in this project more closely resembles the thought experiment considered in theoretical work than previous empirical tests of the cost-shifting hypothesis since identification is from an average change in revenue per patient resulting from crowd-out in disabled Medicaid expansions. This exogenous event likely bypasses concerns of reverse causality that are present when using changes in Medicare list charges as I discuss further below.

The first step in this project is to verify the existence of the one-for-one shift in insurance types within the dataset. Wagner (2015) used data from the Survey of Income and Program Participation (SIPP) and the March Current Population Survey (CPS) to demonstrate that Medicaid expansions for the disabled generate 100 percent crowd-out. In this paper, I use data from the Nationwide Inpatient Sample (NIS) of the Healthcare Cost and Utilization Project (HCUP) from the Agency for Healthcare Research and Quality and replicate the basic results of Wagner (2015) with hospitalizations. Using Currie and Gruber's (1996a, 1996b) measure for simulated eligibility, I find that Medicaid coverage for inpatient stays increased by roughly the same amount in magnitude as private coverage decreased. Taken together, these results imply that crowd-out within the inpatient setting is complete and there is a one-for-one relationship between Medicaid take-up and private coverage reduction for the disabled population.

I find that in response to the shift in insurance types, hospitals *reduced* the average charge rate for disabled patients with private insurance, while charge rates for disabled patients with other payer types are not statistically significantly different as a result of the insurance shift from the Medicaid expansion. This behavior is consistent with a Mixed Economy Model where the hospital acts as a profit maximizer (Sloan et al., 1978). These results are important given that cost-shifting has been a major concern of the Patient Protection and Affordable Care Act (PPACA). There has been much speculation that the PPACA Medicaid expansions ongoing in several states will result in increases of private out-of-pocket medical expenses and insurance premiums due to cost-shifting. The results of this paper suggest otherwise for the disabled population and that instead hospitals actually reduced charges for privately insured disabled patients. Though the PPACA Medicaid expansions affect a general population of working age adults, the results for the disabled population in this paper suggest that cost-shifting may not be the only response of a hospital when faced with a revenue reduction.

The rest of the paper proceeds as follows. Section 2 describes our current state of knowledge of cost-shifting. Section 3 outlines the research strategy. Section 4 details the data and estimating equations used for the study. Section 5 presents the results of the paper. Section 6 concludes.

2. Conflicting models and inconclusiveness: the ongoing cost-shifting debate

Cost-shifting occurs when one consumer type is charged a higher price so that another type can pay a lesser price relative to costs. Though this sounds very similar to price discrimination, the presence of price discrimination does not automatically imply the presence of cost-shifting. Both price discriminators and cost shifters require that the supplying firm has some market power, but under price discrimination, there does not need to be a direct connection between the different prices the discriminator charges the different groups. In contrast, with cost-shifting there is a causal and dynamic connection between the different prices charged by cost shifters. Thus, while cost shifting always involves some degree of price discrimination, it is not always the case that price discrimination means cost shifting.

Fig. 1 plots the times series trends of the aggregate hospital payment-to-cost ratios for private, Medicare, and Medicaid insurance in the United States from 1992 to 2012.[4] The trends documented in Fig. 1 demonstrate a negative correlation between private and public hospital payments. This negative correlation is consistent with what cost-shifting behavior would suggest but is by no means conclusive proof of cost-shifting. Cost-shifting relies on there being a causal relationship between public and private prices and the trends in Fig. 1

[3] See Clement (1997), Gowrisankaran and Town (1997), Cutler (1998), Dranove and White (1998), Zwanziger et al. (2000), Friesner and Rosenman (2002), Dobson et al. (2005), Zwanziger and Bamezai (2006), Wu (2010), Stensland et al. (2010), and Frakt (2011) for empirical estimates of cost-shifting.

[4] The hospital payment-to-cost ratios are from the American Hospital Association's Trendwatch Chartbook.