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Physician payments under health care reform☆

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ABSTRACT

This study examines the impact of major health insurance reform on payments made in the health care sector. We study the prices of services paid to physicians in the privately insured market during the Massachusetts health care reform. The reform increased the number of insured individuals as well as introduced an online marketplace where insurers compete. We estimate that, over the reform period, physician payments increased at least 11 percentage points relative to control areas. Payment increases began around the time legislation passed the House and Senate—the period in which their was a high probability of the bill eventually becoming law. This result is consistent with fixed-duration payment contracts being negotiated in anticipation of future demand and competition.

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1. Introduction

The primary goals of the 2006 Massachusetts health care reform were to expand the number of individuals with health insurance coverage and increase the degree of competition in the insurance marketplace. The expansion focused on using financial incentives to spur enrollment in the private insurance market. The key elements of the legislation included an individual insurance mandate, employer requirements to provide insurance, the creation of a subsidized insurance program to low-income individuals, and the introduction of a health insurance exchange. The reform has been quite successful in its goal, with the percentage of individuals without insurance falling from 6.4 in June of 2006 to 1.9 in 2010 (Massachusetts Division of Health Care Finance and Policy (DHCFP), 2011).[1]

The reform in Massachusetts served as a model for the 2010 national health-care reform legislation, known as the Affordable Care Act (ACA). Both the Congressional Budget Office (CBO) and the Center for Medicare and Medicaid Services (CMS) project that over 30 million more individuals will have insurance in the United States over the next decade as a result of the reform.[2] Examining the case of Massachusetts may therefore give important insights about the impact of national reform. Recent studies have looked at the causal impact of the Massachusetts reform on a wide array of variables including healthcare demand (Kolstad and Kowalski, 2012; Long et al., 2012) and the place of service (i.e., emergency room or physician office, Miller, 2012a). The finding that the reform affected service utilization is in line with a vast empirical literature that documents the effect of insurance coverage on utilization (e.g., Manning et al., 1987; Finkelstein, 2007; Finkelstein et al., 2012). However, distinct from prior expansions in public insurance, where prices are fixed by regulators (i.e., Medicare and Medicaid), both the

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[1] Estimates vary on the effect of the reform. For example, Long et al. (2012) find that the uninsured rate fell from 13.4 to 5.8 percent.

[2] Survey evidence from Krueger and Kuziemko (2013) suggest that 35 million uninsured individuals would gain insurance.

ACA and the reforms in Massachusetts rely more heavily on the private sector. Consequently, these reforms may not only affect utilization, but may also have an impact on equilibrium prices, including insurance premiums and payments to health care providers.

This paper focuses specifically on the effect of insurance expansion on payments to providers. Since health care accounts for about 18 percent of nominal GDP, even a relatively small price increase to providers would increase the nominal expenditures devoted to the health sector and also affect national measures of inflation and output. Prices are also important signals that affect the long-run market entry decisions and also short-run decisions on the quantity and types of services offered to patients.[3] Theoretically, the mechanisms by which the reform might impact provider fees are straightforward. First, the reform led more than 400,000 previously uninsured individuals to obtain health insurance, causing a substantial increase in the demand for health care (Kolstad and Kowalski, 2012; Miller, 2012b; Long et al., 2012). To match demand, insurers may need to adjust physician payments in order to maintain their current physician network or to draw new physicians into their network. Second, the new health insurance exchange, known as the Massachusetts Connector, likely increased the degree of competition among insurers (Ericson and Starc, 2012). Dunn and Shapiro (2013) and Dafny et al. (2012) show that a higher degree of competition in the insurance market raises payments to physicians. While theory would suggest that expansion would likely lead to higher prices, the magnitude and timing of the effect is unclear. For instance, there is the possibility that physician capacity was sufficient to accommodate expansion at existing rates. Ultimately, the effect of the reform on prices must be measured empirically.

In this study, we focus on the impact of the Massachusetts reform on payments to physicians. There are two reasons for focusing on physician prices. First, relative to how other payments are set in the healthcare industry, physician payment contracts are usually quite simple. Prices are based on fees for specific procedures defined by Current Procedural Terminology (CPT) codes. For example, there are distinct CPT codes for office visits that last 15 min and those that last 30 min.[4] This is in contrast to how prices are negotiated for inpatient hospital services where the definition of a service is more complex and the pricing methodology may change dramatically depending on the specific contract between each insurer and provider (see Reinhardt, 2006).[5] A second reason for focusing on physician prices is that the number of physicians is quite large reducing the chance that the price changes are caused by a single provider's negotiating practices.

Prior studies measuring the impact of Massachusetts reform have relied on two different sources of variation to conduct difference-in-difference analysis: across-state variation and across-county variation. We apply both approaches, obtaining two distinct estimates of the effect on physician prices. Specifically, one approach uses across-state variation to identify the relative change in Massachusetts prices around the time of the reform, relative to comparable states, as applied in Kolstad and Kowalski (2012). To obtain comparable control states, we apply the synthetic control approach of Abadie et al. (2010).[6] The second approach exploits variation in the pre-reform uninsured rates in the county, as applied by Miller (2012a).[7] This analysis adds another layer of variation—the uninsured rate of the county—under the presumption that providers and insurers residing in those counties with higher uninsured rates should have anticipated a higher impact of the reform on insurance coverage than those counties with already near-full coverage.

Unlike prior studies of the reform, our analysis assesses the timing of the impact of the reform. In examining price impacts of the reform, tracking the timing is important since key industry characteristics suggest that a response to the reform should be expected *prior* to implementation. First, price negotiations between physician firms and insurers take place rather sporadically—anywhere from annually to every five years. Since prices are essentially "stuck" for a fixed duration of time, it is likely that insurers set prices based on expectations of future demand and competition over the contract period. Strategically, insurers need to negotiate contracts with a enough time remaining to advertise their provider networks to consumers.[8] Additional dynamic considerations arise from the large switching costs in health insurance markets that lock individuals into a plan (Ericson, 2011; Handel, 2013; Nosal, 2013). In industries with high switching costs, firms that do not respond immediately to expected changes in market conditions risk substantial profit loss in future periods (Klemperer, 1995; Farrell and Klemperer, 2007).[9]

Both our across-state and across-county analysis lead to a similar conclusion. Relative to control states and counties, we find that prices are significantly higher post-reform, relative to the pre-reform period. Overall, our estimates imply that at least one-sixth of overall physician service price growth in Massachusetts was directly attributable to the reform itself. The timing of the price increase occurs around the time the health care legislation passed the house and senate—the period in which their was a high probability of the bill being signed. This timing is consistent with recent microeconometric studies in other industries that show price changes in response to anticipated changes in the competitive environment. For example, Goolsbee and Syverson (2008) show that rival airlines set prices in anticipation of Southwest Airline's entry in a market; and Tenn and Wendling (2013) show that generic drug manufacturers reduce prices in anticipation of potential entry by other generic firms.[10]

It is important to highlight a few caveats of this study. First, this study assesses the impact of the reform on payments made to physicians from insurers, not the impact of the reform on insurance premiums or out-of-pocket costs that are charged to employers

[3] Clemens and Gottlieb (2013) find supply motives associated with physician payment increases, indicating the payments may also affect the quantity and types of services provided to patients.

[4] Due to the thousands of CPT codes in existence, physicians usually negotiate the prices of all CPT codes at once based on a fee schedule—for example, all prices set relative to Medicare prices (see Clemens and Gottlieb, 2014.

[5] For example, inpatient hospital contracts may be based on a discount off of charges, a per diem rate, or price based on the diagnosis code (i.e., DRG code) of the patient.

[6] Our state-level analysis is based on a variation of the classical Fisher permutation test—similar to a recent paper by Buchmueller et al. (2011). Similar results are found using alternative difference-in-difference approaches at the state level.

[7] This approach is also applied in Finkelstein (2007) looking at the effects from the introduction of Medicare.

[8] The first major components of the legislation aimed at people with lower incomes went into effect in October 1, 2006 and January 1, 2007.

[9] In other words, "anticipated future changes in market conditions will have immediate effects on prices in markets with switching costs" (Klemperer, 1995). The expansion of insurance to the uninsured likely provided a key opportunity for insurers with low market share to expand, since uninsured individuals arguably have no switching costs.

[10] Kwoka and Shumilkina (2010) show that prices fall in airline markets when potential competitors are eliminated after a merger. Anticipatory effects are not confined to prices. For instance, Goetz and Shapiro (2012) find that airlines preemptively codeshare when a route is threatened, while Ellison and Ellison (2011) find that pharmaceutical firms make strategic investments to deter future entry. It is interesting to note that forward-looking price setting models have been commonplace in the macroeconomics literature for some time (e.g., see Gali and Gertler (1999).