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The effect of narrow provider networks on health care use

Alicia Atwood [a], Anthony T. Lo Sasso [b,*]

[a] Economics Department, University of Illinois at Chicago, 601 South Morgan Street, 725 University Hall (MC 144), Chicago, IL 60607, USA
[b] Division of Health Policy and Administration, School of Public Health, University of Illinois at Chicago, 1603 W. Taylor Street, Chicago, IL 60612, USA

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ABSTRACT

Network design is an often overlooked aspect of health insurance contracts. Recent policy factors have resulted in narrower provider networks. We provide plausibly causal evidence on the effect of narrow network plans offered by a large national health insurance carrier in a major metropolitan market. Our econometric design exploits the fact that some firms offer a narrow network plan to their employees and some do not. Our results show that narrow network health plans lead to reductions in health care utilization and spending. We find evidence that narrow networks save money by selecting lower cost providers into the network.

1. Introduction

Health insurers are increasingly offering health plans with fewer in-network providers than in the very recent past. Much of the focus on these "narrow network" plans has been in the context of the individual health insurance exchanges (e.g., Polsky and Weiner, 2015), but the looming Cadillac tax on high-cost health plans has also resulted in a "rediscovery" of provider networks as a potential means of cost control in the group insurance market (Kaiser Family Foundation/HRET, 2015). Indeed, network size is one of the few – or arguably the least regulated – variables available to insurers given the ACA-mandated floor on covered services through the essential benefit package and pre-determined "metallic" designations limiting the scope of traditional plan characteristics. Thus information on the effects of narrow network and the mechanisms behind the effects are highly salient.

Much of the attention in the popular press has highlighted the "surprise" that enrollees face when enrolled in limited provider network plans. Some of the information problems could stem from the difficulty insurers have with conveying the breadth of the network. Additionally, a recent paper highlighted the inaccuracy of insurer provider network information (Resneck et al., 2014). The potentially more serious concern from an economic vantage point is ex ante an enrollee might not know the consequences of not being able to access, say, high quality cancer centers affiliated with academic health centers. Thus, when an enrollee is in the unfortunate position of having to learn about the network size ex post, the value of the insurance might be greatly impaired.

The concept of narrow networks is not a new one in the health care industry landscape. The notion of "selective contracting" with providers dates back to 1982 legislation in California allowing insurers to contract with providers for Medicaid and private insurance for the purpose of creating exclusive networks of providers at predetermined reimbursement rates. Evidence from this earlier generation of studies suggested that selective contracting resulted in lower prices (Melnick et al., 1992; Wholey et al., 1995; Wickizer and Feldstein, 1995; Zwanziger and Melnick, 1988; Zwanziger et al., 2000).

In one of a handful of contemporary studies of narrow network designs, Gruber and McKnight (2016) studied Massachusetts state and municipal employees, some of whom were offered a "premium holiday" if they enrolled in one of several narrow network plans. The subsidy amounted to a roughly 25 percent reduction in employee premium share; state employees were offered the subsidy while municipal workers were not offered the subsidy. The authors found that the subsidy induced about 11 percent of workers to enroll in narrow network plans. Narrow network plans are associated with 40 percent lower spending and reductions in emergency department use and visits to specialist providers. No evidence of adverse health outcomes was detected. Additionally, the authors also found an increase in primary care utilization. The authors did not look at out-of-network use or out-of-pocket spending.

* Corresponding author. Division of Health Policy and Administration, School of Public Health, University of Illinois at Chicago, 1603 W. Taylor Street, Chicago, IL 60612, USA. Fax: +312-996-5356.
E-mail address: losasso@uic.edu (A.T. Lo Sasso).

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Ericson and Starc (2015) used data from the Massachusetts health insurance exchange to study provider choice behavior in different network arrangements across plans. The authors were able to infer measures of the willingness-to-pay for a given provider network based on a multinomial insurance plan choice model. The authors found that 60-year-olds value the broadest network approximately $1200–1400 per year more than the narrowest network; valuations for younger individuals were roughly half as much.

Other work on the broader topic of managed care highlights some key considerations. Cutler, McClellan, and Newhouse (2000) compared the treatment of heart disease in HMOs and traditional insurance plans and find that HMOs have 30 percent to 40 percent lower expenditures. The authors' key finding was that the difference in spending comes from lower (contract) unit prices rather than differences in treatments. Ho and Pakes (2014) used data for obstetric care in California to explore the relationship between how much insurers pay providers and how that affects both the capitation amount paid in HMOs and quality and convenience for patients. They found that price reductions are generally achieved by sending patients to more distant hospitals. The authors did not find that quality suffered as a result.

2. Setting

We focus on an under-studied, but nevertheless important and policy-relevant component of the employer-sponsored health insurance market: the small group market, generally defined as the 2–50 employee market. We examine a large metropolitan area in the US in 2013 where a large national health insurance carrier offered health insurance policies with two provider network options, a traditional large network and a narrow network. Both networks are used in the context of traditional PPO plan designs. The salient features of our setting are detailed below.

2.1. The narrow network

According to the insurer the narrow provider network contains fewer in-network facilities and providers than the traditional provider network. The traditional provider network in the area, which will serve as the comparison in our study, includes roughly 97 percent of providers (hospitals and physicians) in the metropolitan area. The narrow network by contrast includes just under 90 percent of local hospitals and 80 percent of physicians in the local area. The primary distinction between the plans is that a small number of large academic medical centers and affiliated physicians are omitted from the narrow network. To put the narrow network in perspective, by the standards of McKinsey & Co., the network we study would not be considered "narrow" as their cutoff is 70 percent or less for local hospital inclusion (McKinsey & Company, 2016). Nevertheless, narrow networks should be generally thought of as market-specific. From the enrollee perspective, confirming a provider's network status requires a phone call to customer service or looking up the provider on the insurer's website. The narrow network can be "grafted" to an insurance policy with virtually any other combination of plan characteristics, though as we show below the narrow network tends to be used in conjunction with systematically less generous plan features.

2.2. Small group market

The small group market (2–50 employees) is an important subset of the group market if only because small firms have the lowest rates of offering health insurance to employees. According to the Kaiser Family Foundation/HRET Employer Benefit Survey 44 percent of firms with 3–9 employees offer coverage, while 64 percent of firms with 10–24 employees offered coverage and 83 percent of firms with 25–49 employees offered health insurance coverage, compared to 98 percent of large firms (greater than 200 employees) (Kaiser/HRET, 2014). The small group market has also figured prominently in policy debates because it is specifically exempted from the employer mandate in the ACA. Instead, the ACA mandated the creation of the Small Business Health Options Program (SHOP) Marketplace to provide presumably easier access to health insurance policies. Though it should be noted that little is known specifically about the reasons why small firms offer (or fail to offer) the plans that they do. Small firms might be acutely sensitive to premiums, thus cheaper plans might have particular appeal.

Another aspect of the small group market is that small firms virtually never offer health plans from multiple insurance carriers. Thus, we need not be concerned about the first-order selection problem that arises when working with data from a single insurer and enrollees face plan choices from multiple insurance carriers. Finally, as discussed below, the advantage of studying the small group market is that we can take advantage of variation across firms. Thus our work provides a contrast to the more case-study approach involved in studying a single large employer (for example, Handel and Kolstad, 2015; Einav et al., 2013).

3. Data

All enrollment and claims data as well as health insurance policy information are extracted from the insurance carrier's data repository. The estimates of the impact of narrow networks apply to individuals (workers and their dependents) enrolled in health plans during calendar year 2013 who receive employer based health insurance policies offered by one major carrier in a single metropolitan area and are employed by one of the 963 firms in our sample with between 2 and 50 employees.

3.1. Employer- and health plan-level data

Health plan details in addition to whether the narrow network is applied include deductible and out-of-pocket maximum levels, the coinsurance rate, and copayment levels for office visits. Employer data contain coverage dates, standard industry codes, and firm size. Collectively, the 963 firms in the sample offered 1750 health plans to their 19,574 employees and dependents. Details on the plan characteristics between the narrow network and traditional network plans are provided in Table 1. A key take-away from

Table 1
Generosity of plans.

	Mean (SD)		T-test significance
	Non-narrow plans	Narrow plans	
Premium (monthly)	$767	$630	***
	(379)	(297)	
Individual Deductible	$1408	$1653	***
	(1014)	(1251)	
Individual OOP max	$2924	$3516	***
	(1279)	(1679)	
Co-pay	$24	$28	***
	(11)	(9)	
Co-insurance	0.878	0.835	***
	(0.089)	(0.069)	
Number of plans	1261	489	

Notes: Data reflect information on the 1750 plans offered to employees at the 963 firms in our sample.
*p < 0.1, **p < 0.05, ***p < 0.01.