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Narrow provider networks and willingness to pay for continuity of care and network breadth

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ABSTRACT

Tiered and narrow provider networks are mechanisms implemented by health plans to reduce health care costs. The benefits of narrow networks for consumers usually come in the form of lower premiums in exchange for access to fewer providers. Narrow networks may disrupt continuity of care and access to usual sources of care. We examine choices of health plans in a private health insurance exchange where consumers choose among one broad network and four narrow network plans. Using a discrete choice model with repeated choices, we estimate the willingness to pay for a health plan that covers consumers' usual sources of care. Willingness to pay for a network that covers consumers' usual source of care is between $84 and $275/month (for primary care) and between $0 and $115/month (for specialists). We find that, given that a network covers their usual source of care, consumers show aversion only to the narrowest networks.

1. Introduction

Tiered and narrow provider networks are mechanisms implemented by health plans to reduce health care costs. Compared to plans with broad networks, health plans with narrow networks typically offer consumers restricted provider choice in exchange for reduced premiums. Health plans have implemented tiered networks through limiting choice of costly providers – typically as hospitals (Robinson, 2003) – or restricting access to low-performance physicians (Draper et al., 2007). Private health plans have moved towards narrow and tiered networks to compete in price in the commercial market and in the Affordable Care Act (ACA) marketplaces: plans with larger networks have premiums between 6 and 13% higher than those with smaller networks in ACA marketplaces (Polsky et al., 2016). Recent data show that approximately 41% of networks offered in the marketplaces plans can be considered 'small' or 'extra small' (Polsky and Weiner, 2015).

There are several concerns regarding narrow networks. Network adequacy is one of them: narrow networks could become "too narrow" and not offer coverage of certain provider types. An evaluation of the plans offered in the federal marketplace shows that 15% of narrow network plans lacked access to in-network physicians in at least one specialty (Dorner et al., 2015). The state and federal governments have set rules in order to guarantee that the plans in the marketplaces and the commercial market offer networks with sufficient breadth. However, insurers were given flexibility to meet these adequacy requirements (Corlette et al., 2014). Previous research has shown that consumers value network breadth, measured in terms of access to hospitals (Ericson and Starc, 2015; Shepard, 2016). Other measures of network breadth include the relative (Polsky and Weiner, 2015) or absolute number of providers covered in a certain area (Atwood and Lo Sasso, 2016; Gruber and McKnight, 2016).

Narrow networks also may disrupt continuity of care and existing patient/provider relationships by excluding the consumer's current provider. Consumers exhibit provider loyalty and value continuity of care, as a continuous relationship with a provider leads to the development of trust and confidence (Pandhi and Saultz, 2006). Concerns regarding the disruption of continuity of care might be more relevant to consumers with poorer health status, as the selection of high-performance or less costly providers into narrow networks may exclude providers that treat high-risk patients (Brennan et al., 2008). Regardless of health status, consumers value plans that provide access to their current providers. Spurlock and Shannon, (2015) found that the ability to keep your current doctor was the second most important characteristic of a health plan, preceded only by low premiums.

There is recent interest in the effect of narrow network plans. Polsky et al. (2016) shows that premiums of broad network plans

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in the ACA marketplaces are between 6 and 13% higher than those in narrow network plans. Gruber and McKnight (2016) and Atwood and Lo Sasso (2016) find reductions in health expenditures associated with narrow network plans in the commercial health insurance market. With regard to consumer value of network size, Ericson and Starc (2015) show that individuals are willing to pay between $56 and $126 per month more for a plan with a broad network than for a plan with a narrow network. Network breadth in Ericson and Starc (2015) is measured by access to hospitals covered by the network.

We use enrollment information from a private health insurance exchange offered by a single health insurer and a discrete choice model with taste heterogeneity to elicit consumer preferences for health plan choice, in particular, to separately estimate preferences for network breadth and continuity of care. We are in the unique position of observing established patient/provider relationships and usual source of care at the time of network choice. With this information we can observe continuity of care, i.e., the ability of a network to cover consumers' usual source of care, as a network characteristic. We add to the literature of the consumer valuation of narrow networks by analyzing the consumers' choice of plans with broad and narrow networks of several sizes within a private health insurance exchange. Our results show that, when the choice model does not take into account continuity of care, consumers appear to value network breadth per se; but once continuity of care is a characteristic of the choice model, consumers are averse only to the narrowest networks. We estimate a willingness to pay for a network that covers the consumer's usual source of care of between $84 and $275 (for primary care) and up to $115 (for specialty care) per month depending on the patients' health status.

2. Methods

2.1. Study setting

We examine consumers' choices of provider networks by a single health insurer serving the upper Midwest. Beginning in late 2011, the insurer offered employers a menu of 20 different plans that varied only in their cost sharing (e.g., copays and deductibles) and premiums. The menu was referred to as a private health insurance exchange (HIX), not to be confused with the federal and state-run exchanges established under the Affordable Care Act. The original product had only one broad PPO provider network that includes more than 95% of the physicians in the market. Employers chose to offer between 7 and 20 different plans from the menu to their employees. In late 2012, the choices for employers in the largest metropolitan area in the state were expanded by including different provider networks in addition to different levels of cost-sharing and premiums. Employees could choose among the original broad network and four new narrow networks. These narrow networks each were built around one or more vertically integrated delivery systems (IDSs). Because of their similarity to Medicare Accountable Care Organizations (ACOs), the carrier refers to the narrow networks as "ACOs" in their marketing materials; however, these network plans do not have the quality accountability or payment schemes that traditional ACOs have. The enrollment system guided the employee to the network selection as a second, separate election after the cost-sharing plan was selected. Because of the sequential nature of the enrollment process, we model the network choice conditional on the prior point-of-service cost sharing choice.[1]

Between late 2012 and 2015, the sixty-five employers included in our study had metro-area employees that were offered network choice. These employers ranged in size from 7 to 4827 enrollees and included manufacturing, retail, finance, service, technology, health care, etc. A more detailed description of the employers is included in the online Appendix. Differences in premiums across plans are based on the actuarial differences in cost sharing levels among plans, normalized for any differences in the risk profiles of the enrollees. The total premium for the narrow network options was 10% lower on average than the broad network option with the same cost-sharing structure, but employees observed a higher discount in premiums due to the effect of employers' fixed contributions to premiums. In this defined contribution plan, the employers provided a fixed contribution (almost all varying by family size) independent of the plan selected, and the employee paid the remainder of the premium through payroll deduction. For example, the monthly premiums of the most generous plans ($300 deductible) of a randomly selected employer are $577.08 and $530.89 for the broad PPO and a representative narrow network plan, respectively. Given a fixed employer premium contribution of $320.19, the difference in premiums between broad network plans and narrow network plans goes from 8% for the total premium to 18% for the premium net of employer contribution. If we observe a less generous plan of the same employer ($1500 deductible), the monthly premiums for the broad PPO and narrow network plans are $512.59 and $463.87 respectively, where the difference in total premiums is 9.5% and the difference in net premiums is 25.3%. Hence, there was significant, and arguably exogenous, heterogeneity in the premium paid by the employees, due to variance in the employer's premium contribution across firms and the experience of the employer group as a whole. Enrollees in narrow networks could access out-of-network providers without authorization by paying higher, out-of-network cost-sharing levels.

2.2. Data

We observe enrollment decisions for employees within the HIX at several annual enrollment periods – the first during 2011 and 2012 (prior to network choice) and then during 2013–2015 (when the choice between one broad network and four narrow networks was offered). For each enrollment period, we have information on the cost sharing structure selected by the employee before making the network choice (deductible, coinsurance after deductible, office visit copayments, presence of health saving account), whether the employee enrolled in single or a family coverage, and the total monthly premiums. For employees, we observe basic demographic information (age and gender). We also observe their medical claims in the year prior to each enrollment period, which allow us to calculate a lagged health risk indicator using the Johns Hopkins Adjusted Clinical Groups (ACG) algorithm (Johns Hopkins School of Public Health, 2014).[2] This indicator calculates the health risk for each employee at the time of network selection, using the medical claims of 12 months prior. For employees electing family coverage, we use the health risk of the family member in the poorest health, assuming this member's health risk would have the greatest influence in network choice. For employers, we have information on the monthly contribution to employees' premiums. With this information we build a comprehensive dataset of employee out-of-pocket premiums for all plans offered by the employer, and record the employees' cost-sharing and network choice at every

[1] Testing of interrelationships between the cost-sharing and network choices show surprisingly little correlation, indicating that these choices can be treated as separate elections. Indeed, the complete separation of these choices in the enrollment process is one of the features that makes our setting unique.

[2] If this lagged health risk indicator is computed on less than six months of observed claims prior to the enrollment, we exclude the observation.