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# Local availability of physicians' services as a tool for implicit risk selection

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ABSTRACT

Risk adjustment of the allocated health budget to health plans plays a major role in the functioning of competitive social health insurance systems. Whenever the risk adjusted allocation is below the expected marginal cost of care for a given person, incentives for risk selection arise. Since coverage is universal, risk selection must take on *implicit* forms such as stinting and distorting quality of health services. One of the tools for such selection is to strategically determine the local availability of physicians based on the local population. The Israeli competitive national health insurance scheme includes an age (only)-risk adjustment. We argue that the localities' known characteristics are used by the Israeli managed care organizations (sickness funds) to adjust the availability of and accessibility to community health services. Consequently, we expect strong competition and high availability of services in healthier-than-average (and richer) towns, and weak competition and low availability of services in sicker-than-average (and poorer) towns. The empirical analysis combines data on the reception hours of physicians in five specialties and socio-economic and demographic characteristics (age, mean income, mortality rates etc.) of 60 towns in 2004, and strongly confirms that hypothesis, controlling for several other possible explanations for such findings. Such a situation clearly represents a regulation failure and an inefficient and inequitable geographic allocation of health services.



## Introduction

Cream-skimming (also known as explicit risk selection or dumping) is an expected reaction of insurance firms and providers in private unregulated markets to information asymmetry and incomplete risk rating of the premiums (Newhouse, 2002). Against any social efficiency or equity values, such a selection will result in market failures where sick persons might be unable to purchase insurance or to be treated by their preferred medical care providers. To correct for such failures, social insurance might be enacted, where coverage (insurance and treatment options) is universal. Since one of the fundamental principles of social insurance is the separation between centralized payments according to income and decentralized provision according to health state – a risk-adjusted mechanism is required, by which the total health budget is allocated to the health plans according to the expected cost of care (financial risk) of their insured population (see e.g., Van de Ven & Ellis, 2000). However, whenever the risk adjusted allocation is below the expected marginal cost of care for a given person, incentives for risk selection arise. Since coverage is universal, risk selection must take on *implicit* forms such as stinting and distorting the quality and quantity of health services (Chalkley & Malcolmson, 2000; Ellis & McGuire, 1990; Eggleston, 2000; Glazer & McGuire, 2000; Newhouse, 2002; Van de Ven, 2003, Van de Ven et al., 2007). This is a regulation failure, leading to social inefficiency and inequity of the same nature as the market failure mentioned above, which the same regulation meant to alleviate.

Implicit risk selection is more feasible in Managed Care Organizations (MCOs) – organizations which vertically integrate the insurance and the provision of services functions – than in indemnity insurance firms, since the quantity and quality of their health services can be monitored and managed. In this paper we focus on one particular dimension of managing care – the Israeli sickness funds' decision on the availability of local community physicians' services. This is naturally a key decision variable of the MCOs, and we argue that it is used to regulate the local care provided according to whether the town is a center of predictable profit or loss, as determined by the risk-adjustment mechanism and the town's health profile.

Several research lines have produced results which are related to the ones examined in this paper. Physicians' density and availability have been traditionally examined in relation to Supplier Induced Demand (SID) and health care consumption. The findings indicate that there is a significant positive association between physicians' density and health care consumption (Leonard, Stordeur, & Roberfroid, 2009). Limiting availability might be a tool

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by the insurers to contain health care cost. Our emphasis is different; it is on the *differential* use of limiting availability according to the locality's characteristics as a tool of implicit risk selection.

Vast research has documented the income-related inequality in doctors' use. For example, in an experiment on 12 EU member states, Van Doorslaer, Koolman, and Jones (2004) found no income related inequity in GP utilization, while there existed a strong pro-rich inequity in all countries with respect to contacting specialists, controlling for health needs. The common approach has been to relate these gaps in use to considerations on the *demand* side; such as medical care being a normal good, lower prices faced by the rich due to wider insurance coverage or simply heterogeneous preferences. The present analysis focuses on considerations of the *supply* side which might lead to similar results.

Some 40 years ago, Hart (1971) coined the term "The inverse care law", according to which the availability of good medical care tends to vary inversely with the need for it in the population served by the non-competitive English NHS. He explained this phenomenon by the positive correlations between income and access, and income and health. The present analysis tries to explain a similar phenomenon by the incompleteness of the risk adjustment mechanism – the "Achilles heel" of the competitive Israeli system.

The paper is organized as follows: in the next section we provide a brief description of the Israeli national health insurance system. In Section 3 we describe the theoretical considerations on which the empirical model, discussed and estimated in Sections 4 and 5, is based. Sections 6 and 7 are a conclusion to the paper.

## A brief description of the Israeli national health insurance system

The National Health Insurance scheme which was introduced in January 1995 consists of a managed competition model (Enthoven, 1978), where four private non-profit sickness funds compete on the quality of care and service of medical care covered by a uniform package of benefits defined by the law.

The package of benefits is comprehensive and includes primary, secondary and inpatient care, as well as diagnostic and pharmaceutical care. The budget of the package of benefits is determined annually by the government, and is partially indexed to changes in input prices, demography and technological advances. It is financed by an earmarked health tax, transfers from the general revenues and co-payments.

The scheme is compulsory (all are insured) and universal (no rejection). Citizens are free to switch sickness funds yearly, however, the switching rate is low (1–2% annually). There is no direct premium paid by the members to the sickness funds.

The main source of income for the sickness funds are the risk-equalized payments from the central health fund (the budget of the package of services). Risk equalization consists of two separate components: a prospective age-adjustment specifying fixed rates for each of 11 age groups (governing the allocation of 94% of the budget), and a retrospective risk sharing arrangement – governing 6% of the budget – by which the sickness funds receive an annual fixed payment per person who is sick with one of five "severe conditions" – Renal failure on Dialysis, Thalasemia major, Gaucher, AIDS, and Hemophilia.

While explicit rejection is against the law, the risk adjustment system is clearly incomplete and leaves incentives for implicit risk selection against high risk (expected cost) individuals, and raises financial difficulties to sickness funds with higher-than-average rates of high-cost populations.

The sickness funds are Managed Care Organizations, integrating the insurance and the provision functions. They differ in the way the care is managed, with which providers they contract and the terms of the contracts (for further details see Rosen, 2003). Approximately 80% of Clalit Health Services (CHS) members, the biggest sickness fund in Israel, receive primary care at CHS-owned and -operated clinics. The clinic-based doctors receive a base monthly salary and a monthly age-based capitation payment for each member on their list above a prescribed basic number. The base salary, the capitation rate and the prescribed basic list size for clinic-based physicians are all determined in a collective bargaining agreement between the Israeli physicians' association and CHS. Approximately 20% of CHS members and the members of the other three sickness funds receive their primary care from independent physicians at their clinics. These doctors are paid a passive (per registered member) or active (per first visit) capitation rates set unilaterally by each of the sickness funds.

Salaried specialists provide the majority of CHS community-based specialist care. Almost all salaried specialists work in clinics owned and operated by CHS. They can get additional payments for "first-time" patients and for procedures on a contractually agreed list. All of these parameters are negotiated between the Israeli physicians' association and the CHS.

In the other sickness funds, and with a minority of specialists in the CHS, community-based specialists are independent and typically paid on the basis of a "points" system which takes into account the number of sessions they work (3–4-h periods), the number of visits and the number and nature of special procedures performed. Senior consultants are paid somewhat differently; most of them work sessions of 3–4 h in duration and are paid per session, rather than according to a points system.

To sum up, two distinct factors combine in Israel to create a severe threat to the efficiency and equity of the system. On the one hand, the risk adjustment scheme, by which the central health budget is allocated among the four competing sickness funds, is based on age only and thus leaves considerable incentives for implicit risk selection. On the other hand, the sickness funds are Managed Care Organizations that control the supply of medical services and the way they are managed. The result of this combination is that the sickness funds are able to strategically determine the local medical care provided in order to maximize predictable profits – and minimize predictable losses – implied by the current risk adjustment scheme and the locality health profile.

## Theoretical considerations and specification

### *The argument*

Since the Israeli risk-adjustment scheme is based on age only, identified sicker-than-average individuals constitute predictable loss in all age groups to the sickness funds. The Law prohibits explicit selection by open enrollment, so the four sickness funds might be motivated to "exile" existing and deter potential members who seem to be predictable losses by means of implicit selection tools.

While the Israeli sickness funds operate nationally, since population health is produced locally, the sickness funds' decisions on the supply and availability of community health services are made on a local basis (e.g., the number of local physicians contracted). These decisions might be used to implicitly select against collectively expensive enrollees by limiting the availability of and accessibility to community health services in sicker-than-average localities.

Since all sickness funds will find it profitable to engage in such implicit selection, in equilibrium, we expect, *ceteris paribus*, strong competition among the sickness funds to attract inhabitants in healthier-than-average localities, and weak competition to deter inhabitants from joining the sickness fund in sicker-than-average