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HEALTH ECONOMICS, POLICY and LAW

DEBATE ESSAY

Balancing between competition and regulation in healthcare markets

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Abstract
Systems of managed competition naturally seek the middle ground between competition and regulation. This debate essay makes the case for adjusting the level of regulation according to the characteristics of the submarket in question. We first develop a theoretical framework that can be used to identify the services in which relatively free competition will be beneficial. The framework is grounded in the economic literature and consists of eight criteria. Targeted regulatory tools are then discussed that can be used to structure submarkets in which these criteria are not (fully) met. Applying this framework and targeted interventions, regulators gain the flexibility to react to potential market failures, without foregoing the benefits of managed competition where it works well. This analysis is highly relevant for countries in transition to managed competition. Regulators can identify potential failure in submarkets for medical services, and apply the necessary regulatory tools to prepare for a smooth transition.

Keywords: healthcare system design; insurer competition; managed competition; provider competition

1. Introduction

Even in countries with relatively free market economies, the debate over the desirable level of competition in healthcare markets is far from settled. Proponents of competitive healthcare systems usually stress the advantages of innovation (in processes and in technology) and of responsiveness to consumer preferences. They also claim that centrally planned healthcare systems are inefficient, in the sense that too little service is produced for a given budget, and the types of services provided may be those preferred by central planners rather than consumers (van de Ven, 1996). In contrast, critics of competition stress that there are specific features of the healthcare market (especially information asymmetries) which make it susceptible to rent seeking, supplier-induced demand and reward risk selection. Moreover, price setting is usually not competitive nor is there free entry and exit in healthcare, which can lead to duplication of infrastructure and inefficient resource allocation (e.g. the concentration of providers in more lucrative services, rather than where they are most needed). If moral hazard on the consumer and provider sides cannot be curbed, competition may also lead to the excess provision of services, with focus on more profitable types of services which are provided to the wealthiest patients.

The health economics literature has shown that both sides of the argument have merit. Based on an extensive analysis of the literature on competition among healthcare providers, the

European Commission Expert Panel on Effective Ways of Investing in Health (EXPH) came to the following conclusion:

> Neither economic theory nor empirical evidence support the conclusion that competition should be promoted for all health services. As a result, policy makers need to think carefully about where, when and how to introduce or increase competition. (Barros *et al.*, 2016: 231, first paragraph)

In what follows, we provide a framework for 'thinking carefully' about this issue. The proposed framework is intended to help regulators identify medical services that are most suited to competition and those in which competition might cause the system to underperform.

The analysis is tailored to systems with managed competition in social health insurance (Enthoven, 1978a, 1978b). Central characteristics of managed competition include the following elements: (i) governments mandate insurance coverage for a 'basic' basket of medical services, (ii) citizens make periodic choices among health insurers, (iii) individual insurers are primarily responsible for delivering or purchasing care and (iv) providers compete for patients as well as for contracts with insurers (Van de Ven *et al.*, 2013). The rationale of this arrangement is to stimulate insurers and providers to improve efficiency in healthcare production and to respond to consumer's preferences (van de Ven *et al.*, 2003). Nonetheless, this broad definition of managed competition includes arrangements in which insurance and service delivery are fully integrated as well as arrangements where health care purchasing is done by individual insurers (also termed 'selective contracting'). This is not without controversy, especially in European countries where insurers traditionally have been much more passive, submitting themselves to collective agreements between insurers' and providers' associations, accompanied by extensive government regulation of prices, quantities and budgets (Shmueli *et al.*, 2015).

Careful regulation is necessary to avoid the well-known problems of risk selection and service-level distortion. Van de Ven *et al.* (2013) and Henriquez *et al.* (2022) identify preconditions that must be fulfilled to a satisfactory degree for managed competition to lead to efficient and affordable care for all citizens. Their analysis applies to the market for social health insurance as a whole (i.e. all services that are a part of the basic benefit package), and it has been used as a blueprint for health reform in many countries. In this debate essay, we argue that regulators should extend their analysis to a more detailed level: even within a legal setting that generally fulfils the preconditions, specific submarkets might be identified for which the competitive system can be expected to underperform. We propose a framework to identify such submarkets, and we suggest specific regulatory tools to target these issues. Applying such tools gives regulators additional flexibility to fine tune the balance between competition and regulation.[1] Such regulatory tools are widely used in practice (McGuire and van Kleef, 2018), but have been less discussed in the literature.

The paper is structured as follows: In section 2, we develop a theoretical framework that can be used to identify the services in which relatively free competition will be beneficial. In section 3, we discuss additional regulatory tools that can be used to structure submarkets. Section 4 includes the limitations and section 5 concludes.

2. The framework

The core of the proposed conceptual framework is grounded in the rich literature on competition in markets for health insurance and healthcare services (Arrow, 1963; Enthoven, 1986; Gaynor and Town, 2011; Van de Ven *et al.*, 2013; Barros *et al.*, 2016; McGuire and van Kleef, 2018).

Broadly speaking, the framework consists of eight criteria for identifying services in which competition will be beneficial, which are grouped into the following five main categories:

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- C 1–2: Multiple competing providers;
- C 3: Limited incentives for risk selection by insurers;
- C 4–5: Consumer information on providers and insurers is 'sufficient', such that a 'large enough' proportion of consumers make trade-offs between price and quality;
- C 6: Externalities;
- C 7–8: Insurer and provider markets are characterised by non-increasing returns to scale/scope.

We now describe the eight criteria in detail, though not necessarily in order of importance.

C 1: Sufficient patient numbers to sustain multiple providers in a relevant geographic area

Competition relies on the availability of multiple buyers and sellers. This criterion might not be fulfilled in the case of specialised medical services used by a small number of patients. This problem of small numbers is worsened for services with high fixed costs and those that require specialised knowledge, because then the efficient patient volume per provider organisation is larger (EXPH, 2015). For example, it has been repeatedly shown that in the case of complex surgical procedures, quality improves with patient volume per operating team (Institute of Medicine, 2000).

Another relevant factor is the geographic area in which providers can be regarded as competitors. This geographic area is smaller the smaller patient willingness/ability to travel is.

C 2: Sufficient numbers of competitors in the provider market

Without a sufficient number of competitors in the provider market, selective contracting is not possible. In this situation, purchasing negotiations by individual insurers might lead to less efficient outcomes than collective negotiations (possibly by government agencies).

There are different reasons why (quasi-)monopolistic provider markets exist. First, patent laws might be in place to incentivise private sector investment. This typically applies to pharmaceuticals and medical products. Second, shortages of trained specialists combined with limited education opportunities or strict professional licensing can lead to substantial market power of providers. Third, historically grown strong market positions, for example, by public hospitals, can be difficult to change.

C 3: Limited incentives for risk selection by insurers

It has long been known that competitive health insurance markets are prone to adverse selection by consumers and/or risk selection by insurers (Van de Ven and Ellis, 2000). Adverse selection can lead to situations in which a competitive equilibrium in the insurance market either doesn't exist ('death spirals') or some consumers cannot obtain the coverage they want (Rothshild and Stiglitz, 1976; Newhouse, 1996; Cutler and Reber, 1998). Risk selection activities by insurers lead to an inefficient allocation of resources for at least three reasons:

Insurers distort their service offering away from the social optimum in order to influence their risk pool (which is known as 'creaming', 'skimping' or 'service-level distortion') (Frank *et al.*, 2000; Layton *et al.*, 2017).
Insurers have limited incentives for efficiency because their market premium depends mostly on their risk pool (Beck *et al.*, 2010).
The resources invested in risk selection activities are wasteful from a societal wealth point of view (Van de Ven and Schut, 1994).

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Within systems of managed competition, strong incentives for risk selection in the insurance market also have negative implications for medical providers. First, insurers might design remuneration schemes that pass on these incentives to providers (such as strict capitation with insufficient risk adjustment). Second, providers with the best reputation for treating unprofitable patient groups might not be contracted, reducing the incentives to acquire such a reputation (van de Ven *et al.*, 2003).

C 4: Public information on quality and cost

Many theorists have stressed the importance of available information on insurer and provider quality in order to achieve effective competition (Van de Ven *et al.*, 2013). Information must be relevant (in the sense that they tell people what they need to know), valid, reliable, objective, transparent and easily understandable. Introducing purchaser competition without providing the population with sufficient information on quality may lead to substantial problems of quality stinting (Hibbard *et al.*, 1997). The EXPH raised the important point that providing meaningful information on provider quality that will facilitate the comparison among competitors is not always feasible, even under the premise that legal and technical issues (such as data protection) can be resolved (EXPH, 2015).

C 5: Sufficient demand-side pressure to refrain from quality stinting

It is the promise of managed competition that people's opportunity to vote with their feet will create enough demand-side pressure for insurers to refrain from quality stinting (if incentives for risk selection are limited and sufficient information is available). Van de Ven and Schut raise the important question whether demand-side pressure is sufficient for all types of care (Van de Ven and Schut, 1994). The authors present two potential reasons for low demand-side pressure: first, when choosing an insurance contract, a large proportion of enrolees may be indifferent to the quality of a specific service if their own probability in using that service during the contract period is close to zero. For example, only a small number of consumers might look for specific quality measures concerning services to those with severe mental disorders. Second, the typical service user might not be in a strong position to calculate trade-offs between prices and quality or to articulate his/her preferences. The second argument by Van de Ven and Schut (1994) is certainly more controversial, and it is probably only relevant in combination with the first argument: if a service is used by a relatively small patient group, *and* this group – for whatever reason – is particularly vulnerable to quality stinting, targeted interventions might be warranted to protect these patients.

C 6: Limited influence of externalities

Medical care has benefits that don't necessarily accrue to the health insurer who finances them.[2] This holds for various reasons. First, since conventional risk adjustment allocates funds among insurers according to current or past year population health status, it does not (fully) reward preventive efforts that improve population health, even if those efforts are cost saving for society as a whole (Eggleston *et al.*, 2012). Second, regulation usually purports 1-year contract periods and open enrolment, so investments in patients' long-term compliance or self-management skills might benefit a competitor (Zweifel and Breuer, 2006). Third, investments in health influence future earning capacities (Powell and Seabury, 2018; Goodman-Bacon, 2021). By designing the basic benefit package, regulators can rule out the most severe forms of

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underinvestment in services with positive externalities. Still, additional interventions might be warranted to incite sufficient investments by competing insurers.

C 7: No need for substantial reserve capacity

If there is a good that provides benefits to individuals even if they do not consume it, economists refer to it as an 'option good' (Breyer *et al.*, 2013). Medical infrastructure for treating patients can be viewed as such a good. As long as demand is predictable for an enrolee population as a whole, infrastructure can be adjusted to expected demand, and competitive purchasing should lead to sufficient provision. However, if demand is unpredictable even for large populations, some capacity must be left idle, which generates extra costs (Lovell *et al.*, 2009; Widmer *et al.*, 2018). Governments might choose to pool this extra cost over the whole population, for two main reasons: first, for urgent services, it is unfeasible to refuse treatment to patients on the ground that their insurer didn't contribute sufficiently to capacity building, which creates a free-rider problem. Second, pooling the risk over the whole population might simply be the least expensive way of risk pooling.

C 8: No strong complementarity with other collective goods

In his seminal paper on the principle of fiscal equivalence, Olson discusses which type of government or institution should perform activities that require collective action (Olson, 1969). He argues that there should be a separate governmental institution for every collective good that has a unique boundary, in order to achieve a match between those who benefit from the good and those who pay for it ('fiscal equivalence'). This generally supports the delegation of healthcare purchasing to health insurers, as the premiums paid for health care services are transparent and not mingled with general taxation. Olsen then argues that this conclusion only holds if complementarity with other goods is not overly strong, in the sense that if the government provides one collective good then it cannot provide a second one at a lower cost. This caveat is relevant in the case of basic health insurance since some healthcare services (e.g. long-term care, mental healthcare, preventive medicine and vaccinations) are closely related to social care, which is typically provided by local authorities. If the complementarity between these services is strong, then it is doubtful that having a separate government entity purchase each of them is an optimal setup.

3. Applications of the framework within managed-competition type health care systems

A simplified picture of the managed-competition model is depicted in Figure 1. The solid lines represent the core pillars of the managed competition model. The regulator defines a standardised basket of benefits, which all insurers must offer and all citizens must purchase. Insurers are obliged to accept all applicants (open enrolment) and to charge all enrolees the same premium for the same coverage (community rating). A system of risk adjustment is in place to mitigate incentives for risk selection. Insurers take an active role in purchasing or delivering care. They either contract with providers or negotiate the content of contracts (e.g. prices, quality, capacity and services), or reduce contracting costs by internalising them through vertical integration (Van de Ven *et al.*, 2013).

Within a system of managed competition, the regulator has a broad set of additional regulatory tools with which to organise the market (McGuire and van Kleef, 2018). These additional regulatory tools can be applied to the market as a whole, or to specific submarkets. They give the regulator the flexibility to fine tune the balance between competition and regulation, and to react to potential market failures related to specific types of care.

The dashed lines in Figure 1 represent such regulatory tools, which can be grouped into four categories. We discuss the four categories together with real-world examples, and argue why these

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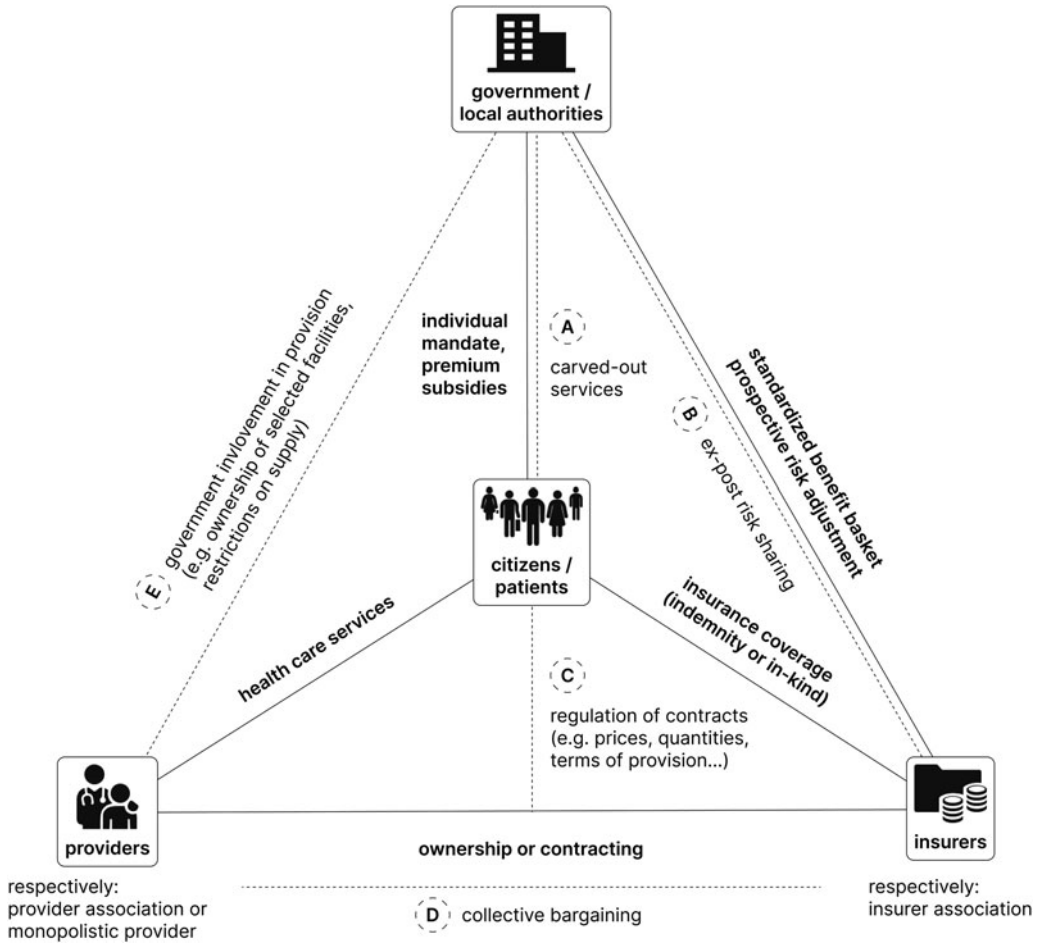

Figure 1. The managed competition model (solid line) and additional regulatory tools (dashed line).

tools are needed based upon our framework. These examples are provided in an anecdotic style and serve to illustrate potential future applications of the framework. It is beyond the scope of this short essay to thoroughly analyse each submarket in various countries, and assess the extent to which the criteria are fulfilled.

3.1 Carve-outs

If services are 'carved out' of the regular insurance contract, governments or local authorities take on the role of the insurer and either provide services themselves or purchase them from private providers. In the latter case, the result is a small number of providers (local monopolies). Providers might still compete for the market in periodic tenders, or be compared to similar providers which puts them under quasi-competitive pressure (known as yardstick regulation; Shleifer, 1985).

Examples

In the Netherlands, the state directly provides and finances mental health care for convicted criminal offenders (van der Wolf, 2021). This carve-out can be related to several criteria in our framework. First, this type of care isn't at the forefront of attention for most consumers when choosing an insurer, so competing insurers might experience limited demand-side pressure

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to refrain from quality stinting (*C5*). Second, this type of care has strong positive externalities for public safety and social reintegration (*C6*). Third, integrating this type of care with other services that the state offers might create efficiency gains (*C8*).

In the US, Medicaid agencies in some states carve out treatment for substance use disorder (SUD) from the main insurance contract. The state then directly contracts and finances SUD services, while other Medicaid services are delivered by competing managed care organisations who receive capitated payments (Auty *et al.*, 2022). This carve-out is related to the fact that it is very difficult to find good risk adjustors for SUD treatment, so incentives for risk selection can't be sufficiently neutralised (*C3*). SUD treatment also has strong positive externalities for public safety and social reintegration (*C6*). In addition, there is a shortage of SUD treatment facilities in many areas, which questions the effectiveness of selective contracting by competing managed care organisations (*C2*).

3.2 Ex-post risk sharing (i.e. eliminating or limiting financial risk for insurers)

Ex-post risk sharing reduces the financial responsibility of insurers. Insurers are responsible for providing or contracting a service, but they are entitled to targeted ex-post compensation for volume.

Examples

In the Netherlands, there exists a risk-sharing arrangement in the form of individual-level cost-based compensations for 90 per cent of annual mental healthcare spending equal to and above a certain threshold. The threshold is set at a national level such that the risk-sharing pool consists of 0.5 per cent of those individuals with highest mental healthcare expenditures. Risk sharing was introduced in 2020, because mental healthcare clients with very high costs were substantially and structurally undercompensated despite ex-ante risk equalisation. The main policy benefit of cost-based compensation is to reduce insurers' exposure to cost risk and to mitigate incentives to discriminate against persons with severe mental disorders (McGuire *et al.*, 2020). This is related to *C3* in the framework.

In Germany, 80 per cent of an annual expenditure above 100,000 euros per person is reimbursed ex-post from a high-risk pool (McGuire *et al.*, 2021). Ex-post risk sharing is mainly a way to reduce incentives for risk selection against this subgroup with exceptional health care expenditures (*C3* in our framework). Even though Germany had introduced an elaborate, morbidity-based risk adjustment scheme in 2009, substantial underpayments were observed for a small group of very high spenders. This incited regulators and health policy advisers to seek out alternative arrangements, such as ex-post risk pooling (Schillo *et al.*, 2016).

3.3 Regulation of contracts

Contracts between insurers and providers play a central role in the managed competition model. Apart from insurer-owned facilities, contracts are the main way in which insurers can adjust healthcare provision, with the goal of ensuring the desired balance between quality and cost. Governments often regulate contracts for such medical services by defining acceptable ranges for prices, quantities or terms of provision.

Examples

In the Dutch hospital sector, services are defined by a standardised classification system (diagnosis/treatment combinations). The regulator collects and publishes benchmarking data based on this system (Krabbe-Alkemade *et al.*, 2017). Similarly, Swiss regulation purports the use of a standardised, DRG-based catalogue for paying inpatient care in hospitals. A governmental agency collects and publishes data based on this schedule (Widmer *et al.*, 2018). These interventions can be seen as a way to improve information on quality and cost (*C4*).

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3.4 Collective bargaining

For a specific set of services, governments may restrict the insurers' freedom to contract selectively. Insurers will still reimburse providers, but subject to a specific set of rules negotiated collectively by the insurers or by government agencies.

Examples

Prime examples are the prices for brand name drugs, which are often negotiated by a government agency (as in e.g. the Netherlands, Switzerland and Israel). Without sufficient competition among providers, selective contracting by individual insurers is unlikely to be more efficient than purchasing by the state, who as more bargaining power. This corresponds to *C2* in our framework.

3.5 Government involvement in the provider market

Governments may also play an active role in the provider market, either as the owners of medical facilities, or by contracting out specific services. In these cases, health insurers might reimburse medical facilities, but they are not responsible for delivering or purchasing care.

Examples

Many Swiss hospitals are owned by cantons (states) and they must be contracted by all insurers. Using our framework, state involvement in the provider market can be justified for specific types of services. First, demand for some highly specialised hospital services might be too small to sustain several competing providers. If there is only one monopolistic provider, public ownership or strict public oversight is necessary to avoid abuses of market power (*C1*). Second, some specific services require sizeable reserve capacity, which is underprovided in competitive settings (*C7*). Examples could be preparedness for mass casualty incidences, especially those with multiple burn insured patients (Hughes *et al.*, 2021). Another example is emergency care in the case of pandemics. During the 2020/2021 surge of COVID-19, many governments centralised capacity planning, and/or reached agreements with private providers to access their capacities in case of need (Mercille *et al.*, 2022).

4. Limitations

This short essay has a number of limitations. First, we don't provide a ranking of the criteria according to their importance, which should be done in each country according to local preferences. Second, we don't provide a method to directly assess/quantify the criteria in practice, which will require further research. Some of the criteria can be quantified with reasonable effort, such as the incentives for risk selection (see e.g. Beck *et al.*, 2010; van Kleef *et al.*, 2017). With respect to the other criteria, the literature on the industrial organisation of healthcare markets offers insights into the expected behaviour of providers and insurers in different regulatory settings (Dranove and Satterthwaite, 2000; Gaynor *et al.*, 2015). Cross-country comparisons provide additional information, especially if similar reforms have been implemented across a number of countries (EXPH, 2015). The analysis of these contexts should be based on local market data and country-specific knowledge. Third, we don't make explicit suggestions on which scores on our criteria justify which type of regulation. Our framework is useful to identify submarkets of concern, and we broadly discuss regulatory tools that can be used to structure those submarkets. The potential to map the criteria in the framework to specific regulatory tools should be explored in future research.

5. Conclusions

The desired level of competition in healthcare markets remains a subject of debate, and there is theoretical and empirical evidence to support both sides. We have proposed a framework to help structure the debate, relying on eight criteria that are based on the market competition literature.

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Clearly, the various criteria will be fulfilled to different degrees across types of health services, and therefore, competition in healthcare markets should not be managed in a 'one-size-fits-all' manner. Rather, the expected benefit of competition in each (sub-)market needs to be taken into consideration and expected market failures need to be mitigated by specific regulatory tools.

Competing interest. Maria Trottmann is employed at SWICA, a major Swiss health insurer. Piet Stam is employed at Equalis Strategy & Modeling, a management consulting firm of health economists and part of the Vintura group. Johan Visser is employed at Zorginstituut Nederland. Zorginstituut Nederland is responsible for various tasks related to health insurance, quality standards and the reimbursement of medical treatments and pharmaceuticals.

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