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Recent developments in Dutch hospitals How does competition impact on inpatient care?

Abstract

The aim of this research was to explore the effect of the introduction of managed competition in Dutch inpatient hospital care. Firstly, we performed a literature study to determine competitive forces that have played a role in the US hospital market. Next, we discussed these forces with Dutch hospital board members to ascertain their relevance to the Dutch hospital market. The interviews revealed that Dutch insurers are cautiously initiating new initiatives such as selective contracting and united purchase combinations, and fiercely negotiate on price when buying hospital care. The board members suggested that the way to raise turnover is to increase hospital production. This resulted in growing quality competition between hospitals through the purchase of new technology and the launch of outpatient centres for specific treatments. Other forces that may have increased hospital production are the fee-for-service payment system of medical specialists and the practice of defensive medicine. As health insurers are apparently still unable to directly steer and control volume, this may result in more treatments by hospitals.

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Extended summary

In 2006, the Dutch government introduced the new Health Insurance Act aimed at the gradual introduction of managed competition in the Dutch health care system. Pursuant to this Act, consumers may switch health insurer once a year, thus encouraging health insurers to purchase high quality care for a reasonable price. In return, this puts pressure on health care providers to deliver high quality care efficiently. After four years, the question is: what has the new Act achieved thus far?

In this research, we analyse whether managed competition has promoted new developments (henceforth called ‘forces’) in Dutch inpatient hospital care. Firstly, we studied US literature to assess which competitive forces may be relevant. We then discussed these forces with seven Dutch hospital board members to explore whether these forces are becoming more relevant in Dutch inpatient hospital care.

Evidence from the US

In the following, we will summarise relevant findings from US literature for three different markets.

- *Care purchase market:* in the US, many people are insured through their employer, who often contracts a managed care organisation (MCO). The key element of MCOs is that they contract only a selected number of hospitals and doctors (‘selective contracting’) for which they obtain price reductions in return. In the 1980s and 1990s, the introduction of MCOs resulted in a significant reduction in hospital expenditure. However, in subsequent years there was a movement towards less restrictive insurance plans. This movement was called the managed care backlash. In the US, managed care provides incentives for efficiency but it also creates incentives to exclude expensive treatments.
- *The market of hospital competition:* hospital competition occurs in many fields, one such field being medical technology. In the US, technological competition initially resulted in a medical arms race and substantially raised hospitals’ prices. Furthermore, hospitals used specialisation as a differentiation strategy. Specialisation can lead to higher prices because of increasing market power, but also to lower prices due to higher efficiency gains. One US study discovered the latter effect, not only for the specialised hospital but also for neighbouring hospitals. Another effect of competition is an increase in the number of mergers. Effects of mergers can be two-sided. On the one hand, merged hospitals gain market power and can therefore negotiate higher prices vis-à-vis insurers. On the other hand, efficiency gains due to economies of scale, for example, can lower expenditure. One interesting study showed that closing the least efficient hospital in the market resulted in cost reductions in surrounding hospitals. Several US studies show that the costs of non-profit, for-profit and public hospitals were similar and that in

general all types of hospitals raised their prices after a merger. Hospital competition also affects investments in capital and labour. Examples are the construction of new buildings or facilities to attract patients and doctors. In the US, hospitals also compete with other facilities, as some of (formerly) inpatient hospital care is increasingly being transferred to the outpatient sector. Finally, there is also competition on the labour market as personnel shortage (nurses in particular) has created competition for professionals among hospitals.

- *Care delivery market:* in the US, hospitals are paid by a DRG system and the doctor's salary is often on a fee-for-service basis. A DRG system implies that more hospital production produces a higher turnover. In general, therefore, hospitals have an incentive to increase their turnover. The fee-for-service system might also encourage doctors to produce (and thus earn) more. US literature refers to 'upcoding', where doctors are triggered to choose DRGs that yield higher profits, as an undesirable strategy used by doctors to increase their income. In the US, we observe an increasing trend whereby doctors prescribe more treatments to protect themselves from lawsuits. This trend is called defensive medicine and was triggered by increasingly demanding patients, resulting in a rise in liability premiums for hospitals.

First experiences in the Netherlands

A discussion of the forces found in the US with seven board members of Dutch hospitals resulted in the following impressions for the different markets in the Netherlands.

- *Care purchase market:* the majority of the hospitals interviewed claimed that insurers negotiate fiercely on price and that hospitals differentiate prices among insurers, for those treatments where the government allows differentiation. This price differentiation depends on several factors: the market share of an insurer in the hospital (measured by the patient population), the quality of services provided, preferred provider position and the partnership between the insurer and hospital play a role in determining the price discounts. Hospitals and insurers spend little time negotiating on volume, although some respondents mention discussions on maximum volume growth and degressive tariffs. The majority of respondents reported that quality is discussed too. However, most of them condemn the fact that each insurer uses its own set of quality indicators.

One insurer in the Netherlands can be called an MCO as it offers a policy based on selective contracting. Several other insurers work with other forms of preferred providership. These insurers cancel the annual compulsory excess of €155 if a patient visits a selected hospital for elective care. Respondents with a preferred provider contract did not feel that this had a significant impact on efficiency. However, those hospitals without such a contract dislike preferred provider arrangements as they are afraid to lose market share because it prevents them from serving the local population.

- *The market of hospital competition:* During the interviews, many differentiation strategies for hospital competition were mentioned. ‘Quality’ was most often listed, followed by delivering extra service, technological advantage, reputation and price. Nearly all hospitals use technology for competitive reasons, but there were few signs of the development of a medical arms race in the Netherlands. Most hospitals stated that their specialisation areas were different from the focus areas of surrounding hospitals. This implies that regional hospitals often tailor their investments in new technology. The majority of the hospitals interviewed have recently invested in construction work or new facilities. Similarly to the US, the number of Independent Treatment Centres (ITCs) has increased in the Netherlands too. Remarkably, most ITCs are owned by the hospitals themselves in order to maintain patients and doctors, and also to attract new patients in the region.
- *Care delivery market:* all respondents stated that more turnover is achieved by more production and that this was the main way to increase profits. The fact that the fee-for-service system might trigger Dutch doctors to produce (and thus earn) more was not explicitly stated, but board members mentioned that they monitor the production of specialists carefully. Some respondents reported that the current DBC system is sensitive to upcoding, particularly because doctors register their own DBCs.

The new Health Insurance Act requires active patients which may have led to more malpractice claims. Less than half of the respondents reported an increase in the number of malpractice claims. Although few respondents think that their doctors practise defensive medicine, the fact that the total number of malpractice claims has decreased nationally may indicate that the practice of defensive medicine is becoming more common.

Conclusion: Based on evidence from the USA, we studied developments in Dutch inpatient (hospital) care. From the interviews with Dutch hospital board members, it appears that managed competition has initiated fierce price competition in some services. As in the US, simple price cuts obtained through hard bargaining appear to be the major source of savings. The way for hospitals to generate turnover is to increase their production. Hospitals use various strategies to attract (new) patients such as purchasing technology, increasing their quality of services and by starting outpatient centres. On the care delivery market, the fee-for-service system and practising defensive medicine could lead to more hospital production. As health insurers are apparently not yet able to directly channel and control volume, this may result in more treatments by hospitals.

1 Introduction

In recent decades, many developed countries have been facing considerable problems with respect to the delivery, performance and financing of their health care systems (OECD, 1992, p13). In an attempt to solve these problems, various policies have been implemented. It seems that developed countries have followed more or less similar stages. The first stage focussed on universal access, the second stage concentrated on cost containment by means of price and supply regulation and the third stage which emphasises efficiency (Cutler, 2002).

With the introduction of the Health Insurance Act in 2006, the Dutch government has explicitly entered the third stage. Instead of steering, the government transfers operational tasks and responsibility to market players and only safeguards public interests like accessibility, pay ability and quality. To facilitate this decentralisation, managed competition has been introduced in parts of the health care system, notably in curative care (Kamerstukken II, 2003-2004). The introduction of managed competition initiated new developments and raised new questions. The consequences of managed competition – especially with respect to health care expenditure – are still ambiguous.

The aim of this research is to gain more insight into the latest developments. To limit the scope, only inpatient hospital care will be reviewed. Inpatient hospital care includes all services delivered in a hospital or institution which require at least one overnight stay (OECD, 2001).¹ In order to identify possible forces caused by managed competition, we first conducted a literature study on the United States. The US was chosen because of its long experience with competition in inpatient care. Studies such as those by the NBER, American universities and US Census Bureau were used as a basis to list all forces on inpatient expenditure. Subsequently, we performed a systematic search in database ‘Econlit’ to collect relevant economic and financial information on each individual force. For example, searching the impact of ‘mergers’ resulted in the following economic terms: [merger] and [hospitals] and [USA]. Searching ‘Econlit’ resulted in 52 articles. Articles were included if they were published between January 1990 and April 2009. Following these criteria we selected 37 articles, plus two additional papers from the American Hospital Association (AHA).

After summarising these forces, we conducted a multiple case study by interviewing representatives (all chairman) from seven Dutch hospitals to discuss the competition-related forces. We interviewed two academic, four general and one categorical hospital. The hospitals were specifically selected on several characteristics such as their location (spatially scattered across the country), the number of competitors in their region and the type of hospital. We would like to stress that an analysis based on interviews has limitations. Although this method is suitable for deliberately describing diversity across hospitals, the number of interviews are

¹ This distinction is most important for reviewing the Dutch system as also many ambulatory services are provided in hospital settings.

very limited and the answers cannot be generalised to all hospitals. Another drawback is that respondents may answer in their own interest and hide or colour certain information. All interviews were attended by two researchers. The answers from the interviewees were coded by means of the 'open coding' method and hermeneutically interpreted for the discussion paragraph (Boeije, 2005, p. 84-119). The interview scheme can be found in Appendix A.

The paper is structured as follows. In section two, we start with a brief description of American and Dutch inpatient care. In section three, we summarise the forces found in US literature on hospital inpatient care. In section four, we report the result from our interviews with the board members of Dutch hospitals. In the last section, we conclude with a discussion.

2 A description of American and Dutch inpatient care

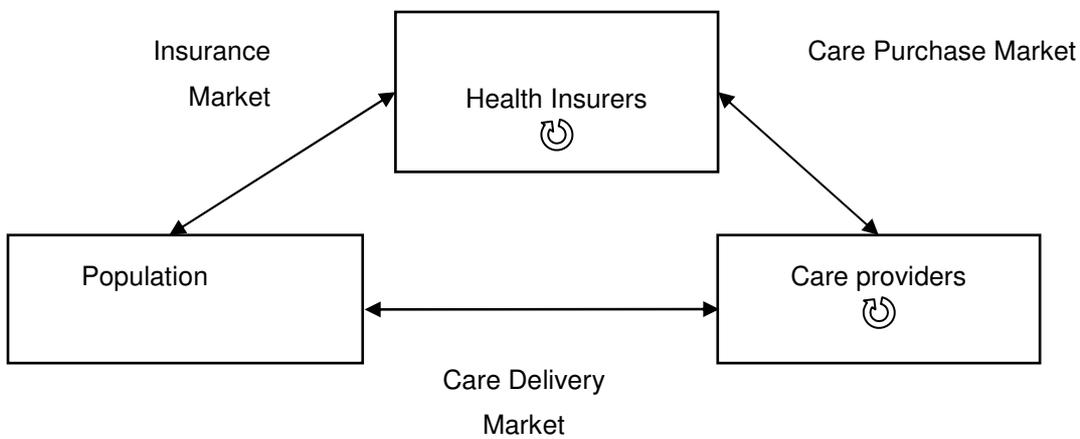
Both the US and the Netherlands are characterised by some form of managed form in their inpatient hospital care. In general, it is thought that competition in health care creates incentives to gain (technical, factor price and allocative) efficiency and leads to a more demand-driven health care. The rationale behind incorporating competition lies in the outcome generated by a competitive market. According to *The First Theorem of Welfare Economics*, a competitive market is economically efficient under certain conditions. Four necessary conditions are:

1. Free entry and exit
2. Perfect information (transparency)
3. Numerous buyers and sellers
4. Homogeneous product

It is well known that hospital markets cannot meet those four conditions. Free entry fails on the level of individual medical professions as well as on the level of inpatient care institutions. First medical professionals are obliged to possess specific licensures to perform their profession and at institutional level, for example, facility construction is subjected to legislation. In practice exit of hospitals is rare, at least in the Netherlands, as indigent hospitals were often saved. Hospital markets are also characterised by imperfect and asymmetric information, with medical professionals possessing a knowledge advantage over patients and insurers, for example. Nor is the condition of numerous buyers and sellers satisfied. Hospitals do not always have many competitors. In most cases, hospitals have some form of market power as they serve an area in which few other hospitals exist. The condition of a homogeneous product is also not fulfilled as hospitals are often characterised as multi-product firms. Inpatient care is not homogeneous as services often differ in quality and other characteristics, even for similar diagnosis.

In Figure 2.1 we present a useful sketch of a competitive third payer system that is relevant for both the US and the Netherlands. Patients can (US situation) or must (Dutch situation) insure themselves on the *insurance market* where the insurers try to attract clients. Insurers purchase care from health care providers through (selective) contracting on the *care purchase market*. Care providers therefore have to deliver high quality care at a reasonable price. On the *care delivery market*, care is delivered by care providers to patients. As both insurers and health care providers also compete among each other, a  is added in the figure to address the internal competition.

Figure 2.1 Competitive third-payer system (Getzen, 2007)



In the following two sections, we provide a framework in which to address essential differences between the US and Dutch hospital inpatient care market. For both countries, we have composed a standardised model in order to make inpatient care systems comparable. In this, we follow an OECD framework (OECD, 1992, p. 19). This framework resembles the third-payer model in figure 1, whereby the insurance market, care purchase market and care delivery market are basically connected through financial and service flows. The  is again added to address the internal competition.

2.1 Inpatient care in the US

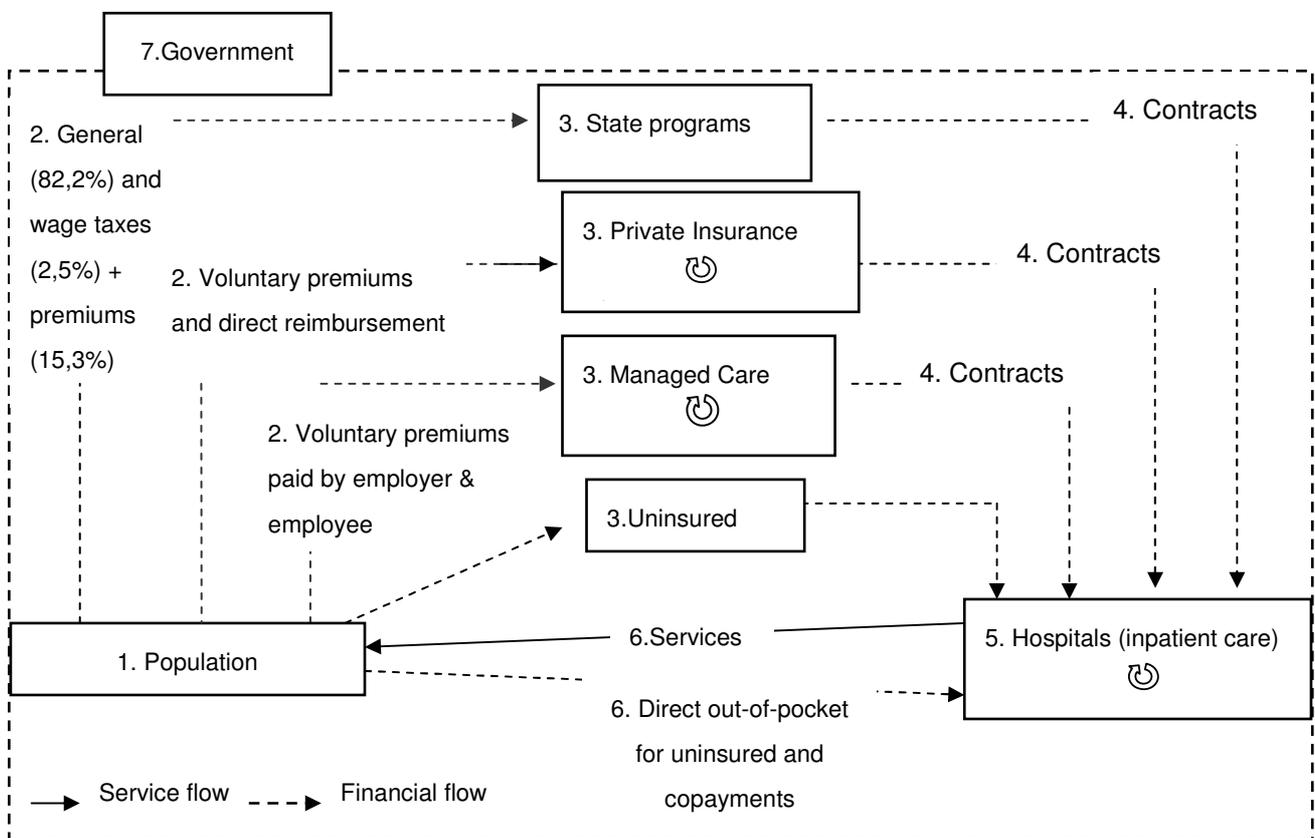
Figure 2.2 shows American inpatient hospital care in the context of the total health care system. The figure distinguishes various relevant actors: consumers/patients, insurers, first-level providers, second-level providers and the government. Secondly, the overall financing mechanisms include public (compulsory) contributions and voluntary premiums. In the scheme, these financial flows connect consumers/patients with the insurers. This basically resembles the

health insurance market. The insurers, in turn, negotiate with first and second level care providers. Thirdly, the hospitals deliver inpatient care to their consumers/patients on the care delivery market. Finally, all these activities take place within the playing field regulated by the government.

In figure 2.2, the seven numbers distinguish six different actors. Each of these numbers will be discussed briefly.

1. In 2006, the American population spent 15.3% of its Gross National Product (GDP) on health care activities, of which 32.2% was devoted to hospital services. This means a per capita spending of US\$ 2,165 (OECD Health Data, 2008).

Figure 2.2 Structure of the US inpatient hospital market



2. The overall financing is fragmented. In 2007, the health insurance market consisted of three groups. Government programmes, mostly Medicare and Medicaid, cover about 27.8% of the American population. These programmes are financed by employer and employee contributions, general taxes and individual premiums (Getzen, 2007, p. 103). Most people, 59.3% of the population, have some form of private insurance through employer-based

programmes. A small part of the population, 8.9%, is insured privately. This leaves 15.3% of the population uninsured (U.S. Census Bureau, 2007, p. 21).²

3. A small fraction of the population has private indemnity insurance. Most people are covered through managed care organisations (MCOs), which implies that a manager selects a number of health care providers and usually obtains price reductions in return. In general, three types of MCOs exist: Point-Of-Service Plans (POS), Preferred Providers Organisations (PPO) and Health Maintenance Organisations (HMO). Patients of MCOs must visit contracted doctors and patients' bills are paid directly by the MCO. Furthermore, MCOs put a great deal of effort into prevention and use general practitioners as gatekeepers³ (Getzen, 2007, p. 114-115). Thirdly, the largest state programmes are Medicare, Medicaid and State Children's Insurance Program (SCHIP). The centre for state programmes contract hospitals and pay patients' bills. For the uninsured, emergency departments of hospitals are obliged to provide acute care to all patients, regardless of whether they are insured; for other care, uninsured have to pay out-of-pocket (Pines, 2006, p. 447).
4. On the care purchase market, the centres for state programmes, private indemnity insurers and most forms of MCOs have contracted hospitals for inpatient care. The amounts of reimbursements are based on Diagnostic Related Groups (DRGs). These are fixed payments based on the diagnosis of a patient (Getzen, 2007, p. 186).
5. With respect to inpatient care, the US had 5,759 hospitals in 2004. On average 3.2 beds were available per 1,000 citizens. Two thirds of the hospitals were non-profit and the remaining third take an equal share of for-profit and government hospitals (Horwitz, 2005, p. 47). Most doctors hold a specific position in hospitals as they mostly receive fee-for-service payments instead of fixed salaries from the hospitals' budget. Only in staff model HMOs are the insurer and doctors integrated and doctors are often paid on a salary basis.
6. Consumers with insurance obtain services for which they sometimes have to pay an excess. Consumers without insurance pay all costs out-of-pocket. Recently, a new form of insurance plan has been established, namely: 'consumer driver health plans'. These plans have deductibles up to > \$1,000 annually, thus only high expenses are reimbursed.
7. Patient protection, anti-trust cases and registration of care providers are important aspects of governmental regulations (Getzen, 2007, p. 335). Nevertheless, many regulations are adopted at federal level and may differ across states.

² The sum of all percentages exceeds 100% because many people have multiple forms of coverage (Getzen, 2007, p. 103).

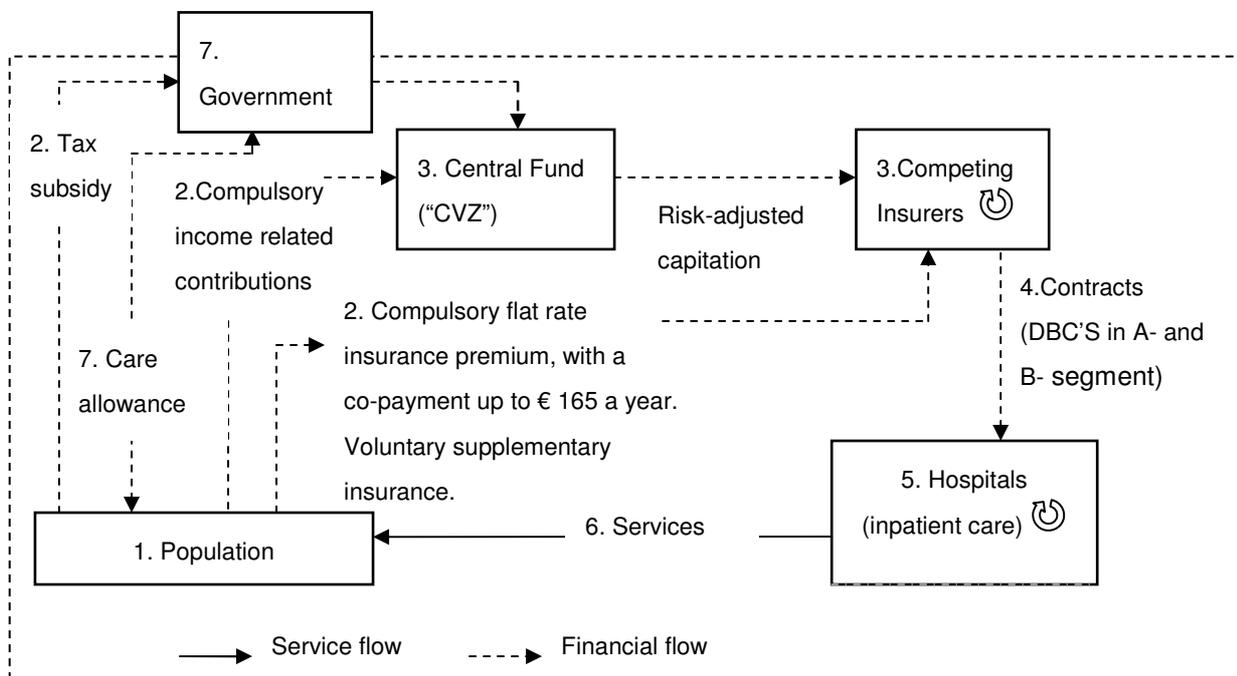
³ Gatekeeping means that a patient cannot visit a doctor in the second or third line without a referral from a GP/ primary care doctor.

Inpatient care in the Netherlands

Figure 2.3 shows the Dutch inpatient care system. We will now briefly discuss the numbers in the figure.

1. The OECD estimated that the Dutch population spent 9.3% of their GDP on health care in 2006. 38.7 % of the total spending on health care was devoted to hospital services, which is a per capita spending of US\$ 1,466 (OECD Health Data, 2008).
2. The funding is arranged through three sources, of which compulsory income-related contributions comprise the largest part. The state also collects tax subsidies, for example for health care costs of children under the age of eighteen. All Dutch citizens are obliged to take out basic health insurance. Besides basic health insurance, consumers can voluntarily opt for supplementary insurance. It is prohibited for insurers to refuse patients for basic health insurance and to differentiate premiums.
3. The Central fund of the government collects all payments and applies risk adjustment to correct insurers for population differences. In 2009, four large health insurance companies own 88% of the market.

Figure 2.3 Structure of the Dutch inpatient hospital market



4. On the health purchase market, most of the care is purchased by the health insurer. In inpatient hospital care, about 66% of the care is situated in the so-called A segment where insurers and hospitals can negotiate about price and volume, but where prices of treatments are fixed. The other 34% of the treatments are part of the B segment, in which volume, quality as well as prices are freely negotiable (Ministerie VWS, DBCs, 2008). In the B segments, reimbursement is based on 'Diagnosis Behandel Combinaties' (DBC's), the Dutch version of DRGs.
5. In the Netherlands, inpatient and outpatient care are mainly concentrated in hospitals and patients need a referral to visit a (second-line) doctor. In 2004, 118 hospitals were registered, through which on average 4.5 beds were available per 1,000 citizens (Kemenade, 2007, p. 115; OECD Health Data 2008). All hospitals are non-profit of which most are foundations. Hospitals may earn some profit, but profits cannot be distributed to shareholders and have to be invested in health care. Similarly to the USA, the vast majority of doctors receive their remuneration through fee-for-service payments.
6. Consumers receive their services from health care providers. For the basic benefit package there is an annual compulsory excess of 165 Euros that consumers have to pay to their insurer.
7. The Dutch government financially compensates individuals with a low income through care allowances. Moreover, it adopts strict regulations to safeguard public interests and various regulators actively monitor developments in the field.

3 Forces resulting from the literature

Table 3.1 lists all forces found in American literature related to the purchase market (4.), competition among hospitals (5.), and the care delivery market (6.). The numbers correspond with the numbers in the figures of the inpatient care models in the previous section.

Table 3.1 Overview of forces of inpatient expenditure	
Market	Forces
Care Purchase Market	Changes on health insurance market
Competition among hospitals	Diffusion of technology Differentiation and specialisation Mergers and closures Ownership conversions Construction costs Competition with other facilities Personnel shortage
Care Delivery Market	Treatment expansion effect. Practicing evidence based medicine Supplier induced demand and upcoding DRGs Claims and defensive medicine

All forces are related to competition. For example, the outcomes in care purchase market may change if managed care organisations enter the scene. The forces under competition among hospitals are used by hospitals to strengthen their competitiveness. Some of the forces can cause competition by itself, such as personnel shortages. The forces on the care delivery market are only indirectly related to competition.

In the following sections, each part of the forces will be briefly discussed. For more detailed information on a single force, the reader should consult the original articles.

3.1 Care purchase market

Before the managed care backlash occurred in the US, insurers successfully slowed down hospital expenditure growth with high managed care penetration. Managed care organisations (MCOs) are able to reduce costs by saving money on both the demand and supply side. They obtain discounts by contracting in volume with doctors and hospitals, substitute less expensive services and control utilisation through the approval process (Getzen, 2007). The decreasing effect was on average higher in areas with high managed care penetration (Zwanziger, Melnick & Bamezai, 1994, p. 123-124; Melnick et al., 1992, p. 229; Bamezai et al., 1999, p. 241). Compared to other type of insurance, MCOs lowered expenditure mainly by negotiating lower prices (Cutler, McCellan & Newhouse, 2000, p. 544). After the managed care backlash, however, Konetzka et al. (2008, p. 105) found that areas with high managed care penetration experienced a larger hospital costs increase than areas with low managed care penetration. Nevertheless, Dranove et al. (2008, p. 374) concluded that MCOs still put some pressure on hospitals in order to obtain price discounts. Besides negotiating lower prices through selective contracting, applying 'gatekeeping' measures and slowing down the diffusion of technological innovations helped MCOs reduce expenditure (Baker & Spetz, 1999, p. 20; Cutler & Sheiner, 1997, p. 24-26).

Secondly, during previous years - and perhaps in the near future - the American government expanded coverage through state programmes like Medicare, Medicaid and SCHIP. However, patients still have to pay an excess, as these programmes do not reimburse all costs (Forrest, Goetghebeur and Hay, 2002, p. 38). Furthermore, according to the National Centre for Health Statistics, 62% of all uninsured individuals had medical expenditure of 84-88% compared to those with a public or private insurance in 1996 (2001).

3.2 Competition among hospitals

The first force concerning hospital competition is the diffusion of technology. Although adopting new technology generally increases costs, some technological developments save costs (AHA, 2001, p.6). During the 1980s, many hospitals trumped their competitors by

purchasing medical technology. This 'medical arms race' led to increased expenditure (Asubonteng Rives & Bae, 1992, p. 604; Robinson & Luft, 1985; Dranove, Shanley and Simon, 1994, p. 261). Some studies conclude that the rise of MCOs later that decade slowed down the diffusion of medical technology (see previous section). However, a study that compared markets with low and high managed care penetration did not find that hospitals in highly concentrated markets adopted cost saving technology earlier (Cutler & Sheiner, 1997, p. 24-26).

Secondly, competition among hospitals tends to increase differentiation. Specialisation is often used as a way to differentiate from competitors. On the one hand, specialisation could increase market power, causing prices to rise. On the other hand, specialisation improves quality, resulting in efficiency gains (Syverson, 2006). One study investigating the latter effect found that if speciality hospitals are located in areas with general hospitals, the costs of the general hospitals also decreased (Schneider et al., 2007, p. 330).

The next forces identified are hospital mergers and closures. In the US, a consolidation wave occurred among both health insurers and American hospitals. Between 1985 and 1995, the number of hospitals fell by 9% (Gaynor & Haas-Wilson, 1999, p. 143). The effect of a merger can be two-sided: it can lead to efficiency gains, for example by achieving economies of scale or limiting excess capacity (Alexander et al., 1996; Dranove & Lindrooth, 2003, p. 990), or mergers may yield anti-competitive advantages, for example by setting higher prices (Melnick et al., 1992, p. 230-231; Bamezai et al, 1999, p. 241). Post-merger price increases between 5 to 58% were reported, whereby the highest price increases occur in highly concentrated hospital markets (Town & Vistnes, 2001, p.735; Gaynor & Vogt, 2003, p. 47-48; Dafny, 2005, p. 25). Closures, in return, are mainly caused by low operating margins, occupancy rates and debt-to-asset ratios (Sloan, Ostermann & Conover, 2003, p. 48). One study showed efficiency gains of 2 to 4% per admission of surrounding hospitals, when the least efficient hospital in the area was closed (Lindrooth, Sasso & Bazolli, 2003, p. 710).

The type of ownership is important too. In a quantitative research review, Shen et al. (2005, p. 29) concluded that costs made among all three ownership types are very similar, but that for-profits do generate (a little) more revenue and profit than non-profits. Whether hospitals set higher prices depends more on the concentration of the market than of the type of ownership. Both non-profit and for-profit hospitals tend to increase prices in less concentrated markets (Koning, Noailly & Visser, 2007, p. 258-259).

Also investments in new buildings are used by hospitals to attract patients and doctors. Low investments in constructions in the 1990s caused a significant increase in hospital expansions and renovations of about 47% between 1998 and 2000 (Forrest, Goetghebeur & Hay, 2002, p. 34-35). Besides competition among hospitals, hospitals in the US also have to compete with other types of facilities, such as outpatient care. Nowadays, the outpatient care sector is as large as the inpatient care sector in the US (PWC, 2001, p. 8). Finally, a special force is the shortage of personnel. Currently, the US faces a shortage of professionals, particularly nurses. As the

workforce represents 50% of hospitals' operating expenditure, small changes may lead to significant expenditure increases and projections show even an increasing shortage in the near future (Forrest, Goetghebeur & Hay, 2002, p. 44).

3.3 Care delivery market

On the care delivery market, new medical technologies make it possible to treat more people with milder diseases and people with complex diseases. As a result of this 'treatment expansion effect', the number of treatments in hospitals increases (Cutler & McCellan, 2001, p. 24).

Secondly, to check whether money on inpatient care is spent cost-effectively, scientists introduced '*evidence-based medicine*' (EBM). In this field, new diagnostic services and treatments are evaluated on their costs in relation to their effectiveness. Wennberg, Fischer and Skinner (2002, p. W97) show that practising evidence-based medicine can cut overall hospital expenditure.

Thirdly, the majority of doctors are paid by fee-for-service. According to Zuckerman, a fee-for-service system provides incentives for doctors to act like 'entrepreneurs', which may lead to a higher production (2009). In the literature this effect is often named supplier induced demand (SID). Supplier induced demand may occur when asymmetry of information exists between doctor and consumer. The doctor can use superior information to encourage an individual to demand a greater quantity of the good or service they supply than the most efficient level, should asymmetric information not exist. The result is a welfare loss. The production of doctors is registered by means of DRGs. Evidence in the US shows that 'upcoding' (choosing a DRG with a higher reimbursement) does occur. Silverman & Skinner (2001) show that between 1989 and 1996, the incidence of the most expensive DRG rose by 10% among non-profit, 23% among for-profit and 37% among hospitals which converted to a for-profit status, while health indicators showed no increased morbidity.

The last trend is the practice of 'defensive medicine'. In response to demanding patients and to protect themselves from lawsuits, doctors prescribe unnecessary treatments. The most influential paper on the costs of defensive medicine concludes, from a selection of states which adopted legislation that directly limited the liability of doctors between 1984 and 1987, that hospitals expenditure reduced by 5 to 9% within three to five years after the adoption, without health outcomes being seriously changed (Kessler & McCellan, 1996, pp. 33-35; Coble, 2002). Another effect of changing patient behaviour is the rise of liability premiums for doctors and hospitals. Premiums rose significantly in many states (PWC, 2001, p.7).

4 Forces in the Netherlands

In this section, we present the results of our interviews with the Dutch hospital board members, in combination with a review of Dutch papers and policy documents. In the following subsections, we present our results for the three different markets.

4.1 Care purchase market

According to the respondents, price, volume and quality aspects tend to be the main subjects discussed during negotiations with insurers:

Since 2005, prices for treatments in the B segment are free and the level of prices seems to be the main discussion point during negotiations between insurers and hospitals. All respondents reported that negotiating on price was fierce and five respondents said that they actively differentiate prices among insurers. They differentiate prices according to the market share of an insurer, partnership, extra services/quality delivered by the hospital and preferred provider positions. All these aspects may play a role in the amount of price reduction for treatments.

At national level, initial calculations showed an annual volume growth in hospitals of 5.2% between 2004 and 2007 (NZa, 2009, p. 10). However, these results could be biased because of data limitations. It appears from the interviews that one respondent unintentionally faces volume restraints due to limited capacity of personnel and operation rooms. Two others do not discuss any form of volume restraints with their health insurers. The remaining four board members discuss an intentional maximum volume growth rate with the insurers for one year. One of the four respondents said that national growth projections are used for this maximum; if the hospital exceeds the maximum growth rate, then new negotiations will start. Others said that they provide price discounts to insurers on treatments above the maximum. Nevertheless, the answers suggest that it is hard for insurers to intervene directly with volume developments of hospitals.

According to six respondents, quality is discussed during the negotiations. However, only three respondents said that quality measurements of insurers (or the Netherlands Health Care Inspectorate) motivate them to improve their quality and service. The respondents dislike the fact that all insurers set up their own quality measurements and condemn their indicators. Currently, only one respondent offers guarantees on some treatments in the basic package. This implies that the hospital fixes 'failures' at their own expense, in return for higher initial prices. Currently, selective contracting has been started on a small scale in the Netherlands, for example with the introduction of the 'ZEKUR' policy⁴. Only one of the respondents has joined

⁴ Joining this policy implies that acute care is reimbursed for all hospitals. However, patients must visit one of the selected hospitals for elective care or they will be required to pay 20% of the treatment themselves.

this policy. One respondent in a low concentrated area is critical of the fact that his hospital is not contracted, meaning that the local population cannot visit their hospital. Another respondent, with a hospital in a high concentrated area, was afraid to lose market share.

Losing market share to competitors was also related to preferred provider arrangements. Currently, patients visiting a preferred provider for specific treatments do not have to pay the annual compulsory excess of €155. Respondents with preferred provider positions feel that only a few consumers are triggered by such arrangements.⁵

At the moment, none of the Dutch hospitals is vertically integrated with a health insurer⁶. Opinions on this development vary. Advocates emphasise that vertical integration may stimulate cost containment and improve incentives for prevention. Integrated steering between first and second level providers and the fact that an insurer takes responsibility for its regions were also mentioned. Opponents, however, are afraid that it will harm surrounding competitors, drastically limit provider choice of patients and lead to conflict of interests.

Since 2009, capital costs are also part of the DBC price. According to some respondents, this creates a great deal of uncertainty, especially for hospitals planning new hospital buildings just before the policy reform. Although the government set up a formula to financially compensate these hospitals, the indigent hospitals fear it is not enough. Since the depreciation of new build hospitals is higher compared to incumbent hospitals, respondents emphasised that different capital costs across hospitals disrupts the creation of a level playing field.

4.2 Competition among hospitals

Similar to the American situation in the 1980s and 1990s, five Dutch respondents said that they purposely apply medical technology to attract (new) patients. Only one respondent reported that his hospital was not in a position to compete by means of technology, as his competitors had more resources to do so. Many hospitals purchased other technology than their main competitors because their focus diverges. These purchase patterns suggest that hospitals often tailor their investments in new technology. After purchasing new technology, three respondents noticed an increase in volume, but two others said that such effects are only temporary. In addition, two respondents purposely negotiate a higher price for the extra quality they deliver. However, especially in the case of the academic and 'top-clinical' hospitals, insurers do not always reimburse treatments with new technologies.⁷

In order to remain competitive, hospitals use a differentiation strategy. This often appears to lead to specialisation. Six respondents reported that they reviewed their corporate strategy after the introduction of managed competition, whereby most respondents sharpened their focus. On

⁵ Interestingly, these respondents had a dominant insurer.

⁶ In the Netherlands, the structure which resembles it the most is the Vlietland hospital which is a member of a cooperative, whereby the local insurer is also a member of the cooperative, in addition to several GPs and nursing homes.

⁷ Insurers can decline reimbursement if the Board for Health Insurances has not (yet) approved it.

a national scale, academic hospitals agree on focus areas. For general hospitals, the pattern is less clear; whereas one respondent said that he had exactly the same focus as his competitors, two others purposely specialised on different treatments. Besides specialising on certain treatments, to remain competitive hospitals focus on their reputation, publicity (marketing) and apply evidence-based treatments. Cooperation with other hospitals, service/quality aspects, price and price-quality relations were also reported as focus areas. Finally, academic and top clinical centres reported that they increasingly receive complex patients from general hospitals. With respect to mergers, it seems that the consolidation wave in the US also occurs in the Netherlands. Between 1997 and 2009, the number of hospitals fell from 117 to 93 (NZa, 2009, p. 22). As a result, about 20% of the hospital market is highly concentrated. Two of the seven respondents have recently tried to merge with other hospitals, whereas two other respondents successfully merged with first and third level providers.

The type of ownership plays a less important role in the Netherlands as all hospitals have a non-profit status (see page 8). Although there was a long discussion about allowing for-profit hospitals into the market, the Minister of Health recently decided to abolish private capital (Klink, 2009, p. 34-35). Notwithstanding this decision, the opinions of the respondents were mixed: three respondents feel that no private parties would have been interested anyway due to the low profit margins of hospitals. Two other respondents think that profits would have been earned at the expense of delivering care, as shareholders would request large dividends. Nonetheless, two respondents feel it will create more opportunities to carry out (un)usual investments.

The fourth force covers the costs of construction. The problems arising from investments in construction are discussed in the next section. Fifthly, inpatient and outpatient care in the US take an equal share in the total expenditure on health (PWC, 2001, p. 8). In the Netherlands too, the outpatient sector is growing. The number of so-called Independent Treatment Centres (ITC) is rising: in 2005 there were 37 operating ITCs in the B segment, compared to 125 in 2009 (NZa, 2009, p. 22). Six respondents hold an ITC. The underlying reasons were not only to retain patients and doctors, but also to attract new patients. Furthermore, respondents mentioned that ITC teach doctors to compete. However, stimulating fragmentation of the hospital market and creating a 'hasty' business were mentioned as disadvantages.

Half of the respondents reported that they were not experiencing urgent personnel shortages at this moment. Some suggested that this is a result of the present economic climate. Two respondents even concluded that competition on the labour market is fiercer than competition for patients or contracts with insurers. In their opinion, the restricted number of training positions instigates this shortfall. Interesting for hospital expenditure is the augmentation of

doctor fees; an excess of US\$883.2 million was reported (Vektis, 2009). A policy change regarding the fees of doctors elicited this increase.⁸

4.3 Care delivery markets

The treatment expansion effect also appears in the Netherlands, but the speed with which new technology diffuses (officially) depends on the approval of the Board for Health Insurers and whether insurers reimburse it.

Secondly, Evidence-Based Medicine (EBM) has become more important recently in medical practice, as scientific results are combined with a doctors' expertise and patients' preferences in national guidelines for specific diseases (Offringa, Assendelft & Scholten, 2009). How much can be gained with EBM from a financial point of view is yet unknown.

Thirdly, none of the respondent mentioned the possibility of supplier induced demand, but all hospitals accurately monitor the production of their doctors. Three respondents reported no increase in volume after the introduction of managed competition. Since 2008, doctors are paid by fee-for-service. Their income can be calculated by multiplying a uniform hourly rate by standardised time established in the DBCs. The new hourly rate was set relatively high and doctors' wages rose even more over 2008 (Vektis, 2009, slide 26-27). In addition, two respondents highlight the fact that the DBC system is sensitive to manipulation (upcoding), particularly because the doctors can indirectly regulate their income (see also Steinbusch et al., 2007, p. 294).

Finally, three respondents reported an increase in the number of malpractice claims by patients. Two of them reported not only an increase in the number of claims, but also in the money involved in the malpractice claims. As the liability premiums that hospitals have to pay are based on the number and size of all claims, the respondents faced an increase in insurance premiums. Nevertheless, the total number of malpractice claims has decreased nationally in recent years.⁹ Although a few respondents think that their doctors practise defensive medicine, the fact that the total number of malpractice claims has decreased may indicate that practising defensive medicine is increasing.

⁸ Until 2007, doctors were paid by a lump sum payment. The difference between the lump sum and the actual expense claim were levelled through the hospital tariffs. In 2008, the lump sum system was abolished and some doctor fees are now totally determined by fee-for-service, while others receive a fixed salary. This policy change resulted in a huge increase of doctors income (Vektis, 2009).

⁹ Medirisk reported a decrease of 265 claims from 1,100 in 2006 to 835 in 2007 (<http://www.medirisk.nl/overmedirisk/bedrijfsinformatie/Pages/default.aspx>) and Centramed received 372 claims in 2008 compared to 350 in 2007 (Centramed, Jaarverslagen 2007 en 2008).

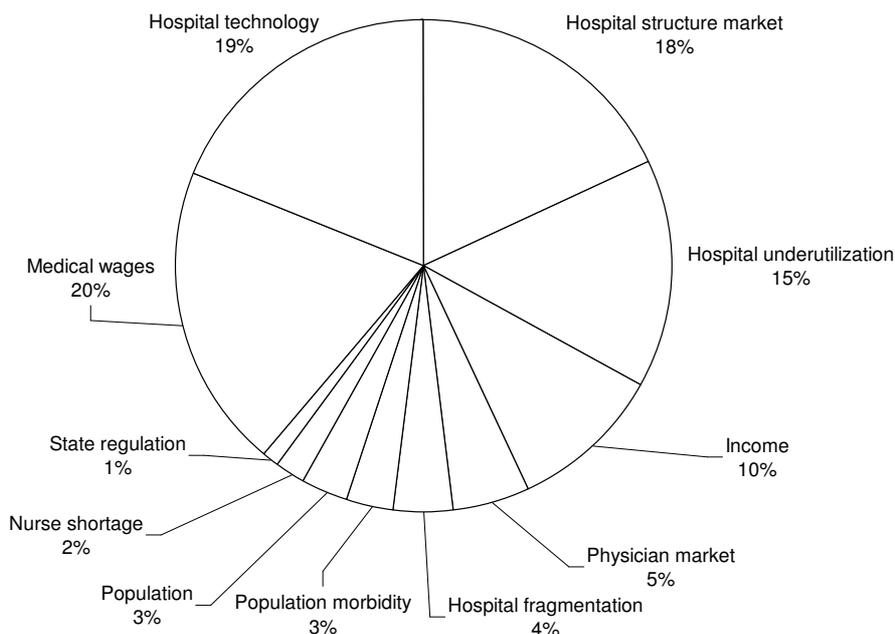
5 Discussion

After summarising all the new developments, here we discuss how the forces could influence Dutch inpatient expenditure. In section 5.1, we discuss this question and in section 5.2 we present some possibilities for future research.

5.1 Impact assessment of forces on inpatient expenditure.

In the previous sections, forces for the American as well as the Dutch inpatient care were summarised. However, some forces may have a greater impact on the total inpatient expenditure than others. Therefore Hay (2002) tried to break down the influence of the various factors on inpatient expenditure. Figure 5.1 shows the percentage of total inpatient expenditure growth that would be attributable to each of these factors if all factors increased equally by one percent (Hay, 2002, p. 26-27).

Figure 5.1 Inpatient expenditure growth factors 1998-2000, according to Hay, 2002, p. 27.



According to this study, it appears that medical wages, hospital technology, hospital market structure and hospital underutilisation have the greatest impact on inpatient expenditure.¹⁰ Note,

¹⁰ Medical wages include wages of doctors, surgeries and the hospital workforce. Medical technology was measured by the number of academic hospitals, hospitals with burn facilities and catheter labs and the hospital flow of funds. The percentage of hospitals in a system and the proportion of for-profit hospitals made up the definition of hospital market structure and hospital underutilisation was measured by occupancy rates and case mix index.

however, that his representation is limited. The results follow from a regression with many explanatory variables over a short period that is complicated by the problem that “everything is correlated with everything else”. Therefore, the distribution cannot be generalised and may be different for the Dutch situation. The figure presents various factors that play a role in competition (see table 1). In this section, we therefore structure our discussion according to this graph, starting with the largest factor and ending with the smaller one(s).

Medical wages have the greatest impact on inpatient expenditure. The extent to which competition for professionals impacts on inpatient expenditure is still ambiguous, but a recent (non-competition related) policy change had striking consequences for inpatient expenditure and the salary of Dutch specialists. Due to the introduction of a new financing system, it was estimated that hospital budgets were exceeded by about 12% and specialists’ salaries by about 20% (CPB, 2009, p. 91 and Vektis, 2009). As Dutch doctors (already) earned the highest wages of thirteen OECD countries in 2004, the incentives of a fee-for-service system could trigger doctors to produce (and earn) even more (Fujisawa and Lafortune, 2008, p. 8).

Secondly, hospital technology is related to the second factor. American literature described the ‘medical arms race’ in the 1980s and early 1990s. Applied to the Dutch situation, it became apparent that the interviewed hospitals use technology for competition. However, most hospitals only purchase technology if it is in line with their focus or research areas. The interviews did not suggest that this trend might lead to a ‘medical arms race’; it seems that hospitals tailor their investments in new technology. If this results in more specialisation and increased market power, it could lead to higher prices. The reactions of the respondents do not suggest that health insurers interfere greatly in their purchasing pattern of new technology.

The definition of Hay’s ‘hospital structure market’ refers to the numbers of competitors in a region and the proportion of for-profit hospitals. With respect to the numbers of competitors in a specific area, the majority of Dutch hospitals operate in a moderately concentrated market (NZa, 2009). This is relevant as the Dutch market has become more concentrated due to a recent series of mergers. Evidence from the US suggests that mergers lead to price increases, also for neighbouring hospitals. In the Netherlands, no systematic research into the price developments of merged hospitals has been conducted. Thus, monitoring the prices of merged hospitals in the B segment is important. For-profit hospitals are not allowed in the Dutch market and new regulations have currently been created to determine the conditions under which hospitals may act as a company (Klink, 2009, p. 34-41).

Hay’s definition of market structure, however, does not capture forces on the care purchase market that also influence hospital expenditure. We not only observe consolidations on the hospital market, but also on the insurance market. It is likely that the consolidation wave on the insurance market increased their bargaining power vis-à-vis hospitals. The first results published by the Dutch Healthcare Authority do suggest a decreasing price development of treatment in the B segment (NZa, 2009, p. 9). Over the period 2005-2008, prices of the B

segment only grew slowly. This result resembles the US, where the main reductions were price reductions obtained through hard bargaining. Focussing on the volume component, initial calculations reported a volume growth of 5.2% between 2004 and 2007 for the A and B segments. The growth of the B segment was 4.2% in the same period (NZA, 2009, p. 10). These figures suggest that controlling volume is more difficult to negotiate than controlling prices.

Moreover, since the introduction of the B segment, hospitals have to negotiate with all insurers separately, instead of with one representative of all insurers as was the case in the past. Consequently, transaction costs may have increased substantially. However, initiatives such as *Multizorg*, where small insurers unite and send only one representative to the negotiating table in regions that are not their core-regions, may reduce transaction costs. Some hospitals offer guarantees on specific treatments. Such guarantees can have a valuable impact on long term expenditure as well as on quality. The willingness of insurers, however, to pay for these guarantees on certain treatments is low. The gains for insurers may occur in the long term if the insured stays with their health insurer. However, the incentives are perverse if the insured switches to another insurer. The new health insurers will profit from the guarantee while the initial insurer has to pay the price of the guarantee. Providing multi-annual contracts on the insurer market could be a possible solution for this problem. Finally, it is too soon to make many statements about selective contracting, as there are not yet many selective contracts in the Netherlands. Initial results, however, show that it is not easy for health insurers to credibly attract people for preferred provider contracts (Boonen and Schut, 2009)

Another interesting aspect in our interview is that board members from academic and top clinical centres complain about the fact that complex patients are increasingly being referred to their hospitals. In other words, hospitals increasingly select patients for financial reasons, as less complex patients yield a higher profit margin. According to academic and top clinical centres, this trend threatens their financial viability, as the DBCs do not recover all the costs incurred for complex patients.

Of the remaining forces of Hay's research, like income, population growth and population morbidity, the projected impact is low. These factors may play a more important role in the long term than in the short term. Finally, the impact of legislation, doctor's market and hospital fragmentation fall beyond the scope of this discussion, as they do not directly apply in the Netherlands.

5.2 Limitations of the study and recommendations for future research.

The competitive forces in the US hospital market were identified through an extensive literature review. This resulted in an overview of forces influencing inpatient expenditure, in which we distinguished competition and non-competition related forces. However, the empirical evidence of the impact of the various forces is still hard to measure. The extent of the impact is often

context-dependent. Furthermore, it is difficult to weight the quality of the various articles in literature. One important finding is that competition may result in different strategies by hospitals, and there a best strategy may not necessarily exist. The outcome of competition is often situation-dependent. For example, in some areas competitors tailored investments in new technology; in another area competition led to a situation where all competitors invested in the new technology. In general, it is hard to say which of the two strategies should be preferred.

For the Dutch part, interviewing board members yielded much information on regulated competition. However, our research methodology has many limitations. A well-known problem of interviews is that respondents may answer in their own interest and hide or colour certain information. For example, it is unlikely that board members would claim that behaviour as supplier induced demand or upcoding would occur in their hospital. Furthermore, we interviewed only seven board members, which is only a very select sample of the number of board members in the population. Therefore the above research contains various limitations. Our analysis gives an idea of recent developments in Dutch hospitals and led to assumptions on how competition-related forces could influence hospital strategies. Empirical research could provide more details on the quantitative impact of individual forces. Also, an assessment of the contribution of each force on total inpatient care spending – compared to that of Hay (p. 21) – might be useful to determine which force(s) in the Netherlands add(s) most. In particular, monitoring the impact of developments like mergers and selective contracting, the governance structure of hospitals, hospital technology and medical wages are important, as these have had a considerable impact on hospital expenditure in the US.

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Appendix A. Interview scheme.

Care purchase market.

- Is there an insurer in this region that dominates the market?
- Is this insurer essential for your hospital?
- Which part of your total patient population has a policy from this insurer?
- Do you also have contracts with other insurers? Who are they?
- Do you actively exclude insurers?

- Do you discuss other aspects with respect to the basic package compared to the supplementary package?
- Do you provide guarantees for insurers for a selection of treatments?

- In the B segment, prices are freely negotiable. How did you calculate your prices in the first year? And how did it develop in the second and third years?
- Do you differentiate your prices among insurers?
- Are capital costs/depreciation on construction already included?
- Do you face volume constraints in the B segment?
- Does quality play a role during the negotiations and if so, how?

- Do these negotiations differ greatly from negotiations on treatments in the A segment?
- Do volume restrictions (also) apply here?
- Does quality also play a role for the A segment?
- Are others aspects discussed during these negotiations?

- Do you know whether your contracted insurers have collective contracts? And/or do you have collective contracts yourself?
- Do you respond to insurers with collective contracts? (Do you, for example, draw up attractive tenders for insurers with large collective contracts?)

- Do some insurers work with preferred provider arrangements? (This means that they cancel the annual compulsory excess of 155 Euros when a patient visits a preferred provider for some elective treatments.)
- Are you willing to join a policy that is exclusively based on selective contracting/ selective contract arrangements?

- What do you think of vertical integration in terms of advantages and disadvantages?

Competition among hospitals.

- Who are your direct competitors?
- Do you only experience competitive pressure from hospitals?
- Did more parties (hospitals or clinics) enter the market after the introduction of competition?

- Do you own Independent Treatment Centres?
- If so, what were the main reasons for doing this?

- In your opinion, on which 'markets' is competition most fierce on the market for patients, for contracts with insurers or for attracting professionals? (Explore whether competition is really focused on patients!)

- Do you try to distinguish your hospitals from your competitors? What are your main focus areas?
- Do you know a lot of your competitors? (Also sale prices?)
- Currently, insurers also actively rank hospital by (their own) quality measurement systems. Do these measurements stimulate your hospitals to improve care?

- Did you review your corporate strategy in response to the introduction of managed competition?

- Did you (tried to) merge recently?
- And do you cooperate with your competitors? If so, in which fields?

- Would you be willing to join an experiment whereby you have to pay dividend to shareholders?

- Does your hospital attract medical innovations (technology) for competitive goals?
- Has an insurer ever refused a bill, because it thought the treatment was too expensive?

- Do you face personnel shortages?

Care Delivery Market

- If you recently purchased new innovations, has there been a substantial increase in the number of treatments? And does this influence the price for treatments?
- Do you monitor the production (volume) of your doctors, and if so to what extent?
- And do you use this information for policy purposes? On what type of indicators exactly?
- Has the number of claims increased in recent years?
- Have the claimed amounts claimed increased?
- Do you think your doctors respond to claims? (Link this to defensive medicine)
And is there evidence of an increase in liability premiums?