Pharmacy for sale?

The introduction of market mechanisms in pharmaceutical care.

Submitted by

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Chapter 1: Introduction to the research and methodology

1.1 Introduction to the research

Pharmacies are essential to today's healthcare system. They are the link between the wholesaler and the individual consumer. Pharmaceuticals are responsible for 10% of the total expenditure on healthcare. In 1997 the total expenditure on healthcare was 2.318 million euro's (SFK, 1998) The government in the Netherlands considered these costs much too high and decided not to interfere when in 1997 the Dutch healthcare market became a free market on which competition should lead to lower prices and higher quality or at least equal quality (Mededingingswet 1997). However there are more factors that determine the price of a product than just the market form. Instead of a decrease in expenditure on pharmaceuticals, the expenditure rose with 100.7% to 4.652 million euro's in 2008 (SFK, 2009).
Between 1997 and 2008 total expenditure on pharmaceutical care was doubled. This was not the intention of the government when they introduced the concept of free market. In the period between 1997 and 2008 other developments like behavior of the pharmaceutical industries, the introduction of chain pharmacies (chains), the ageing of the Dutch population and inflation rate are also responsible for the rise of the nominal expenditure on pharmaceutical care. The question is to what extent is the introduction of a free pharmaceutical market responsible for this development?

In 1991 the European court of Justice explicated what, in their opinion should be considered an undertaking as meant in the EG-Treaty. The court decided that an undertaking "encompasses every entity engaged in an economic activity, regardless of the legal status of the entity and the way in which it was financed." (Hoefner – Elser 1991). In 1997 the Dutch competition law was accepted. As this law is exactly similar to the European law, the Dutch competition agency (NMa)[1] used the same definition of undertaking as the European court of Justice had done.

This meant that all suppliers of care suddenly became undertakings and therefore were subject to the competition law. Till then, the healthcare suppliers made agreements on how to divide markets, give care, work together, set prices etc. Furthermore, there was a governmental institute that set prices on the healthcare market, called the Central Organ Tariffs in

[1] Nederlandse mededingingsautoriteit

Healthcare (COTG)[2]. This was all of a sudden illegal and the NMa started to interfere in the market (NMa besluit Regenboogapotheek vs Apothekersvereniging Breda/ Dienstapotheek Breda B.V., 2003).

At first the government did not take any action because they believed this would help in bringing down the prices without harming the quality. However, in 2007 they came to the conclusion that complete competition could harm the quality. The Law on Market structure in Healthcare (WMG)[3] was defined and with that there came a second anti-competition agency which solely kept track of the healthcare market. This anti-competition agency was called the Dutch Health authority (NZa)[4] and took over the tasks from the NMa regarding healthcare which was financed under the health insurance law (ZVW)[5] or the general law on special cost of healthcare (AWBZ)[6]. The legal basis for the NZa can be found in article 3 of the WMG. However the NMa still has to decide with regards to concentration of companies. In those cases the NZa can still advice the NMa (Samenwerkingsprotocol tussen de NMa en NZa, 2006).

The theoretical framework used in this study is the new institutional theory. This theory has five main propositions: (1) Institutionalism is not defined in terms of any policy proposals; (2) Institutionalism makes extensive use of ideas and data from other disciplines such as psychology, sociology and anthropology in order to develop a richer analysis of institutions and of human behavior; (3) Institutions are the key elements of any economy, and thus a major task for economists is to study institutions and the processes of institutional conservation, innovation and change; (4) The economy is an open and evolving system, situated in a natural environment, effected by technological changes, and embedded in a broader set of social, cultural, political, and power relationship; (5) The notion of the individual agents as utility-maximising is regarded as inadequate or erroneous. Institutionalism does not take the individual as given. Individuals are affected by their institutional and cultural situations. Hence individuals do not simply (intentionally or unintentionally) create institutions (Hodgson, 2000). The concept of institutional economics

[2] Centraal orgaan tarieven gezondheidszorg
[3] Wet marktordening gezondheidszorg
[4] Nederlandse Zorg autoriteit
[5] Zorgverzekeringswet
[6] Algemene wet bijzondere ziektekosten

adopts the concept of efficiency from the classical welfare economics defining efficiency as the Pareto-optimal combinations and allocations of goods and services (Sheaff, 2000).
The institutional economics also adopts the thesis that a system of perfectly competitive markets would produce general equilibria in which the combination and allocation of goods and services would be Pareto-optimal (Sheaff, 2000).
The institutional economists agree with many other economists that markets become inefficient when the goods sold in them are indivisible or non-excludable or non-rival or all three (Sheaff, 2000).
This theoretical framework has been the legitimacy for constructing internal markets in several health systems, including the Dutch health system. (Sheaff, 2000)

1.2 Research method

The first part of this thesis is a study of the literature on the different types of markets that are acknowledged and the altering of the healthcare market in the Netherlands. There are many different organizations and companies active on the healthcare market. Those organizations and companies influence the developments on the market.
Besides the study of the literature, there is a study of data concerning competition, cost developments and quality. Parameters that show the development of competition are the amount of pharmacies, the amount of laborers per pharmacy and the amount of patients per pharmacy. Cost development will be measured using the price of medicines, the contribution that every citizen has to make towards the healthcare system and the value of the claw back or the value of the bonuses and discounts negotiated by the pharmacists. The quality of pharmaceutical healthcare will be measured by the satisfaction of patients. An analysis of these parameters provides insight in whether or not the different decisions of the government really made a difference in how the market operates.
The last part will consist of qualitative analysis of interviews with representatives from the different (market) parties and their vision on the development of the pharmaceutical market.

1.3 Relevance of the study

In 1996 the government accepted the competition law in the Netherlands. With this the NMa was also founded. Due to jurisprudence from the European court the entire healthcare market was seen as a market too. The NMa identified many market agreements that are not supposed to exist on a free market. The NMa made a lot of regulations for the healthcare market but this lead to unforeseen outcomes. Finally the government intervened and created a new law specifically made for healthcare and with that a new market controller. The main purpose of this authority is to protect the patient from any harm that may be caused by free market mechanisms. This implies that the NZa has an almost unlimited power to prohibit and order behavior from all market parties in the healthcare market. But is it really true that the market is working more efficiently but with the same quality and innovation as it was under the old system in which the government regulated the entry on the market, the prices and everything else? Is the healthcare market really more efficient now that it is a government regulated free market?

1.4 Research question

The research question for this thesis is:

What is the influence of the introduction of market mechanisms on the pharmaceutical market?

To answer this question there are six sub-questions that need to be answered. Those questions are:

1. Has the spending on pharmaceutical care decreased as a consequence of the introduction of a free market?
2. Is there a growing number of distribution channels regarding UR-medicines?
3. Are there monopolies in the pharmaceutical industries? Are there alternatives to patented drugs, even if those are not as effective?
4. Is there a consumer on the market for pharmaceutical care?
5. Has the quality of the pharmaceutical care increased under the influence of the free market?
6. Has the number of pharmacies increased over the years?

Chapter 2: Background

2.1 History of the Pharmaceutical market

2.1.1 The Pharmaceutical market till 1865

In the 18th century it was highly common that physicians and pharmacists did not have any diploma to prove their knowledge. Besides those jobs, that we still have today, a large crowd of all sorts of doubtful "medicine-men" tried to sell their goods to the people. The first time anything happened in order to prevent this from happening was in the Constitution of the "Bataafse Republiek" in 1798 (Bierman, 2004).

At the end of the 18th century a new group of craftsman emerged, next to the pharmacists. These people where chemists. They were skilled in making chemical preparations. Since the preparations were difficult, pharmacists, who could technically make them themselves, preferred to buy these preparations from the chemists.

The 19th century meant a massive change for the pharmacy. The pharmaceutical sector developed from very small business to corporate business. The pharmacist, who was a craftsman in the 19th century and before that, evolved to what we observe today, a businessman who almost exclusively sells pre-fabricated medication (Bierman, 2004).

In 1818 the first medical laws were put in place. In these laws it was included that preparation of medication was solely a job for trained pharmacists. There was an exception for the rural areas in which there were not enough pharmacists so physicians were allowed to prepare medication too (Wittop Koning, 1949).

Under the medical laws of 1818 drug-store owners also were classified under the medical jobs. This law gave very broad descriptions of what a drug-store was allowed to sell and what was solely sold by pharmacists (Pleyten, 1891).

The preparation of a lot of medication was not financial viable for most individual pharmacists. Chemists, who had produced medication in larger quantities, were no longer allowed to make them. Innovative pharmacists acknowledged the possibilities of this situation. One of the prime examples is Emanuel Merck who started to produce all sorts of medications on a larger scale. These medications were both for his own pharmacy and sold to

colleagues both in Germany and the Netherlands. Merck still exists as one of the leading pharmaceutical companies with 55,200 employees and $23.9 billion revenue in 2008.[7]
In 1842 the Royal Dutch Association for the promotion of Pharmacy (KNMP)[8] was founded. This association strived for a legal framework in which pharmacies could operate. Twenty-three years later this happened.

2.1.2 The Pharmaceutical market between 1865 and 1918

Thorbecke developed the medical laws of 1865. These laws prohibited practicing pharmacy without doing a state-exam. Pharmacy no longer was classified as a medical profession but it got its own status and was more specifically classified in the law (Baron, 2006).
Furthermore these laws made that pharmacy was added in the educational law as a field of science taught at the university. It became one of the subjects in the mathematics and science department (Wittop Koning, 1949; Bierman, 2004).
In this period pharmacists also had to choose between being a pharmacist that distributed medication to patients or be a wholesaler of medication. Small amounts of medication could solely be sold by the pharmacy but large quantities could still be sold by a wholesaler. This provided protection for the drug-store owners who still were able to purchase their goods at the wholesaler and the government tried to prevent a monopoly for pharmacists (Bierman 2004).
The medical law gave protection to the status of pharmacist. However it also set standards and rules concerning the building in which the pharmacy was housed and the presence of personal. It was obliged that during daytime the pharmacy could be reached at all times. During the night either the pharmacist in person or a help-pharmacist had to live in the building. This was to make sure care always could be given to those that required it (Vos, 1999).
The medical laws of 1865 were developed to guarantee quality. They were not developed to create monopolies. Monopolies were not formed but the laws did make the position of the pharmacist as well as the physician a lot stronger. The amount of pharmacists and physicians who were actually allowed to use this title was reduced dramatically. This reduction in the amount of pharmacists, lead to an increase in their social status.

[7] www.merck.com
[8] Koninklijke Nederlandse Maatschappij ter bevordering der Pharmacie

The market for pharmacists was highly chaotic at the end of the 19th century. Since the title of pharmacy was a protected one, the competition used the term drugstores. Those drugstores spawned everywhere and although it was forbidden, they did the same as pharmacies, including preparation of medication and the selling of synthetic drugs which was a growing market. In 1909 there were already two-thousand drug-stores active in the Netherlands. Besides these drugstores there was also a threat from inside the sector, several pharmacists became a wholesaler. Those companies started producing very large quantities of preparations much more efficient than the smaller pharmacies. The smaller pharmacies had to buy the product from their competitor (Vos, 1999). As described, Merck was one of those producers. This development leaded to unfair competition amongst pharmacists.
The pharmacists felt attacked by unfair competitors. They expected the KNMP to fight for them, or at least alongside them but the pharmacists did not see any action taken by the KNMP against the unfair competition. The response by the pharmacists was, among other things, a boycott of the synthetic drugs, uniting against their competitors and the founding of their own cooperative wholesaler. The first two plans failed but the third one, the foundation of their own wholesaler, became a success. This success is still in business today as the company Mediq, founded in 1899 as the Mutual Pharmaceutical Wholesaler (OPG)[9] and today listed on the stock market. Next to OPG several other wholesalers emerged around 1900. The pharmacists who could not fight the competition tried to stay in business by starting to sell all kinds of products that are not directly related to medical supplies (Vos, 1999).

[9] Onderlinge Pharmaceutische Groothandel

2.1.3 The Pharmaceutical market between 1918 and 1945

After World War I, the KNMP and a Commission from the Pharmacists and Drugstore owners Organization (CADO)[10] decided to make a deal. The pharmacists and drug-store owners had to do this since their profits on pre-fabricated drugs were under pressure. However, there were pharmacists who were against this pact. The medical laws of 1865 had given them a certain status that distinguished them from the drug-store owners. Pharmacists had to have a university degree and were bound to standards while drug-store owners did not have such limitations. This position could be endangered by working together with the drug-stores. Drug-stores not only sold the same pre-fabricated drugs as the pharmacy but also more doubtful products. In 1923 a deal was made. In this deal, the profit margins both on pre-fabricated and self prepared drugs were fixed. This pact was necessary to survive for both groups (Vos, 1999 p68). The amount of drug stores grew to six- or seven-thousand in 1933. The amount of Pharmacies grew from 572 in 1920 to 724 in 1935. Due to this growth in amount of drug-stores and the special position of pharmacies, pharmacists and drug-store owners fought together from the mid 1920's. They tried to stop the establishment of pseudo-pharmacies and the excessive growth of drug-stores. In 1927 an agreement was reached between wholesalers, drugstore owners and pharmacists. They agreed that all retailers only bought their products at wholesalers who abide by the agreement. In return, the wholesalers would not sell products to pseudo-pharmacies and the newly founded drug-stores. Finally a list was made on which products were listed that the wholesaler only was allowed to sell to the real pharmacies, the so called Pharmacies Only list or UA[11]-list which is still in use today. This is a classic example of how a market can be protected from new entrants for the retailers and to assure turnover for the wholesalers. The last point in the agreement was very important since the law from 1865 protected the title of pharmacist but was unclear about what was only allowed to be sold by pharmacies. Because of the law it was true that the consumer preferred to buy the strong drugs at the pharmacies but there was no legal basis for that. In the agreement of 1927 this point was dealt with (Vos, 1999, p.70).
In 1928 the Commission on Pharmaceutical Business Interests (VPHB)[12] was founded. This commission was renamed in 1929 and had the task to regulate the market for drugs. This was necessary because bonuses and discounts were given by the wholesalers to those who

[10] Commissie uit apothekers- en drogisten organisatie
[11] Uitsluitend apotheek
[12] Vereniging tot behartiging van Pharmaceutische Handelsbelangen

negotiated for them. This all happened secretly which implied that the best negotiators could buy their products for the lowest price and could attract more consumers through advertisement claiming to be the cheapest. Like supermarkets or financial institutions do today. The maximum discount a wholesaler was allowed to give to any pharmacist or drug-store owner was set to 3%. The VPHB also made rules with respect to the transportation, packaging etcetera of medicines. In 1930, of all the wholesalers that emerged around 1900 only three were left due to mergers. Those three are Brocacef, Mediq and Alliance/Boots, which are still in business today.

Besides the changing market for pharmacies, other players demanded a role on the healthcare market after World War I. Those new players were the National Health Services (NHS) and the Labor Unions. The National Health Services used the pricelists used by the wholesalers to base their price calculations. In the market these National Health Services has large influence on the other parties. If the NHS's decided to cut costs every other party in the field had to either accept the cut or be out of business (Vos, 1999 p71-72). While in 1900 not even 10 percent of the total population was insured with a NHS, in 1940 it was 40% of total population. This power for the NHS allowed them to dictate the prices in the healthcare market including the prices for medication. Due to the crisis in the 1930's many people resigned their insurance with the NHS's (Vos, 1999).

2.1.4 The Pharmaceutical market between 1945 and 1991

Between WWII and the 1990's the healthcare market was a supply driven, government controlled market. Pharmacies needed a license before they could settle and they were and partly are still paid a fixed price per line on prescriptions (SFK, 2003). Pharmacies were not allowed any bonuses or discounts on the prices they paid to the wholesaler. The more creative pharmacists made backpack wholesalers. This were wholesalers who were only put in place so pharmacists could get the bonuses and discounts, they could keep this money in their own wholesaler and got that benefit at the end of the year. Mosadex was founded as a back-pack wholesaler.

In this period the pharmaceutical industries mainly produced so-called blockbusters. Blockbusters are medications that get a yearly revenue of over 1 billion dollar. These medications had either a wide range and accordingly a large market in terms of number of consumers or are very expensive. Patents on drugs are given for a maximum of twenty years

(European Commission, 2008). Ten years of this period are used to transform the active ingredient to a medicine that can be put on the market. There are four levels of research that have to be completed before the medicine can be put on the market. This leaves a period of around ten years to sell the product. Within those ten years the developer is the only company that is allowed to produce it. The developer will try to push as many of his product through the wholesaler to the pharmacy and eventually to his consumers. Since it was in the interest of the pharmaceutical industry to sell as many products as possible the industry was willing to give discounts because, even with giving discounts profits for the industry were large on these patented medicines.

2.1.5 The Pharmaceutical market between 1991 and 2007

Until 1996 the pharmaceutical market had an SME structure. This means that a single pharmacist runs a single pharmacy with some pharmacist-assistants. Due to the high costs the Dutch government wanted to introduce a Medicine-Compensation System (GVS)[13] in 1991. The cost of medication was very high and it was thought that if a medicine-compensation system would be introduced the costs of medication were easier to control and lower (SFK, 1992). For this plan the cooperation of the pharmacists was required.
Ernst en Young (E&Y) published a report at the end of 1996 requested by the minister of Health, Welfare and Sport (VWS)[14]. In this report E&Y suggested to allow pharmacists to negotiate for bonuses and discounts. In return for this the amount paid per line of prescription would not be raised.
After three years, a report by Price Waterhouse Coopers (PWC) was requested to get a good insight in the system of bonuses and discounts. The most important result was that pharmacists did negotiate too many bonuses and discounts but did not lower the prices so medicines were still overpriced. To cope with this problem a so called claw-back was put into place (PWC, 1999). Besides the claw-back it was also agreed by the pharmacists to pay the government 190.5 million euro's. The claw-back is a system in which part of the bonus / discount has to be paid to the government. The idea behind this was that pharmacists would try and get as much bonus/discount as they could get since part of this had to be paid to the government. However an unexpected effect dominated. Wholesalers started to invest in

[13] Geneesmiddelen vergoedingen systeem
[14] Volksgezondheid, Welzijn en Sport

pharmacies which led to vertical integration in the industrial chain.[15] As a direct consequence, the wholesaler could shift the profit away from the pharmacy and therefore did not have to pay the claw-back.

Since this idea to bring down the prices of medicine seemed to have failed, the ministries of Finance, VWS and Economic Affairs decided in 2001 that it was no longer necessary to be a pharmacist to own a pharmacy. The idea behind this was that there could be more players on the market. It is however still true that a pharmacist is responsible for what is sold on prescription in a pharmacy. The Drug act (Gw)[16] no longer requires that the owner of the pharmacy has to be a pharmacist but it still requires that there is at least one pharmacist per pharmacy and that he is only responsible for one pharmacy at a time. This is put down in article 61 of the Drug act.

Between 2003 and 2007 a lot of blockbusters became no longer patented. This gave opportunities to generic medicines which were sometimes up to 95% cheaper. Besides this, the bonuses and discounts that could be gained on these medicines skyrocketed and since the claw-back system is still in place the government gets a part of this increase in bonuses and discounts.

Problem for the pharmaceutical industries is that hardly any new blockbusters are developed. Without the development of new blockbusters which are patented the profit and turnover for the pharmaceutical industries are under pressure. Between 2008 and 2012 turnover of the eight largest pharmaceutical industries will decrease about $80 billion dollars which equals almost 33% of total turnover (BS Health Consultancy, 2009). This is especially true for the pharmaceutical industries that invest a lot of money in R&D. They have to find new ways of making profits. Of course still new medicines are developed but those are niche-busters. Niche busters are medicines that target only a very small selection of illnesses and therefore require a longer period before the investment has paid off. It is very hard to lengthen the period in which the medicine is patented. The pharmaceutical industry has several ways of doing that, for example to make so called me-too medicines. Another way of lengthening the patent is by making sure no competitors of them know what the medicine does exactly. Here pharmacies are important again. Pharmaceutical industries contract a wholesaler who is the only wholesaler who is allowed to sell the medicine. In his turn the wholesaler becomes a direct to consumer supplier. He is the only one that can deliver that medicine.

[15] As said by Drs. J.M. Hermans of the KNMP on 29th of October 2009
[16] Geneesmiddelen wet

The market for the delivery of medicines to patients has been entered by competitors that have a different work method. Firstly there are still the independent pharmacies with a pharmacist as owner, but there are other players on the market too. Secondly there are franchisers who are allowed to use the same brand name as one of the big companies who own large quantities of pharmacies. Thirdly the chains with many pharmacies: Mediq, Alliance, Escura, Lloyds, Zorggroep Almere, Thio Pharma, AVL, Spanhoff Groep and Medsen. Finally the direct to consumer organizations: Red Swan, ApotheekZorg, Klinerva, MediZorg and Alloga.

2.2 Legal framework

2.2.1 Hoefner and Elser - Macrotron

In this case the European Court of Justice decided what has to be understood as an undertaking in the sense of the european competition law. The Court decided that "A public employment agency which was engaged in the business of employment procurement may be classified as an undertaking for the purpose of applying the Community competition rules since, in the context of competition law, that classification applies to every entity engaged in an economic activity, regardless of its legal status and the way in which it is financed."
This meant that as far as competition law is involved, (almost) all activities in which you get paid for delivering something is considered subject to all the prohibitions of the competition law (European Court of Justice, 1991).

2.2.2 A.O.K. Bundesverband e.a. – Ichthyol-Gesellschaft Cordes, Hermani & Co. e.a.

In this case from 2004 the European Court of Justice made some nuances to their definition of undertaking from the Hoefner-Elser – Macrotron case. It was decided that "The concept of an undertaking in Community competition law does not cover bodies entrusted with the management of statutory health insurance and old-age insurance schemes which pursue an exclusively social objective and do not engage in economic activity." This means that the European Court of Justice excludes healthcare insurance companies with certain properties from the definition of undertakings. Those properties are "that (…) in the case of sickness funds which, even if the legislature has granted them some latitude in setting the contribution rate, in order to promote sound management, are compelled by law to offer to their members essentially identical obligatory benefits which do not depend on the amount of the

contributions." The European Court comes to this conclusion "Since the sickness funds (…) have no possibility of influence over those benefits, and are joined together in a type of community founded on the basis of solidarity which enables an equalisation of costs and risks between them, they are not in competition with one another or with private institutions as regards grant of the obligatory statutory benefits in respect of treatment or medicinal products which constitute their main function."

In other words, the European Court considers these insurance companies incapable of actually competing on the market. If they cannot compete on the market for health care insurance policies it would be unfair to consider them undertakings in the sense of the competition law. This also means that those insurance companies that are not undertakings can not violate article 81 EC. Or in the words of the Court: "When groups of those sickness funds determine, pursuant to an obligation imposed upon them by the legislature, fixed maximum amounts corresponding to the upper limit of the price of medicinal products whose cost is borne by sickness funds, they do not act as undertakings or associations of undertakings within the meaning of Article 81 EC, inasmuch as they do not pursue a specific interest separable from the exclusively social objective of the funds, but perform an obligation which is integrally connected with the activity of the funds within the framework of the statutory health insurance scheme. "(European Court of Justice, 2004).

2.3 Introduction of the Law on Market structure in Healthcare (WMG)[17].

In October 2006 the WMG was introduced. This law contains rules that should lead to a suitable and effective care system. Another goal of the WMG is to ensure that the costs of healthcare do not grow uncontrollably. Furthermore the WMG constitutes rules that ought to protect the position of the patient and the insured. These tasks are given to the NZa in article 16 of the WMG.

This law enforces the insurance companies and the healthcare providers to show and acknowledge what they have to offer a consumer or patient. Healthcare providers have to inform the patient on several different subjects like quality, price and other qualities of the provided care.

The insurance companies on the other hand have to inform the consumer on the products that are insured under the different contracts and what the premium is for the consumer.

[17] Wet Marktordening Gezondheidszorg

The information that has to be given to the consumer is hoped to lead to a well informed consumer who can make a rational choice between the different healthcare providers and the different insurance companies. That way the consumer would go to the healthcare provider and insurance company that is best for him and those parties would have to compete for the consumers.
Like said before, the WMG has constituted a new competition authority, solely for the healthcare market. This NZa has to watch the healthcare market and make sure that all partial markets function as supposed and in the event that one or more of the markets fail, the NZa can interfere under article 16 of the WMG.

Chapter 3: The market in theory

3.1 Contracting parties on the pharmaceutical market

3.1.1 Pharmacies

Traditionally a pharmacy was owned and ran by a pharmacist. The title of pharmacist is protected by the law on Professions in the Individual Healthcare (BIG)[18]. This wet BIG explains what has to be seen as the field of expertise of a pharmacist. This field contains the production of pharmaceuticals, the containment of pharmaceuticals under the required conditions, the delivery of pharmaceuticals to the patient, giving advice on the use of the pharmaceuticals to the patient to whom they are delivered and safeguarding the use of the delivered pharmaceuticals. These tasks are listed in article 23 of the wet BIG. These fields are the responsibility of the pharmacist. He is of course allowed to hire employees who could perform the tasks. These employees have to have completed a certain education which is described in a General Administrative (AMvB)[19] under article 34 of the wet BIG. All personnel in the pharmacy has to meet standards, set to optimize the cure and care that is delivered to the consumer.

3.1.2 Insurance companies

Healthcare insurance companies	Number of insured x 1000	Market share in %	cumulative in %
Achmea / Agis	4.700	29%	29%
UVIT	4.200	26%	55%
CZ / OZ / Delta Lloyd	3.310	20%	75%
Menzis groep	2.150	13%	88%
Multizorg	1.000	6%	94%
De Friesland	500	3%	97%
Zorg en zekerheid	365	2%	99%
Salland	88	1%	100%

Table 1, *Insurance companies in the Netherlands*, Source: GGZbeleid.nl

[18] wet op de Beroepen in de Individuele Gezondheidszorg
[19] Algemene Maatregel van Bestuur

In the Netherlands, there are four large insurance companies in the healthcare market. Those insurance companies purchase care and cure for their insured from the healthcare suppliers and sell insurance policies to the consumers. The insurance companies have to accept everyone that wants to purchase an insurance policy for basic healthcare from them. This is regulated in article 3 of the ZVW. They are not allowed to discriminate among their clients as far as the basic healthcare is concerned. They have to offer the same contract for the same price to everyone. They can however make a whole range of different contracts with different private risks. Even with this possibility this leads to the problem that a certain insurance company can get a lot of bad-risks who consume more care then they pay for. The government compensates the insurance companies but the compensation is slowly moving from an ex post to an ex ante compensation. The reason for this is that it is believed that the insurance companies are triggered to buy healthcare as cheap as possible. Insurance companies have to compete for patients and the easiest way to compete for patients that are not capable of determining the quality is on price. Insurance companies are currently losing money on the healthcare market. Because they cannot get more money from higher insurance contributions, they have to make sure to pay less for the care and cure.

3.1.3 Patients

As far as knowledge is concerned, the patients are by far the weakest party in the healthcare market (Damman et al, 2007). The patient does not know what insurance policy he can purchase best since he doesn't know whether or not he will need certain forms of care. Furthermore the insurance companies make a lot of slightly different policies and the consumer is not always capable to calculate what this implicates for his personal situation. So the patient has not enough information on what insurance policy to purchase. He does not know either if the care which is delivered to him is the best he can get. Most patients do not have a background in healthcare and are therefore incapable of determining how well they are treated. For a patient it is normally true that he believes the most expensive treatment is the best. This is a tremendous problem for the healthcare provider. On one side he has a patient that wants the best treatment and for him this means the most expensive. On the other side there is the insurance company that has to pay for the treatment of the patient.

3.1.4 Government

The government plays a very important role in the healthcare market. As said before there are multiple laws regarding the healthcare market including the pharmaceutical market. The healthcare market is not a regular market since the product that is sold on this market is either care or cure. If a car malfunctions you can easily go back to the dealer, demand your money back or any other possibility given by private law. For healthcare this is not so easy. Mistakes, made by a healthcare provider might have large consequences for the patient. For example an internist who did not applied the right treatment and the patient died (Centraal Tuchtcollege 2006). Furthermore, on a regular product market the parties are more or less equal since a consumer always has the option not to purchase the product. In the healthcare market this option does not exist. People always want to purchase healthcare since it is inevitable that sooner or later you are in need of medical care. Furthermore, everyone who, by law, is insured for the AWBZ is obliged to purchase a minimum healthcare insurance policy. This obligation is put down in article 2 ZVW. The sanction of not being insured is a fine of up to 130% of the insurance fee. This fine will be given by the College for Healthcare Insurance (CVZ)[20] based on article 96 of the ZVW. Due to the special circumstances on the market the government has much more intervened in the healthcare market than in any other product market. There is a law in the Netherlands called the Law on Healthcare Treatment (WGBO)[21] which lays down a set of rules by which the healthcare supplier has to work. This WGBO for example obligates any healthcare provider to deliver healthcare regardless of the fact that he does or does not get paid. This obligation is the consequence of articles 7:446 and 7:460 BW. Furthermore there are strict laws on who is allowed to work in the healthcare market, laid down in the wet BIG. The Dutch Health authority can lay down maximum prices for performances in healthcare under article 16 of the WMG. Insurance companies have to insure a list of healthcare products that is set by the government, the basic healthcare. All together, the government tries to use the benefits of free market without the downside of free market in healthcare.

[20] College ZorgVerzekeringen
[21] Wet op de geneeskundige behandelovereenkomst

3.1.5 Wholesalers

In the Netherlands there are four fully sorted pharmaceutical wholesalers Mediq, Brocacef, Mosadex and Alliance.[22] These wholesalers are the only companies that have all the medicines that a pharmacist has to be able to deliver to a patient. This means that those wholesalers have a strong position on the market. Every pharmacist who is not part of a larger company, 1948 in 2008, has to purchase their medicines at one of those four wholesalers. After the legal blockade on ownership of a pharmacy was lifted, wholesalers started a vertical integration and bought pharmacies. This way they were guaranteed a certain market share. Mediq for example is the pharmacy of the wholesaler Mediq and Escura pharmacies are owned by Brocacef.

Besides their changed role from a pure wholesaler to being a retailer as well there is another development which is induced by the pharmaceutical industries. Pharmaceutical industries invent and produce medicines. Every newly invented medicine is patented for twenty years. The pharmaceutical industries spend the first ten years developing the medicine and another three years marketing the product and seeing to it that it will be in the basic healthcare package so there is seven year of patent left once they start selling the product. When many blockbusters were still invented, seven years was enough to earn back the investment in R&D. However, today almost only niche-busters are invented and one of the ways to still earn enough money from those products is to have exclusive contracts with one wholesaler who is not allowed to sell it to anyone but directly to a patient. This way all information about the product is kept by the wholesaler and the pharmaceutical industry. There is no knowledge accessible for competitors once the products runs out of patent and the risk of just copying the product would be too large. This also means that certain products that are paid for by the insurance companies cannot be delivered by the normal pharmacy but only by a daughter company of the wholesaler (BS Health Consultancy, 2009). One of the examples of such a construction is Red Swan from Mediq (Red-Swan.nl).

3.1.6 Pharmaceutical industries

The pharmaceutical companies are having a tough time. No new blockbusters are invented and a niche-buster does normally not sell enough to compensate for the cost of R&D. GlaxoSmithKline is one of the largest pharmaceutical companies. It has 99.000 employees in

[22] www.medischewereld.nl

over 100 countries and a turnover of 40 billion dollars in 2008.[23] Pfizer is another large pharmaceutical company with revenues of 48 billion dollars and 47.500 employees. Pfizer invested 7.9 billion dollars in R&D and GSK invests over 562.000 dollars every hour which means over 5 billion dollars spent each year. With such numbers it is logical that these companies think about potential strategies to earn back the investments in R&D. They for example start legal action against companies that start producing the generic medicine once the patent runs out. This leads, in most cases, to a delay in the production of the generic medicine while the original product still is the only product on the market. Another way is to buy the company that is producing the generic medicine (European Commission, 2008). But there is a more subtle way. The ways described before are balancing between legal and illegal action. In the Netherlands and in some other countries as well, it is possible for a pharmaceutical company to sign exclusive contracts with wholesalers who will sell the product directly to the consumer. In this way all the information gathered during the first seven years of selling the medicine is not publicly known but is only known to the wholesaler and the pharmaceutical company. In this way a generic producer does not know if there might be side-effects or other modifications made to the product, nor is there any knowledge on how to consume the medicine. In the Netherlands an example of this wholesaler direct to consumer model is Red Swan which is owned by Mediq.

Another way to earn more money for the pharmaceutical industry is to prohibit parallel import. Parallel import means that you buy the same medicine in a different country where it is cheaper, import it to your own country and resell.

If the pharmaceutical company can restrict or prohibit parallel import, it can optimize his profits by setting different prices in different countries.

3.2 Different market models

The pharmaceutical market is a very complicated market with many different players. In this part there will first be a description of five different market models that exist in theory. These descriptions consist of two parts. The first part describes four basic assumptions of the market and the second part describes the market structure that is needed for those basic assumptions. Once all the five market models are described, they will be applied on the different parts of the pharmaceutical market to see which model fits best on which part.

[23] www.gsk.com

3.2.1 Monopolistic markets

There are four basic assumptions for a monopolistic market: sellers are price makers, sellers do not behave strategically, entry into the industry is completely blocked and buyers are price takers. These assumptions now will shortly be explained

Sellers are price makers. A monopolist takes the elasticity of demand into consideration when setting his prices (Machlup and Taber, 1960). A monopolist has a safe situation from which he can set his price to maximize his profits (Kwasnicki, 2009). If a unique product is being sold, like a monopolist does, the seller may have great discretion over price (Silberston, 1970).

Sellers do not behave strategically. Strategic behavior means anticipating counteractions of your competitors or signaling to your competitors to act in a certain way (Milgrom and Roberts, 1987). Since a pure monopolist does not have any competitors this mean he cannot behave strategically towards them.

Entry into the industry is completely blocked. There are several methods to keep new players out of the market. Superior managerial or technological performance could be a reason (Stigler, 1968). Other good reasons could be market imperfections and chance events (Williamson, 1973). Chance events are random events that can not be predicted accurately. But also a legal system in which for example new developments lead to patenting invention only to keep the competition out of the way (Gilbert and Newbery, 1982).

Buyers are price takers. In a monopolistic market, the buyers are price takers (Correa, 2002). If a supplier is the only one in the market who has a certain product, he can set the price he wants for it. All the buyer can do is not purchase it due to the high price.

3.2.2 Oligopolistic markets (blocked entry)

Sellers are price makers. An oligopolistic firm can, in this regard be compared to a monopolist. If he delivers a unique product that his very few competitors do not deliver, he can freely set the price (Silberston, 1970).

Sellers behave strategically. In an oligopoly with blocked entry the settled suppliers will take into account what the response of a competitor will be on any decision (Hendricks and Preston, 2007). In this regard the Bertrand and Cournot theories give an excellent example of strategic behavior (Delbono and Denicolo, 1990).

The conditions of entry. In an oligopolistic market, the entry can both be blocked or free. The question that can be raised is whether or not barriers are desirable (Tandon, 1984).

Buyers are price takers. As long as there are a lot of buyers, the single buyer will not have influence on the price. As soon as there exists a monopsony or oligopsony the buyers can also influence the prices (Hendricks and Preston, 2007).

3.2.3 Oligopolistic markets (free entry)

Sellers are price makers. As long as the market is an oligopolistic market with few suppliers that have their individual products, they will be able to set prices. With free entry it might be that if the prices are too high, a competitor will enter the market (Panzar and Willig, 1977). This however would mean the market is moving towards fully competitive market.

Sellers behave strategically. Especially if free entry to the market is allowed, it is crucial for incumbents to behave strategically, given that if they don't, not only their competitors will take actions they did not take into account but also more suppliers might enter the market (Mankiw and Whinston, 1986).

The conditions of entry. In an oligopolistic market, the entry can both be blocked or free. The question that can be raised is whether or not barriers are desirable (Tandon, 1984).

Buyers are price takers. As long as there are a lot of buyers, the single buyer will not have influence on the price. As soon as there exists a monopsony or oligopsony the buyers can also influence the prices (Hendricks and Preston, 2007).

3.2.4 Perfect competition

Sellers are price takers (Novshek and Sonnenschein, 1987). In a perfect competition, one of the assumptions is that sellers are price takers (Bliss and Di Tella, 1997). In a perfect competition it is not the individual seller that determines the price but it is the model that will determine the price (Makowski and Ostroy, 2001).

Sellers do not behave strategically. For strategic behavior to occur, suppliers need to believe that their competitors are influenced by decisions taken by them (Hendricks and Preston, 2007). Since in the models for perfect competition the assumption is made that there is an unlimited amount of suppliers who do not influence each other, there is no room for strategic behavior in a perfect competitive market (Makowski and Ostroy, 2001).

Entry into the industry is free. Free entry means that new suppliers are allowed to enter the market with a minimum of legal or technological restrictions (Ehrhardt and Burdon, 1999). Of course the new suppliers will have to abide the law and other existing regulations but if they do so, they are allowed on the market without further restrictions.

Buyers are price takers. As long as there are a lot of buyers, the single buyer will not have influence on the price. As soon as there exists a monopsony or oligopsony the buyers can also influence the prices (Hendricks and Preston, 2007).

3.2.5 Monopsony / Oligopsony

Sellers are price takers. In a monopsony and oligopsony, we assume that the buyer(s) has/have a lot of market power (Hahn, 1984). This leads to a buyer who can set a price. An example given by Katz en Rosen is the example of East-Timor in which there are a lot of coffee farmers but there is only one company that is allowed to buy the beans from the farmers. This company can then set a price. The outside option for the farmer is not to sell to the monopolistic buyer and therefore not getting any income.

Sellers do not behave strategically (Katz and Rosen, 2005). In a monopsonistic market there are still many sellers who do not behave strategically. The sellers can not influence the prices by themselves and also believe that they are too small to actually have effect on the prices.

Entry into the industry is free or blocked. In a market with a monopolistic buyer entry by new sellers can either be free or blocked. This is not of any influence on the equilibrium of the market. It only would become interesting if many more buyers would enter the market. If entry by buyers is completely free that could lead to an erosion of the market power of the buyers.

Buyers are price setters. As long as there are too little buyers for all the supply they can set prices and influence the prices by the sole threat of not buying from a certain seller at all (Bhaskar, Manning and To, 2002).

3.3 Market models applied on the pharmaceutical market

3.3.1 Introduction

There are many different relations in the pharmaceutical market. The relations that were identified by me are shown in figure 2.

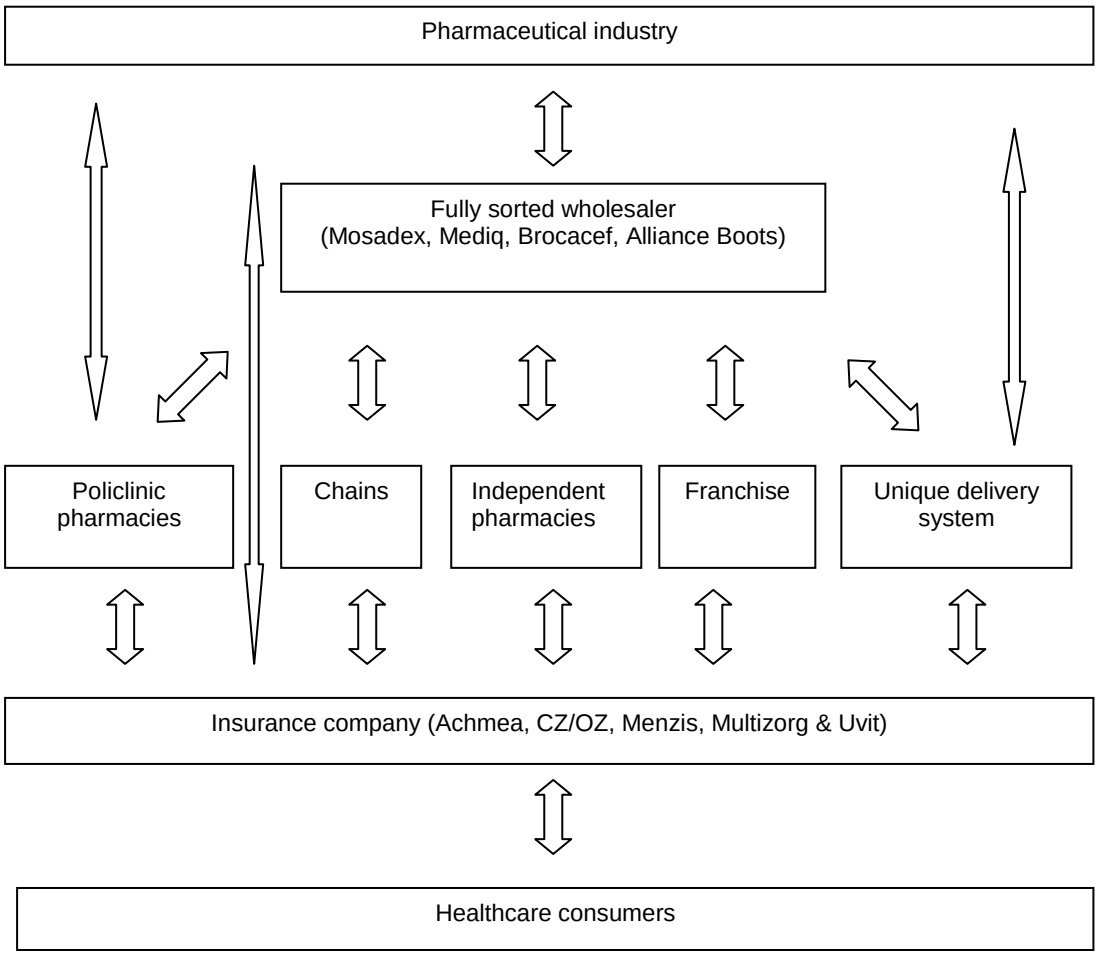

Figure 1, *Relations in the pharmaceutical market*

The pharmaceutical industry has agreements with Dutch insurance companies regarding the prices for certain medicines. Furthermore the pharmaceutical industry has contracts with the wholesalers regarding the supply of medicines they produce.
The wholesaler has contracts with the independent pharmacists, delivers medicines to their own pharmacists and to the franchisers using their brand name. The wholesaler and the pharmaceutical industry have the control over the unique delivery system.

All companies that deliver medicines to the consumer have to have contracts with at least the five big insurance companies. There is no legal obligation but taken into account that each of the five insurance companies has approximately three and half to four million insured patients you would lose business to the healthcare provider that has signed a contract with the insurance companies. Multizorg is not a company on its own but it facilitates the purchase of healthcare for several smaller insurance companies, DSW, De Friesland, ONVZ, ASR, Salland and Zorg en Zekerheid (Multizorg.nl).
These insurance companies purchase healthcare on behalf of their clients which are the healthcare consumers or patients that show up as a customer in the pharmacy. As clearly is shown in the diagram, there are different markets with different structures but they are all interdependent and therefore cannot be seen independent of each other.

3.3.2 Pharmaceutical industries

The pharmaceutical industries have different market power depending on the product they are selling and who their contracting party is. For medicines which are still under patent, the pharmaceutical industry is a monopolist. The product cannot be bought from a competitor, simply because there is no legal competitor (European commission, 2008). As far as the generic medicine is concerned, the pharmaceutical industries are operating on a free market. There are large amount of producers who can all make large quantities of medicine and the pharmaceutical companies have to compete on price. This is also shown in the relation with the Dutch insurance companies who negotiated with different producers of the same medicine and guaranteeing them their entire insured population if they could deliver that medicine the cheapest (NZa, 2008).
So the market of generic medicine production is to some extent an oligopsony. There are many suppliers who are all capable of delivering this medicine. The insurance companies can decide what medicine they will buy for their client. This market shows all the conditions needed to be an oligopsony. There are only five buyers for the Dutch market but all these buyers have the same interest and even if they do not discuss their course of action, they will ask for the lowest price from every producer. There are many sellers in the market for generic medicine. All these producers basically produce the same product in the sense that the active part of the medicine is the same for all producers so the substitutability is very high for these products. Then finally the extent to which the buyers are informed about prices and available alternatives. The buyers, in case the health insurance companies are aware of all the possible

producers of the medicine. Since the medicine is basically the same, regardless of the producer they ask every producer to tell them at what price that particular medicine can be produced and the lowest offer wins. The insurance company knows the price of the product and assumes that the quality of all the producers is the same.
The market for patented medicines is very different. In this market there is only one company who is allowed to produce that certain medicine. That company can, to some extent set the prices and everyone who requires that certain medicine is forced to buy it from them. There are some limitations to this monopoly. The first is that a pharmaceutical industry who is selling a product under patent has to be aware that the patent is limited in time and after it runs out he will have to compete on the oligopsony market of generic medicines. He has to earn enough profits while the product is under patent but in the Netherlands there are limitations to the price that can be demanded by the pharmaceutical industry. The government sets a maximum price that the producer is allowed to set for his newly developed medicine. Besides not being able to set any price, the market for patented medicines fits in the description of a monopolistic market. There is only one supplier who can set his prices to certain extents. The seller does not behave strategically. There is no need to signal anything to potential entrants since they are legally forbidden nor are there other possible competitors. Entry into the production of this particular medicine is completely blocked. The last part, buyers are price takers. If the pharmaceutical industry can get the new medicine in the basic healthcare pack, all insurance companies have to pay for this treatment or drug regardless of the price (Article 10 ZVW). The healthcare consumer has a right to get this medicine whenever there is a medical need for it.

3.3.3 Wholesalers

Fully sorted wholesalers buy their products from the pharmaceutical industry and sell it to all sorts of retailers. Some of the wholesalers not only sell their product to the retailer but have set up their own distribution chain to the patient. Some of the “ketens” and the unique distribution companies are owned by those wholesalers (NZa, 2008). Regarding the purchase of generic medicines from the pharmaceutical industry, the wholesaler does not have much of a choice. He is forced to purchase the generic medicine from the pharmaceutical industry that has an exclusive deal with the insurance company. Since the insurance company can determine what medicine is used by the patient, that medicine is virtually the only brand that is demanded from the wholesaler by his buyers. He has to purchase this certain brand for

which the price is fixed too since that is agreed upon by the insurance company and the pharmaceutical industry. As far as the generic medicines are concerned there is no market in the sense that the price and the producer are given outside the relation between industry and wholesaler. For the patented medicines this is again completely different. The wholesaler still only has one company he can purchase the medicine from but he is not completely without market power. There are four fully sorted wholesalers in the Netherlands but since those wholesalers also have their own distribution network, they could offer the pharmaceutical industry an important benefit. Unique distribution means that the retailer, owned by the wholesaler is exclusively granted the right to sell a certain medicine. This could be a new medicine but it also could be an old medicine to which some modifications are made to make it unique. The benefit for the wholesaler is that he has a guaranteed market since every insurance company has to pay and every consumer that needs it has to come to him. The pharmaceutical industry has the benefit that all knowledge that is acquired regarding this medicine is not publicly known. The market is harmed by this behavior since it means that even once the product runs out of patent, it is hard to bring a generic variant on the market. There is too little information and too much uncertainty. This means that even after the patent runs out the developer of the medicine is the only one that keeps producing it. He ensures he stays a monopolist and gives part of its profits to the wholesaler who facilitates this. The wholesaler does not act on a market that is described by the regular market models.

3.3.4 Pharmacist

The independent pharmacy is confronted with a patient that requires certain medicines, an insurance company with whom he needs to sign contracts and pays for the medicines and a wholesaler that not only delivers to him but basically is a competitor as well. Regarding the relation between a pharmacist and the wholesaler there is basically a free market. There are five different suppliers who could deliver exactly the same products from the same pharmaceutical industry. There are many pharmacists in the Netherlands so neither the pharmacists nor the wholesalers can set prices in this relationship. Entry in the market for pharmacists as well as for wholesalers is free and there is no strategic behavior from the wholesalers. The relationship between pharmacists and insurance companies could be described as an oligopsony. There are only five insurance companies that purchase healthcare for sixteen million insured clients. If a single pharmacist does not sign a contract with one or more of these insurance companies this could lead to a significant loss of possible customers

and is therefore not likely to happen. However, the NZa recently ruled that in the case of an individual pharmacist he is obliged to sign a contract with every insurance company that offers him one and no negotiations have to be held (NZa, 2009). The insurance company accused the pharmacist, who is the only one in an 11 km radius of abuse of market power. This case is still open for appeal but the current ruling of the NZa basically puts an end to any attempts of fitting this relationship in a certain market form. Without this ruling by the NZa an oligopsony was the most fitting market type but there is no market type in which a government controlled agency determines that a free undertaker has to sign a certain contract without negotiations against his will. The relationship between the independent pharmacy and the consumer is a market in perfect competition. Every pharmacist can deliver all medicines, except for those that are sold through unique distribution channels. There are sixteen million patients and there are approximately 1950 pharmacists. This includes the chains and franchisers but around 60% of the 1950 are independent pharmacies. This means that sellers are price takers. The pharmacist has no noticeable influence on the prices he charges. They also do not behave strategically since they can only marginally influence their own course of action let alone influence any of their competitors. Entry into the market is free. Everyone is allowed to open a pharmacy just as long as one of the employees is a pharmacist due to quality guarantees. The buyers are price takers too, if by buyers you consider the consumer. The consumer does not influence the price, he just picks up his medication. As said before, if the buyer is the insurance company, he does set prices and he is capable of strategic behavior. This market, especially the generic part of the market is highly substitutable for the consumer. A consumer basically does not care where he gets his medication from since every pharmacist has to deliver the exact same brand of medicine. This means that factors like distance, behavior of the employees and other benefits are decisive, as well as any negative experiences with a pharmacist.

3.3.5 Insurance companies

The insurance companies are supposed to purchase care as efficient as possible. The government expects them to keep the cost of healthcare under control. For this the insurance companies have to have market power, at least in their relation with the healthcare providers. As shown earlier, there are only four insurance companies and a fifth umbrella corporation that purchases healthcare for some smaller insurance companies. These five healthcare purchasers have significant market power towards the healthcare provider. Every healthcare

provider needs a contract with those insurance companies in order to deliver care to the patient that purchases healthcare from him. Since 2008 the insurance companies have come up with the so called preference policy. This is a model in which the insurance company negotiates with certain pharmaceutical companies about the prices for generic medicines (NZa, 2008). The company that can produce the medicine cheapest, without the medicine being of too poor quality, gets an exclusive contract with the insurance company. That way the insurance company is assured to pay the lowest possible price and the pharmaceutical industry is assured to have a market. The Dutch General Practitioner Society (NHG)[24] went to court against Menzis over this. They feared the clinical autonomy of the GP. The court ruled that Menzis is allowed to do this since they did not prohibit describing any other medicine but just gave a bonus to the GP that described the medicine on their list. Plus Menzis had picked the medicine they preferred from a list set up by the NHG itself with medicines that were equally good (Rechtbank Arnhem, 2006).

In their relation with individual healthcare providers the insurance companies offer contracts which, so far, the healthcare provider could sign or reject. They never negotiated with the healthcare provider. The insurance company is legally obliged to provide enough care in a region for their insured clients. However, there are enough pharmacists throughout the Netherlands so even if one pharmacist did not want to sign a contract it was believed this would not pose a problem since there is always another pharmacist who would take the contract. Furthermore, insurance companies could always open their own pharmacy. This was believed to be the situation till the NZa decided that an insurance company could force a healthcare provider to sign a contract whenever that healthcare provider is the only provider in the region. Their line of reasoning is that the healthcare provider abuses his market power and harms the interests of the consumer (NZa, 2009). In a market, even an oligopsony, there is no reason to force parties to sign contracts, especially if the supplier is the one not willing to sign. On his side there is free entry and there are many competitors willing to take his place. If we put this NZa decision aside the market is an oligopsony. There are five buyers, who behave strategically. The buyers are capable of setting prices either by negotiating with the pharmaceutical industries or by simply offering contracts with a take it or leave it approach. Sellers are not able to behave strategically since there are too many and the NZa will be very focused on agreements between pharmacists. It is believed that, especially for the insurance company, it is of no importance which pharmacist delivers the medicine so the substitutability is close to perfect.

[24] Nederlandse Huisartsen Genootschap

The pharmacists are very much aware of their situation and know that the buyers (insurance companies) are aware of the competition too. Without the NZa ruling this situation is a oligopsony but with the ruling of the NZa taken into account, it is hard to say what market form this is, if it is one at all.
Then the insurance companies other side. Before there were private healthcare insurance companies there was the national healthcare insurance. This institute was government controlled and provided care for everyone. It was financed by taxes and made sure there was enough healthcare for everyone. It was a supply driven market. Supply triggers demand and the demand became very high so the national healthcare insurance was privatized to private insurance companies. However, this also meant that the government felt they had to protect the consumer from abuse or even worse exclusion. In order to prevent this exclusion they ruled that the insurance companies have to accept anyone who wants to purchase insurance for basic healthcare. This way the insurance company cannot exclude bad risks. Furthermore, they are not allowed to discriminate for the same insurance. Everyone pays the same price.
It is obvious that this market is too legalized to be a market in the economic sense of the word. Still an oligopoly fits this market well. There are few sellers who could set their own prices. They do however behave strategically and compete for the consumer on price. There are many consumers since every person in the Netherlands is legally obliged to have insurance. Buyers are price takers since there is no outside option of not being insured, they will pick the insurance with the lowest price or whatever gives them the highest benefits. The price is however fixed and cannot be negotiated. The products the insurance companies are selling are substitutes but most of the time the product is too complicated for the consumer to fully understand the differences and similarities. This means that consumers will not easily move from one insurance company to the other.[25]

3.4 Conclusion

There are many different market models present in the pharmaceutical market. However due to the regulation of the market and the appearance of a market controller, the NZa, the models are all not completely fitting. This means that the market for pharmaceutical care is a very specific type of market which is never described. This could also partly explain why the costs of healthcare have gone up instead of down. The standard models that are used to look at

[25] www.rivm.nl

market mechanisms cannot be applied on this market. The market for medicines is very complicated since every party seems to have ties with almost all other parties on the market. Furthermore there has to be made a clear distinction between generic medicines and patented medicines which gives different market power to the same party. The independent pharmacy seems to have a very weak position in this market since it is the only party that does not have any kind of market power. Not towards consumers, insurance companies, wholesalers or pharmaceutical industries. Their competition on the market for generic medicine is fierce from the chains and the competition on the market for patented medicine is fierce from the unique distribution organizations and policlinic pharmacies who both believe they could do a better job at distributing and informing the consumer about the new medicine.

Chapter 4: Method of research

4.1 Data-sources

The practical part of the research consist of eight interviews, sampling data provided by the Foundation for Pharmaceutical Statistics (SFK)[26] and sampling data provided by Vektis. SFK collects data from pharmacists and Vektis collects data regarding insurance companies. These two institutions have provided most of the data for the quantitative analysis.
Eight different parties involved in the market for pharmaceutical care are interviewed. Those eight interviewees are well-established representatives of the pharmaceutical industry, one of the wholesalers, pharmacists, prescribers, one of the insurance companies, the patient, the NZa and the ministry of health. In the theoretical part of the thesis it was shown that those eight parties are responsible for the choices that are made in the market for pharmaceutical care.

4.2 How were the data collected?

The data from SFK were collected from the yearbooks that are provided every year. Those books were available for me via the KNMP library. Vektis has yearbooks available online since 2003 and the rest was obtained via the library from the Erasmus University Rotterdam. SFK has the best data concerning pharmacies and pharmacists. Vektis has the best data concerning insurance companies.
The information obtained from the representatives of the eight different market parties was obtained by doing interviews. Those interviews lasted between 30 minutes and 2 hours, depending on how much time was available. The choice for interviews was made because it gave the parties involved the chance to openly give their opinion about the sub-questions. Those interviews were held in the different offices of the interviewees and were held in Dutch.
I chose to collect data in two different ways. This gives me the opportunity to compare the quantitative data from SFK and Vektis with the qualitative data from the interviews. If both the sources come up with the same conclusion, it can safely be assumed that this conclusion is correct at this moment.

[26] Stichting Farmaceutische Kengetallen

4.3 Registration of interview data

The interviews were all recorded using a dictaphone. This meant that there was the opportunity to interact with the interviewee. Nothing was written down during the interview. At the end of each interview the interviewee was told that the interview would be put on paper and translated to English. After that was done it would be send to the interviewee and he had to agree on the content of the interview before I was allowed to use it. The development of the interviews was done at home by listening to the tape and writing it down in Dutch first, then make it a running story in English regarding the research questions that had to be answered.

4.4 Analysis of the interviews and data

The interviews were analyzed via the method of qualitative data analysis described by Baarda et al, 2005 in "Basisboek Kwalitatief Onderzoek". This method contains several steps, listed below:

1. A word document is made of the collected research data, in this case the interviews.
2. The word document is reduced by deleting the text that is not relevant.
3. The relevant information is the file for further examination.
4. Text fragments are made from this file. The text fragments give an overall view of the different aspects of the research.
5. The relevant file is split up in fragments with only one subject.
6. The fragments are used as analysis units.
7. For all the fragments distinctive labels are searched.
8. The labels tell something about the research unit.
9. The economic, the care and the psychological labels are put together.
10. At last a relation between the different labels was sought.
11. These relations can be used as the basis for a theory.

After the analysis of the interviews, the objective data from SFK and Vektis were compared to the subjective data obtained from the interviews. If this combination of objective and subjective data support the same conclusions, these conclusions are stronger than when it is based on just either of the data sources.

Chapter 5: Results

5.1 Sub question 1

Has the spending on pharmaceutical care decreased as a consequence of the introduction of a free market?

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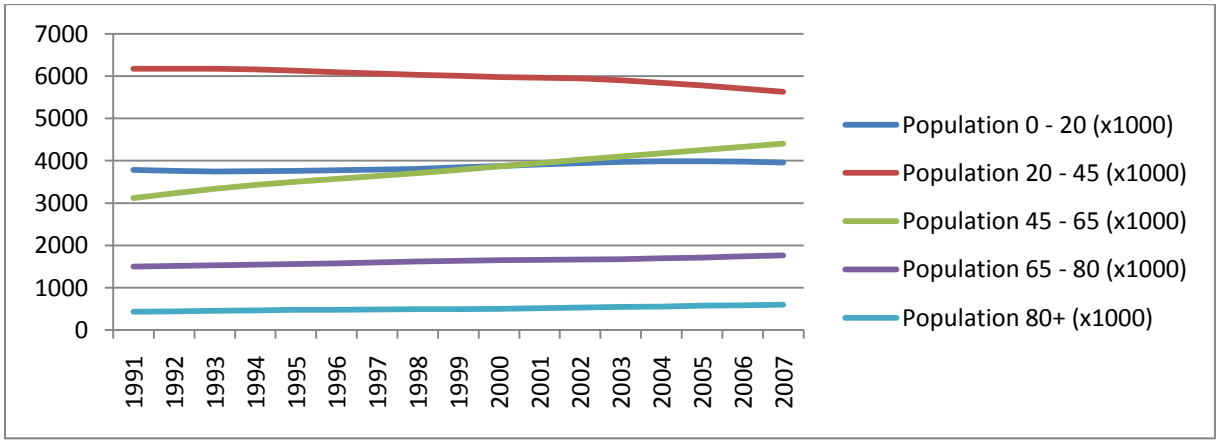
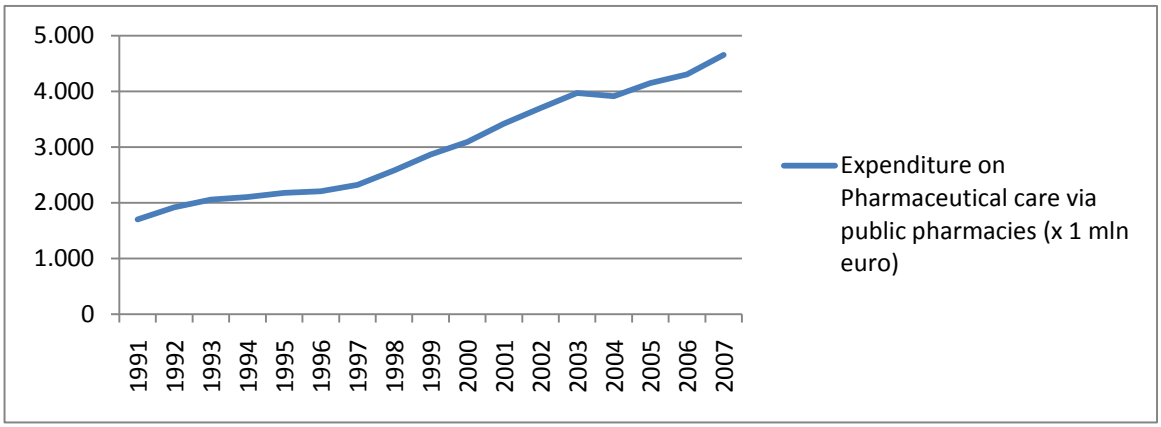
The answer to this question is not clear cut.

All the interviewees acknowledge that the price per medicine has decreased over the years. Four of the interviewees assume that the introduction of market mechanisms has had a positive influence on this development. Others claim that the prices have decreased via other mechanisms. The government took many different measures to try and force the expenditures down. The insurance companies are focused on the price for the medicines but pharmacies do not compete with each other on prices. Most of the interviewees said that the money that is saved by the insurance companies is used to keep premiums as low as possible. There are several reasons why the expenditure has gone up despite the decrease in price per medicine. The first reason is the aging problem. Older people use more medicines and we are getting a growing number of older people in the Netherlands as shown in graph 1. Another important reason is that pharmaceutical care is a substitute for other medical care. One of the interviewees believes that eventually there will be a price negotiated between the insurance companies and the healthcare providers which is the minimum payment that is necessary to deliver the medicine and the minimum required care. It is not clear what is meant by the minimum required care since this will also depend on the situation of the individual patient.



Graph 1, *total population in the Netherlands*, Source: CBS 2010

The data obtained from SFK points in the same direction as the interviews. The development in the expenditure on pharmaceutical care is shown in graph 2 and table 1 shows an increase in the spending on pharmaceutical care ever since 1991. The only exception can be seen in 2004 in which there is a very small decrease in the expenditure on pharmaceutical care via pharmacies.



Graph 2, *Expenditure on pharmaceutical care through public pharmacies*, Source: SFK

Year	Expenditure	Year	Expenditure	Year	Expenditure
1991	€1.698.000	1997	€2.318.000	2003	€3.967.000
1992	€1.920.000	1998	€2.581.000	2004	€3.909.000
1993	€2.059.000	1999	€2.869.000	2005	€4.145.000
1994	€2.103.000	2000	€3.092.000	2006	€4.302.000
1995	€2.175.000	2001	€3.419.000	2007	€4.652.000
1996	€2.205.000	2002	€3.702.000		

Table 2, *Expenditure on pharmaceutical care through public pharmacies*, Source: SFK

5.2 Sub question 2

Is there a growing number of distribution channels regarding UR-medicines?

All interviewees agree that there is a growing number of distribution channels. A few people pointed out that also the "new" distribution channels are subject to the same legal framework as regular pharmacies. This means that the new distribution channels have to live up to the same standards as regular pharmacies. Not all the developments have started under the influence of market mechanisms. Direct delivery systems already existed but have increased. Other developments have, as a consequence, that the competition is not on the market but for the market. The new developing distribution channels focus on the financial side of the pharmaceutical care and do not primarily pay attention to the quality of their services. Unique deliveries are, according to several interviewees, a way to generate extra income for the pharmaceutical industry and have nothing to do with extra quality.

Those new developments, especially since they focus on the cost of care, mean that the traditional pharmacy only can survive if they are willing to innovate or focus on price as well. Few interviewees mentioned that the extra distribution channels give more freedom of choice to the patient. This patient is not price-conscious and the new distribution channels try to persuade the patient with perceived extra care or persuade the insurance company with lower costs of delivery. Both the introduction of unique distribution channels trying to tie patients to their products and the introduction of low-cost distribution channels damage the market for pharmaceutical care. The unique delivery systems supply care that is not demanded and as such deliver too much, while some of the low-cost distribution channels deliver too little care to the patient. One of the parties indicated that the best that can be done is that the different parties focus on their core-business and should not try to innovate on extra services while their core business is not working efficient yet.

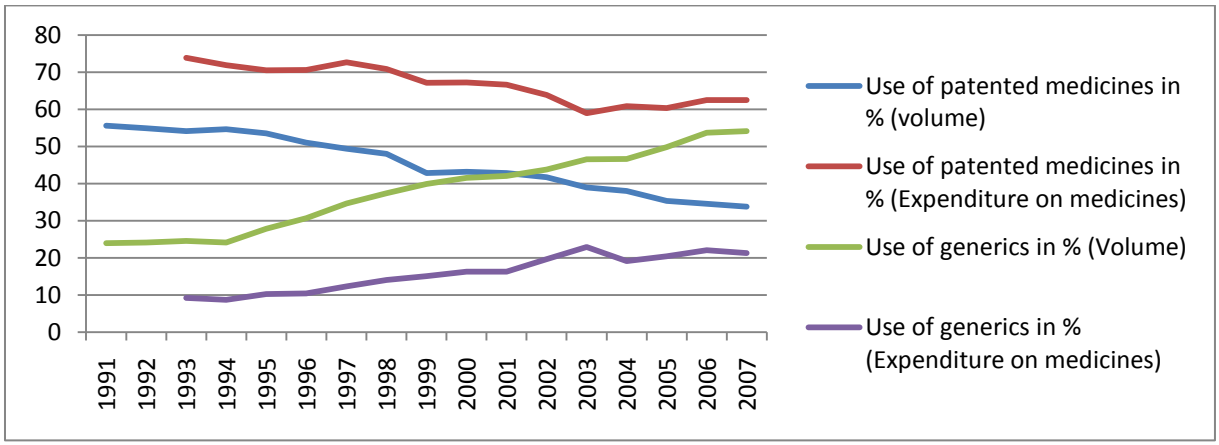
There are no quantitative data that support the interviews. The new distribution channels are set-up. Both the introduction of internet as distribution channel and the introduction of the unique distribution channel is elaborately explained in "New Distribution concepts, new markets?" by Hermans (2008).

5.3 Sub question 3

Are there monopolies in the pharmaceutical industries? Are there alternatives to patented drugs, even if those are not as effective?

The answer to this question is that there are true monopolies in the pharmaceutical industries. Most of the interviewees point out that break-through medicines form perfect monopolies. Break-through medicines are new medicines developed for a disease that had no medicines for them before. The interviewees also nuance this by saying that this situation does not last very long while competitors will produce their own medicine against that specific disease. However, the prescriber decides, possibly in consultation with the patient, what medicine he is going to prescribe. If a patented medicine is prescribed, the prescriber is very specific about which brand has to be delivered to the patient. This brand can only be bought at the pharmaceutical industry that holds the patent to that specific brand. Once that medicine is chosen, the producer holds a monopoly position. Since the prescriber has the possibility to appoint a monopolist, the pharmaceutical industry tries to influence the choice from the prescriber for their medicine. The margins on patented medicines are much larger than the margins on generics, partly to earn back the investment in research and development, but also because the prescriber is less concerned with the price for the patented medicine than the insurance company is concerned with the price for the generics. There are few possibilities for the wholesaler to purchase parallel medicines. Those are medicines from the same manufacturer but sold in a different country with a lower price. Some of the interviewees see parallel purchases as a good opportunity and others believe it to be a dead end.
If it is a generic the insurance company has decided via preference policies which industry can deliver the medicine. So for generic medicines, the prescriber decides what active substance has to be delivered to the patient and the insurance company gives a monopoly to the generic industry that can deliver this active substance cheapest. The generic pharmaceutical industries will have given most of their profits to the insurance companies to become the monopolist.

The price differences between generics and patented medicines are shown in graph 3 which show that there is a growing percentage of the medicines formed by generics but the expenditure on patented drugs has only slightly decreased as percentage of total expenditure on medicines.



Graph 3, *Percentage of generics and patented medicines in volume and expenditure*, Source: SFK

Year	Use of patented medicines in % (Volume)	Use of generic medicines in % (volume)
1991	55,6	23,9
1993	54,1	24,5
2007	33,8	54,1
Change 1993-2007	-37,5	+120,8

Table 3, *Patented and generic medicines in % of total volume*, Source: SFK

Year	Use of patented medicines in % (expenditure on medicines)	Use of generic medicines in % (expenditure on medicines)
1993	73,8	9,2
2007	62,5	21,3
Change	-15,3	+131,5

Table 4, *Patented and generic medicines in % of total expenditure on medicines*, Source: SFK

The use of generics as percentage of total delivered medication has increased from 23,9% in 1991 to 54,1% in 2007 while the use of patented medicines as percentage of total delivered medication has decreased from 55,6% in 1991 to 33,8% in 2007.

The expenditure on generics as percentage of total expenditure on pharmaceutical care has increased from 9,2% in 1993 to 21,3% in 2007 while in the same period the expenditure on

patented medicines as percentage of total expenditure on pharmaceutical care has decreased from 73,8% to 62,5%.

Table 3 and 4 show the decrease in share of volume for patented medicines is larger than the decrease in share of expenditure. This means that the prices for patented medicines have gone up over the years. The same is true for generic medicines, an increase of 120% between 1993 and 2007 in share of volume, but an increase of 131% in share of expenditure.

5.4 Sub question 4

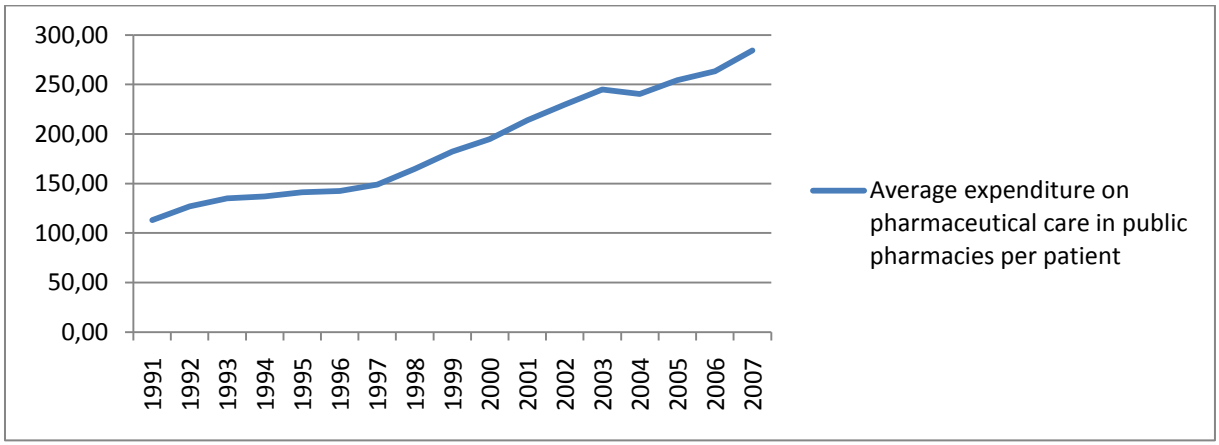
Is there a consumer on the market for pharmaceutical care?

All interviewees agree that the answer to this question is no. The patient is no consumer since he is not price-conscious. As far as quality is concerned, the patient is capable to make an informed decision but since he does not have to pay for the treatment, he is not concerned with the price of his care. The measure the patient uses to determine whether or not he wants certain treatment or medicine is the perceived increase in health and has no connection to the cost of the treatment. The insurance companies try to be the financial conscious of the patient. The preference policy has to function as a substitute for the price-consciousness of the patient. The current system of financing healthcare does not lead to any financial consumer behavior in the near future. A solution to this problem would be a personal economic contribution for treatments and medicines so that the patient also becomes aware of the cost of healthcare. The introduction of such a measure should not lead to a halt to all innovation and should therefor not only target patented medicines.

Because of this lack of awareness, the patient, who holds the most power on the market, can easily be manipulated by different parties operating on the market. The insurance companies try to influence the patient to use only the cheapest treatment. The patient organizations try to play a more important role in representing the patient. The government tries to help the patient organizations and the individual patients in empowerment.

Another consequence of having patients instead of consumers is that there is a lot of supervision needed to protect the patient from the downsides of market mechanisms. The interviewees representing the traditional market parties, wholesalers and pharmaceutical industries, think that the government currently is overprotective and that the patient is very well able to use the possibilities that the free market offer.

The data also indicates that the patient is not price-conscious.



Graph 4, *Average expenditure on pharmaceutical care in public pharmacies per patient*, Source: SFK

Year	Expenditure	Year	Expenditure	Year	Expenditure
1991	€ 113,12	1997	€148,90	2003	€ 244,98
1992	€ 126,91	1998	€ 164,88	2004	€ 240,44
1993	€ 135,11	1999	€ 182,04	2005	€ 254,20
1994	€ 137,07	2000	€ 194,91	2006	€ 263,38
1995	€ 141,01	2001	€ 213,86	2007	€ 284,39
1996	€142,31	2002	€ 229,87		

Table 5, *Average expenditure on pharmaceutical care in public pharmacies per patient*, Source: SFK

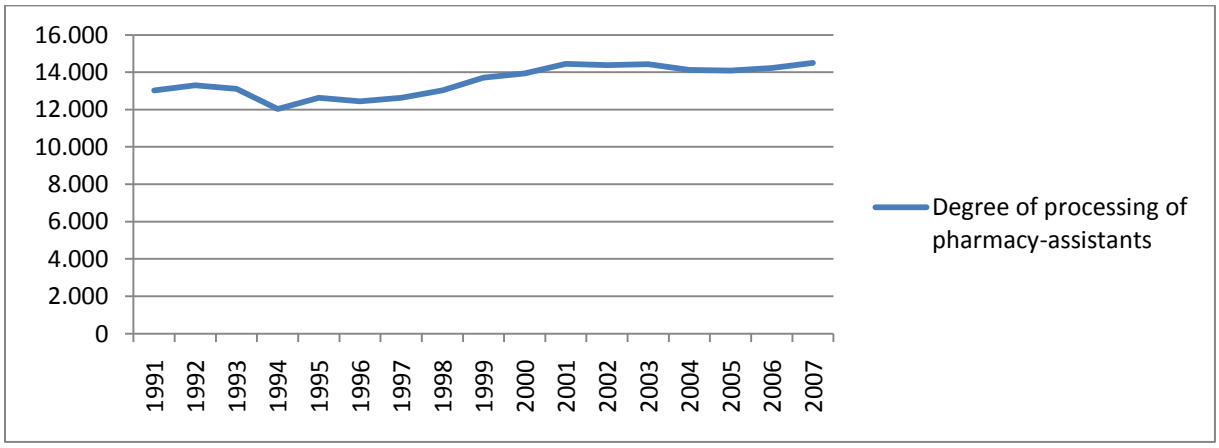
As can be seen in graph 4 and table 2, the average patient spent €113,12 in 1991 but already spent €284,39 in 2007 on pharmaceutical care. The growth is influenced by the aging problem which was shown in graph 1 and the increase of prices for medicines as shown in table 3 and table 4. It also shows that people are still using many of the expensive patented drugs, which follows from graph 3.

5.5 Sub question 5

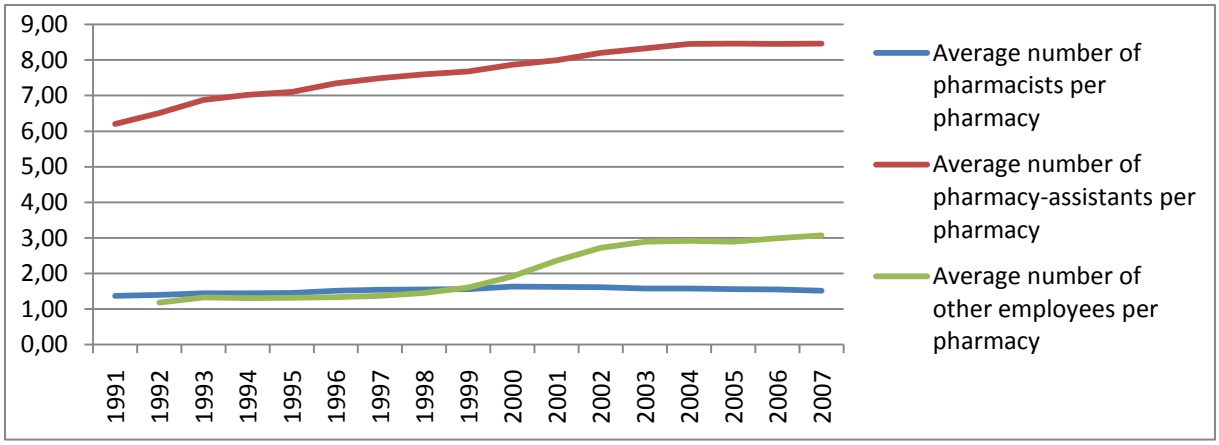
Has the quality of the pharmaceutical care increased under the influence of the free market?

Several of the interviewees pointed out that it is yet unclear how quality is defined in the market for pharmaceutical care. One of the interviewees made the distinction between quality being how fast the patient can be cured and service that is provided. Everyone agrees that the service has increased since 1991. Service is something that is easily noted by the patient and can as such be rewarded. However it does not lead to better care. Insurance companies still use the service level in their negotiations with the healthcare providers. Half of the interviewees mention that the insurance company cannot measure substantive quality and as a consequence are not prepared to pay for it. This means that innovation only focuses on service levels as well. There are several projects that try to show quality to both the patient and the insurance companies. Insight in quality does lead to improved quality. Most of the interviewees indicate that the tasks of the pharmacist have altered over the years and see different scenarios for the future, including a separation of information and retail of medicines.

There is no data explicitly showing an increased quality in pharmacies over the years, however there are data concerning the amount of personal in a pharmacy and the degree of processing of pharmacy-assistants.



Graph 5, *Degree of processing of pharmacy-assistants*, Source: SFK



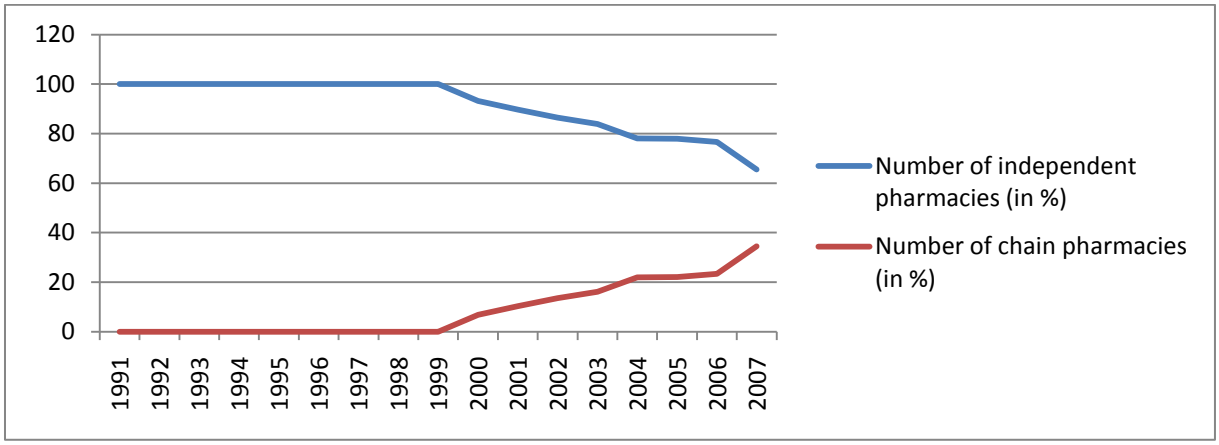
Graph 6, *Employees per pharmacy*, Source: SFK

As can be seen in graph 5, the pharmacy-assistant has become more efficient in processing prescriptions. There also has been an increase in the amount of pharmacy-assistants that works in a pharmacy. The amount of pharmacists per pharmacy has not changed much over the years. More personnel which works more efficient, means that there is more time for very difficult patients who need a lot of information. It is possible that the quality has increased in the pharmacies over the years.

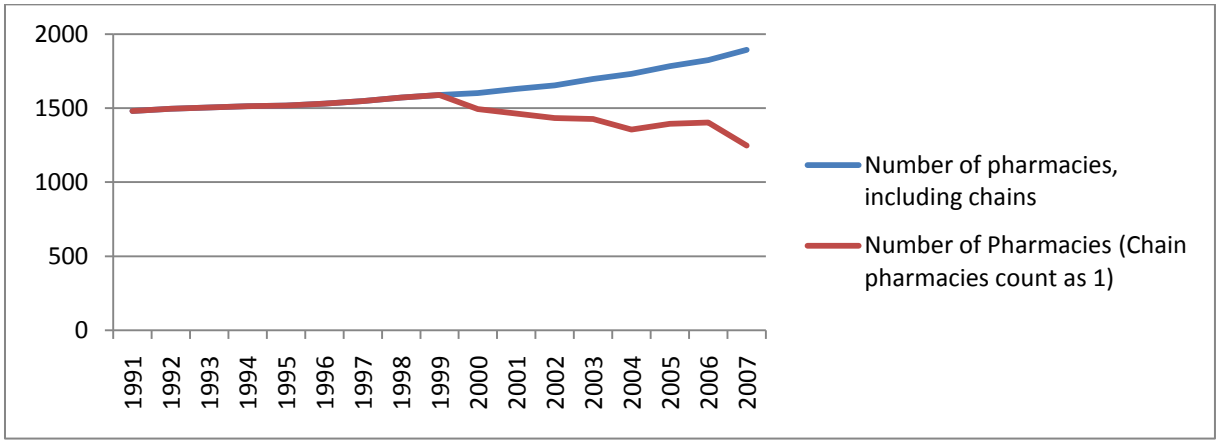
5.6 Sub question 6

Has the number of pharmacies increased over the years?

This sub question has not been discussed in interviews since the answer to this is based on quantitative data, obtained from SFK. That does not mean that this hypothesis can be answered easily. The insurance companies claim that the healthcare providers have gained market power while the same is said from the insurance companies by the healthcare providers.



Graph 7, *Percentages independent and chain pharmacies*, Source: SFK



Graph 8, *Absolute number of pharmacies*, Source: SFK

Graph 7 shows that since 2000 chain pharmacies were introduced and they owned almost 40% of all pharmacies in 2007. If it is assumed that all pharmacies owned by a chain pharmacy negotiate together as one with the insurance companies, there has been a decrease in possible partners for the insurance companies. However, if we assume that every single pharmacy has to negotiate independently for a contract with the insurance company, the

amount of pharmacies has increased. This means that the single pharmacy has gained less market power against an insurance company because there has been an increase in number of pharmacies, but the insurance company now has less possible contracting partners than it had before the introduction of chain pharmacies.

Chapter 6: Conclusion

6.1 Sub question 1

Has the spending on pharmaceutical care decreased as a consequence of the introduction of a free market?

This question can be divided into two questions. The first one was whether or not the spending on pharmaceutical care had decreased and the other question was whether or not this decrease was a consequence of the introduction of a free market.
The answer to the first part is that the spending has not decreased. The reasons for this are numerous. There is substitution from other forms of healthcare to pharmaceutical care, the aging problem plays a role as well as several other conditions.
The introduction of the free market has had influence on the prices for certain medicines, especially the generics, but the introduction of market mechanisms has happened alongside many other policy measures. This makes it very difficult to distinguish which measure had what result.
The answer to sub question 1 is that the average prices for generic medicines have gone up slightly and the prices for patented medicines have gone up too. The average prices for generics are lower than for the patented medicines. The growth of generics means that there has been a shift away from the expensive patented medicines to the cheaper generics. The growth in use of medicines in volume is stronger than the substitution effect of generics for patented medicines. The substitution does not lead to lower expenditures on pharmaceutical care. Furthermore, there is no certainty that the introduction of market mechanisms is responsible for the substitution effect.

6.2 Sub question 2

Is there a growing number of distribution channels regarding UR-medicines?

The answer to this question is two-fold. On the one hand it is true that more and more innovative distribution channels are introduced. However, those new distribution channels have the same obligations in terms of quality and service as the traditional pharmacy. Furthermore, most of those channels are not introduced because patients ask for them but because other market parties want them. Internet pharmacies deliver less quality and about the same service as traditional pharmacies but do this for lower prices, leading to fewer expenses for the insurance companies. On the other side of the spectrum there are the unique deliveries that claim they offer higher quality and more service. This is not true for most medicines and only leads to higher expenses for the insurance companies and more profits for the pharmaceutical industry. The new distribution channels have different reasons to be developed and those reasons are not always the best interest of the patient.

6.3 Sub question 3

Are there monopolies in the pharmaceutical industries? Are there alternatives to patented drugs, even if those are not as effective?

The answer to this question is yes, the pharmaceutical industry do have monopolies. There are two types of monopolies. The first type is a true monopoly in which the pharmaceutical industry is the only manufacturer that has a medicine against a certain disease. Prime examples of this were the first HIV medicines that costed 40 to 50.000 euros per year per patient. These kind of monopolies do not last long since every competitor will try to bring his own medicine against the same disease on the market. In 2007 the cost of HIV medicines has been reduced to 2.400 to 16.800 per patient per year (Farmacotherapeutisch Kompas 2007). After this has happened the industries still hold monopolies since their medicine is of a certain brand and they are the only ones allowed producing that brand. If a prescriber prescribes a certain brand for a patient, the industry holds again a monopoly towards the rest of the supply chain (wholesaler, pharmacist and insurance company). The last possibility is that a medicine is no longer patented and is being produced by many generic manufacturers.
The prescribers then only prescribes a certain active substance and the insurance companies decide via preference policies which of the generic manufacturers are allowed to deliver to their patients. This way the preferred generic manufacturer has become a monopolist towards the rest of the supply chain (wholesaler and pharmacist) but in order to get that position he has given much of his profits to the insurance companies. This leads to pressure on the prices and there are no guarantees that the cheapest generics have the same quality as the more expensive.

6.4 Sub question 4

Is there a consumer on the market for pharmaceutical care?

There are several points of attention in this question. Most patients are consumers, as far as the service level is concerned. Patients do switch from pharmacies or general practitioners but this is not induced by the different price levels or different substantive quality of the delivered care but solely on the level of service.
Quality of the delivered care cannot be seen by the patient so he will not select on it. As far as prices are concerned, the patient only sees the cost of care when he pays his insurance company. In picking an insurance company, the patient is more a price conscious consumer, but when he chooses an insurance company, the focus is primarily on the premium.
No patient is able to see the balance between price and quality and as long as the basic insurance policy is very extensive this is not going to change either. The only way this might change is by introducing a personal economic contribution but the patient organizations are against this.
It will take at least a generation, or a government that is willing to take these necessary measures before the patient is actually pushed in the direction of being a consumer.

6.5 Sub question 5

Has the quality of the pharmaceutical care increased under the influence of the free market?

This question also consists of two questions. The first is whether or not the quality has increased and the second whether or not this was done under the influence of the free market. The first question possesses an extra difficulty as it is hard to define quality. Quality has two sides. On the one hand there is quality of care and cure (substantive quality). On the other hand there is service.

The service has increased over the years. The introduction of market mechanisms is partly responsible for this increase. It is not the only reason but due to the introduction of market mechanisms patients are actually switching to providers who offer more service.

Service is easily monitored and the insurance companies are able to select on the service level. The patient is sensitive for the level of service so pharmacies will try to deliver the best service.

On the other hand the substantive quality. This is what pharmaceutical care really should be about but it is very hard to monitor and the patient is not aware of the quality delivered by the different providers. The insurance company does not select on it either. This is very understandable, if we assume that an insurance company only contracts pharmacies with very high substantive quality and low service and pushes their patients to these pharmacies, they run a risk of losing these insured that are only aware of service levels.

Substantive quality has increased over the years but that is certainly not under the influence of market mechanisms. This increase is due to better education, guidelines and standards.

6.6 Sub question 6

Has the number of pharmacies increased over the years?

The answer to this question is that there has been an increase in the number of pharmacies, but there are points of attention. For instance not all new pharmacies are established for the same purposes. The service pharmacies only hand out medicines at night or in the weekends. The policlinic pharmacies are working from the hospitals and the internet pharmacies are pharmacies but cannot be compared to traditional pharmacies. The amount of pharmacies that has joined in a chain is high which leads to the strange situation that there are more pharmacies but less contracting parties for the insurance companies.

6.7 General conclusion

The research question in this thesis is: *What is the influence of the introduction of market mechanisms on the pharmaceutical market?*

In general it can be said that the introduction of market mechanisms has lead to some improvements in the market for pharmaceutical care but it has left unaddressed major problems. The introduction of market mechanisms led to an increase in the delivered service of healthcare providers. Furthermore it led to innovations regarding the distribution of medicines. One of the problems it leaves unaddressed is that the patient is not a consumer, which is vital for the success of a free market. Furthermore, the introduction of new distribution channels and new pharmacies did not lead to higher substantive quality but to more expensive care in the case of unique deliveries and the cheapest possible care in the case of internet pharmacies. Both of these innovations are not in the interest of the patient who should be interested in the best substantive quality for the best price. Substantive quality is hard to measure so it is substituted with service. This makes service the selection criterion from the insurance companies and the patients.

Another problem is the existence of monopolies for the pharmaceutical industry which means that they could potentially abuse their market power in a free market, more than in a government controlled care market.

The introduction of market mechanisms has created the potential for innovation and price competition but on the other hand it did not anticipate on the lack of a homo economicus, who

is assumed to be maximizing his or her own well-being subject to the individual budget constraint (Nyborg, 2000) and the presence of monopolies in the pharmaceutical industry. The models describing markets and their performances are not created for the healthcare market in which there is no consumer paying for a product. The introduction of market mechanisms has not lead to the same outcome it would have had if the patient would be a consumer that pays for the care and cure himself directly.

Chapter 7: Discussion

This thesis describes all the relations that exist on the pharmaceutical market. Other papers focused on the behavior of a single party or on a single relation on the market. Furthermore, this thesis not only uses quantitative data but is also based on qualitative data collected from interviews with the different parties that are active on the market for pharmaceutical care.

The introduction of market mechanisms in the market for pharmaceutical care has happened relative recently. Besides this recent introduction, there are other developments on the market that also influence this market. The market for pharmaceutical care has not gotten the chance to show what the result was of introducing market mechanisms. This market is so important for every party and every individual that there is an ad-hoc policy regarding problems that are encountered in the transition from state controlled to regulated market. Future research should be aimed at the developments that have happened after 2007. Another opportunity for future research is to collect more qualitative data from different market parties and see if the interviews used in this thesis represent the general opinion or are dissenting opinions.

While doing the interviews it became clear that there is a lot of mistrust in the market for pharmaceutical care. The introduction of market mechanisms has led to a very different playing field with relatively less money to spend and the different players fight for the best position, or the most profitable. The insurance companies accuse the healthcare providers and the pharmaceutical industries that they try to maximize their profits at the expense of the insurance company and indirectly at the cost of the patient. The prescriber feels threatened by the insurance company, believing that the insurance company is restricting his professional autonomy. The prescriber also feels threatened by pharmacists who they accuse of diagnosing patients instead of delivering the prescribed medicine. The pharmacist feels threatened by the insurance companies, believing that the insurance companies try to acquire as much of the profits of the pharmacist as possible. Furthermore the pharmacist feels threatened by the pharmaceutical industry, wholesalers and innovative colleagues that try to acquire as much of the market as possible. The wholesaler tries to protect himself from insurance companies and the pharmaceutical industries. The insurance companies attempt to acquire as much as possible profits from the wholesalers and the pharmaceutical industry sets up unique deliveries and direct delivery systems, excluding the wholesalers. The pharmaceutical

industry feels threatened by the insurance companies and are afraid that their profits are going to the insurance companies.

The mistrust between the different professional parties is not the only shortcoming in the current market for pharmaceutical care. Another important shortcoming is the absence of a patient that acts as a consumer. The patient wants the best care, which, for him, equals the most expensive care. Since most patients see no direct relation between the insurance premium and the care they receive, they are not aware of the cost of care. This feeds the mistrust between the professional parties and their individual need to fight for their margins.

There are several measures that need to be taken to let this market function. The first goal is to make the patient more aware of the cost of care. This can be done via several methods that are complementary. The first method is introducing an personal economic contribution for pharmaceutical care. This personal economic contribution should only be charged if the patient is not willing to use the most efficient medicine. Another step would be to reduce the care that is provided under the basic health insurance policy and create extra additional insurance policies for people that already know that they want the more expensive medicines and not the medicines designated by the insurance companies. This way the basic health insurance policies cover the most basic care and patients can choose whether or not they want to insure extra care. This should lead to a patient that is more aware of prices than he currently is.

The other policy measure that needs to be taken is the introduction of an independent organization that needs to take away the mistrust between the different market parties. This role could be fulfilled by the NZa or the ministry of VWS or another, newly formed organization. In this organization, representatives of all eight parties involved should discuss the important matters in the market for pharmaceutical care. In this organization, the pharmacists could express professional opinion regarding medicines most efficient for the different diseases, prescribers could discuss different patterns of diseases leading to different treatments, the insurance companies could see the value of substantive quality that pharmacists deliver and should be willing to pay for that quality. The pharmaceutical industry could gather new ideas regarding better medicines, the wholesaler could add the most efficient way of distributing medicines, the patient or representatives of the patient could negotiate about the medicines that are insured in the basic health policy, the NZa would be less focused on illegal competition and more on facilitating the agreements that were reached

in this organization. The ministry could support the good cooperation by changing laws if that is necessary for a better healthcare system.

If the patient is made consumer, or at least aware of the cost of care and the mistrust between all the different market parties could be taken away by establishing an independent organization that discusses the way pharmaceutical care should be organized, there are better results and more efficient care than at this point at which the different parties all try to fight for their own income at the expense of the other market parties.

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Appendix 1: Interview with Mr. R. Sorel

Interview held on 18th of February 2010 with Mr. R. Sorel,Ph.D, Managing Director of Brocacef.

The outline for this interview is five hypotheses which are investigated in this thesis. These hypotheses are in order:

(1) There are no monopolies in the pharmaceutical industries. Even if a drug has been patented, there are alternatives. These alternatives might not be as effective as the patented drug but provide a reasonable alternative.

(2) There is a growing number of distribution channels regarding UR-medicines.

(3) The spending on pharmaceutical care decreases as a consequence of the introduction of a free market.

(4) There is no consumer on the market for pharmaceutical care.

(5) The quality of the pharmaceutical care has increased under the influence of the free market.

Regarding hypothesis (1):
Mr. Sorel agrees largely with this hypothesis. He sees the market as a tetrahedron, which is shown in figure 1.

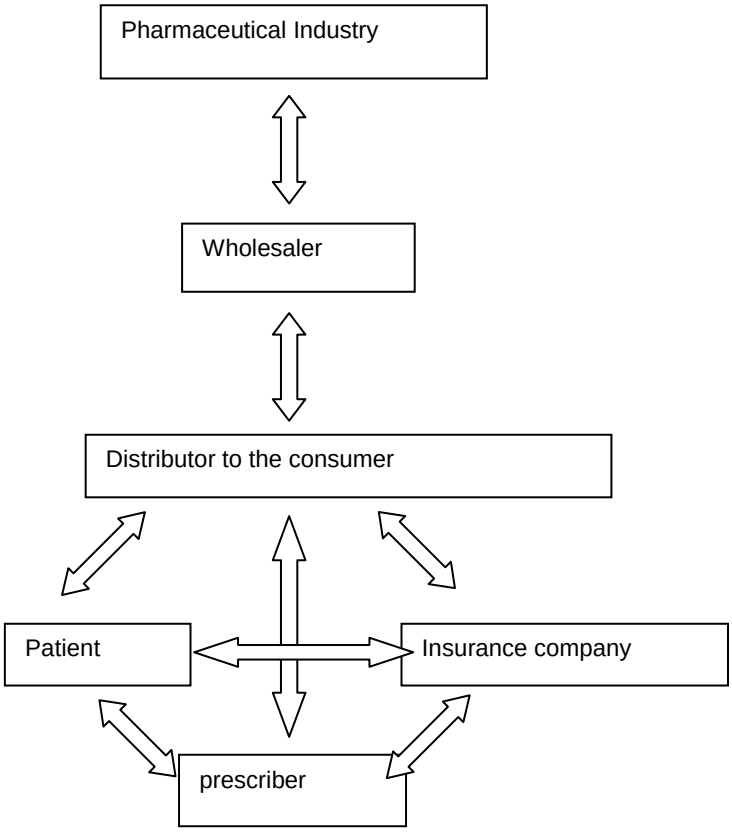


Figure 1, The pharmaceutical market according to Mr. Sorel.

If a pharmaceutical industry has a monopoly, it only is for a very short period of time. This does not mean that they do not have market power. The pharmaceutical industry has, like any other industry, different labels. As is shown in figure 1 it is neither the wholesaler nor the distributor who determines what the patient needs. The most important party that decides what brand is best is the prescriber. The insurance company will try to influence the choice to be reasonably priced and the patient can have an opinion on whether or not he likes the medicine but lacks the knowledge to reject it on a scientific basis.

Since neither the wholesaler nor the distributor determines what brand the patient can use best, the wholesaler has to purchase what the distributor demands. The distributor, which is a pharmacist most of the time, in turn has to order the prescribed brand at the wholesaler. This means that the doctor has the opportunity to choose a brand and the distributor and the wholesaler have no alternatives than to purchase that specific brand.

Brocacef does negotiate with the pharmaceutical industries about the price. There is negotiating power for Brocacef when there is an opportunity for parallel import. Parallel import regards the same medicine but imported from another market. The pharmaceutical industries try to discriminate geographically and parallel import is a way for the wholesaler to negotiate with the pharmaceutical industry. The size of parallel imports on the Dutch UR-market is around 478 million in 2009, which is approximately 10% of the total UR-market. Parallel import is a serious alternative for the distributor since it is the same brand as was prescribed, just imported from a different market. Besides the parallel import there are generics on the market. For a wholesaler it is (almost) impossible to substitute a patented medicine for a generic one.

Because of the introduction of the free market, parallel import has become a more dynamic market. Also parallel with less margin is now considered by the wholesaler. The margins of the wholesaler and the distributor are under pressure so the threshold value above which parallel import is considered has decreased.

In short, there are no monopolies in the pharmaceutical market but the industry still has market power since the chain has to purchase the brand that was prescribed. The only way to negotiate is when there are options for parallel import.

Regarding hypothesis (2):

There are no new types of distribution channels but there has been a shift in the volume of care away from the free pharmacist towards direct delivery and pharmacies owned by formulas. Those formula pharmacies are not added to the market but mostly are replacing free pharmacists.

Direct delivery has two possible meanings. The most common is that the pharmaceutical industry delivers medication directly to the distributor or even to the patient. The delivery directly to the distributor is the most important form of this type of direct delivery.

The other meaning of direct delivery is that the wholesaler delivers medical care directly to the consumer. Brocacef has the philosophy that the local pharmacist always has to be involved in the process of delivery from wholesaler to patient, even if the pharmacist is a competitor.

Direct delivery is aimed at expensive medication that has a special care aspect to it. The reason why wholesalers also got involved in direct delivery is that the margins on their core business are under pressure. Besides this there is another reason for Brocacef to participate in this direct delivery. The way the pharmaceutical care is organized now depends on different actors. If those actors do not work together as good as possible this may lead to inefficient use of pharmaceutical care. Brocacef tries to inform the patient better about all possibilities he has and although this leads to demand creation they believe it to be necessary. The reason for this is that if medication is not used optimally the investment that was made becomes worthless.

In short, no new distribution channels have emerged but there has been a large shift between the different channels that existed.

Regarding hypothesis (3):

The expenses on pharmaceutical care have dropped tremendously due to the introduction of preference policies from insurance companies. In those policies the costs for distribution have been completely neglected and prices of certain medicines went down to the level of candy. This decrease in expenses is only seen in the market for generics. For patented medicines, there is no preference policy since there is only one manufacturer for that brand. In 2009 the expenditure on the market for generics has decreased by 16% but for patented medicines it has increased by 3%.

There are, in generics, so called multi-source medicines. These medicines can be purchased from many sources and the prices of those medicines are under extreme pressure. This leads to the decrease in price of generics of 16% as earlier mentioned.

Although the preference policy is such a success in terms of lower expenditure on generic medicines the insurance company do not yet put pressure on the prescriber to substitute the expensive patented medicines for generics. This would also harm the innovation of the pharmaceutical industry. There is no use in pursuing the cheapest pharmaceutical care that is the worst in the world. There always has to be innovation and medical specialists are aware of this. They will not be persuaded to prescribe a generic if they believe that the new patented, more expensive medicine is better for the patient.
The revenues of this policy went to the insurance companies. Those companies were faced with lower costs for pharmaceutical care. The question will be if those benefits are given to the consumer in the forms of lower premiums.
In short, the expenses have dropped tremendously and those revenues have gone to the insurance companies. There has to be awareness that the lowest price should not be the main objective since it would harm innovation and eventually the healthcare that can be delivered to the patient.

Regarding hypothesis (4):
There is indeed no consumer in the market for pharmaceutical care. As shown in figure 1, the role a typical consumer plays is now played by three different parties with their different roles and interests. There is a common interest in curing the patient as efficient and effective as possible but the three parties can interpret those concepts differently.
Brocacef believes that the patient eventually has the most power. The patient however does not always realize this. This allows the insurance company to stretch themselves to become the most powerful market party. Insurances companies have too much power in the current market. The NZa focuses on the provider of pharmaceutical care in their effort to protect the patient for the downsides of the free market.
While insurance companies can notify the public that the premiums have to be raised yet again, which could be a sign of collusion, the NZa has not yet investigated this. If pharmaceutical care providers make such a statement the NZa will be the first to respond. This leads to the conclusion that the NZa is still struggling with it's role and is not balanced yet. This is a consequence from a political decision in the '90s that there had to be a countervailing power against the healthcare providers in general. This role is now dedicated to the insurance companies. This model of creating a countervailing power can be dangerous in the sense that the countervailing power of the insurance companies can lead to a situation in

which the insurance companies are too powerful. There is no possibility to control exactly where the balance of power stops.
Mr. Sorel sees two different markets in the same product chain. On the one side the totally free market in which the pharmaceutical industries operate. On the other side solidarity in the market on which the patients purchase care. These two types of markets have to meet somewhere in the chain. The government can influence the point at which they meet. It can be moved towards the patient, which leads to fewer medicines in the basic healthcare insurance policy and own contributions. It can also be moved up in the chain. In history it has been considered to nationalize the wholesaler for example.
In short, there is no consumer on the market for pharmaceutical care that can be compared to consumers on other markets. The NZa has a focus on only one of the market parties and seems to be unaware of the risks of powerful insurance companies. This leads to a sub-optimal functioning of the pharmaceutical healthcare market.

Regarding hypothesis (5):
Mr. Sorel is convinced that the introduction of a free market and the market mechanisms, that come with this introduction, have led to pressure on pharmaceutical care providers to deliver better quality. The quality of the provider is hard to estimate by patients. Most of the work done by the pharmacist is done for the patient but not in cooperation with the patient. There are pharmacists who try to show their quality and extra value by giving information to groups of patients, doctors in addition of knowledge via their computer systems.
Pharmacists have to re-earn their place as healthcare provider. At this moment all that matters for a patient is the distance to the pharmacist while in the future each pharmacy should try to excel in service. This could possibly also lead to extra money from the insurance companies since they are pushed by their insured to contract that excellent pharmacy.
It is, in the current time very tough for a pharmacist to negotiate with the insurance companies. Since there is no pressure from insured to contract a certain pharmacist the insurance company has market power and will continue to use this. The wholesaler functions in an oligopoly as far as the relation with the pharmacist is concerned so the wholesaler must deliver excellent service and give discounts.
In short, quality has increased due to the introduction of free market mechanisms. So far it has been very difficult to show quality or an increase of it to the patient. The insurance companies use this fact to exercise market power over the pharmacist.

Appendix 2: Interview with Mr. J. Oltvoort

Interview held on 19th of February 2010 with Mr. J. Oltvoort, Ph.D, Senior policy advisor Health Economics Nefarma.

The outline for this interview is five hypotheses that are investigated in this thesis. These hypotheses are in order:

(1) There are no monopolies in the pharmaceutical industries. Even if a drug has been patented, there are alternatives. These alternatives might not be as effective as the patented drug but provide a reasonable alternative.

(2) There is a growing number of distribution channels regarding UR-medicines.

(3) The spending on pharmaceutical care decreases as a consequence of the introduction of a free market.

(4) There is no consumer on the market for pharmaceutical care.

(5) The quality of the pharmaceutical care has increased under the influence of the free market.

Regarding hypothesis (1):
The answer to this hypothesis depends on what you consider a monopoly. Patented medicines cannot be copied so in that sense the industry that has a certain label has a monopoly on that brand. On the other side, there are several brands with different active substances from the same order that compete fiercely. This competition is aimed at increasing market share and to be included in healthcare standards and guidelines. Since the introduction of private insurance companies on the healthcare market, those insurance companies try to intervene on the price of medicines.
The prescriber decides eventually which medicine would be the most effective in the different patient situations. There might be a guideline on efficient prescription in which is laid down that the prescriber has to check whether a generic medicine is suited for a patient first. If that is not the case, the prescriber can switch to a patented medicine. Nefarma believes that this is not given enough attention. Prescribers only move to patented medicines if that is the best

choice for the patient. Prescribers are considered to work in the best interest of the patient and should only be influenced by prices in situations in which they have an equal choice in different treatments.

Nefarma is also in favor of a prescriber checking periodically if a patient is still using the right medication. If the patient still is, than the prescriber is treating effectively. In Nefarmas view this should also be the leading principle for the insurance company. They acknowledge that they have market power in this view since the wholesaler can only buy the prescribed product from the monopolistic producer of that brand, with the exception of parallel import

The innovative pharmaceutical industry has understood that clearly and focuses on the favor of the prescriber. Once a patent has been expired the innovative industry must have earned back the investment. The market for generics is one of full competition and margin competition at the wholesaler, pharmacist and health insurer.

The pharmaceutical industry has no monopoly position since the wholesaler can make use of parallel import. This is a growing market for the wholesaler since the results are under pressure, especially since the market for generics has been extremely competitive on prices over the past period. Parallel import is possible since the pharmaceutical industry is able to geographically discriminate. To counter this discrimination pharmaceutical companies try to uniform prices for medicines. It is the different member states with their different health care systems that lead to different prices.

According to Nefarma there are possibilities to be the first and only producer of a new type of medicine. Examples of this can be found it the very expensive intramural medicines that target a very specific patient population. That is a true monopoly and that also is the reason why the industry does not give any discount to the hospitals that purchase it. Usually hospitals get discounts, also for patented medicines but not if a true monopoly exists. These monopolies do not exist for very long though.

In short, true monopolies without any competition whatsoever do exist but only for a very short period of time. Monopolies in the sense that an industry is the only one to produce a certain brand exist for the time of the patent. This does not lead to monopoly power since there are multiple brands with different active substances for the same disease and the industries will have to compete for the favor of the prescriber. They do have a certain amount of monopoly power towards the wholesaler once their brand has been prescribed.

Regarding hypothesis (2):

There are several ways of distributing medicines to the patient. The pharmaceutical industries have set up distribution channels via service organizations that see to it that medication is optimally delivered to the patient and is administered under the right conditions. In this model the pharmacist is disregarded. In a reaction to this, pharmacists started similar services. Nefarma believes that the pharmaceutical industry, the wholesalers and the pharmacists are all developing their own direct delivery service. Even Menzis is said to consider setting up a direct delivery service. This market is in motion but there always has to be a pharmacist involved.

Nefarma's point of view on this subject is that it does not matter how the medicines and care are delivered as long as it is in the best interest of the patient and in accordance to the regulations The more competition between different distribution channels the better, assumed that the quality will increase due to the competition. Nefarma is not allowed to advice their members in this since they have to make their own decisions.

A critical note from Nefarma is that the NZa has a habit of changing the rules during the game. This is a very serious problem for Nefarma and its members but also for the other stakeholders involved.

In short, there are many different ways of distributing medicines and there is room for more different distributors but the quality has to be guaranteed and the rules should not be changed during the game.

Regarding hypothesis (3):

The expenses on the market for medicines have temporarily decreased. This decrease has been primarily caused by savings in the distribution, revaluation of the income of pharmacists and the pressure on the prices of generics.

In the near future there will be some blockbuster running out of patent, which will lead to some drops in expenditure again. This drop in expenditure does not effect the aging, which provides a growth of 7 to 8% per year in expenses on medicines.

A consequence of those blockbusters running out of patent is that the innovative pharmaceutical industry has to find new sources for profit. One of those sources is the introduction of personalized medicines. An example of this is Herceptin®, which only works for 40% of the women. The other women lack a certain gene so the medicine does not work for them.

In the past, all women with breast cancer got Herceptin® but since this research was done, only 40% of the women with breast cancer get the medicine. It is very efficient to prescribe a medicine only if it really works but the consequence is that the industry has less population to earn back the investment.
Medicines that are developed now are more expensive to develop, are unlikely to be a blockbuster and are suitable for fewer patients than in the past. There are several solutions for the pharmaceutical industry to keep developing medicines. The first one would be to lengthen the period in which the medicine is patented. A second possibility, which is already in use, is that the government gives economic benefits to the pharmaceutical industry if they develop new personalized medicines. The third measure is that the pharmaceutical industry is reorganizing. The last option is to raise the prices of the medicines. Insurance companies will have to understand that they should not influence the prescriber in a way that he prescribes the cheapest medicine since that would lead to even more cuts in the pharmaceutical industry. These cuts would ultimately lead to less innovation.
As far as the benefits that are gotten in the last years is concerned, Nefarma believes that they went to the insurance company and that the insurance companies used those benefits to keep the premium low. Also some extra money has been used for other healthcare projects by the ministry of health.

In short, the introduction of market mechanisms has lead to lower prices but only temporarily and only on generics and in the distribution channel. If prices would be put under more pressure, innovation might be endangered.

Regarding hypothesis (4):
Nefarma was in favor of a big bang concerning the introduction of market mechanisms in healthcare. Certain patient associations have a very strong position in the market. They are capable of putting pressure on prescribers, insurance companies and pharmaceutical industries.
If you assume that the patient is a consumer and is backed up by the powerful patient associations there is no reason not to leave pharmaceutical care to the market. The NZa still focuses too much on making the market while they are not equipped for that. In the view of Nefarma, the NZa should be functioning like the NMa, which means leave everything to market mechanisms and only intervene if that is absolutely necessary. However, it is not only

the NZa that is afraid of leaving the pharmaceutical care market to itself. The introduction of chain DBC's was stopped by parliament.
The introduction of market mechanisms leads to differences between people and the public opinion is against discrimination in health care. This discrimination could be very efficient in economic terms. The only reason not to discriminate should be if there are negative consequences for the health of other patients.
A patient's only goal is to become healthy again as soon as possible. Costs of care are not relevant to him at that point. In a market with market mechanisms we should allow that by introducing contribution. A patient who wants the best or most expensive treatment should pay part of it. This would also give patients insight in the actual costs of healthcare.
The patient of today is too much a patient and not enough a consumer in the view of Nefarma. He is highly protected by the NZa and by the insurance companies and has no insight in what he spends on his health.
In short, there is not a real consumer at this moment. It would have been very well possible to make the patient consumer since for most chronic diseases there are patient associations that are capable of putting pressure on the other parties involved. The NZa and the government give the wrong incentives to the market right now which leads to a sub-optimal outcome.

Regarding hypothesis (5):
The quality has absolutely been increased. There are several methods to get insight in the quality but those methods are still being developed. Due to the introduction of market mechanisms the drive to measure quality has increased. Once quality is measured and can be compared it is possible for the insurance company to only contract the high quality providers.
As far as competition and quality in the pharmaceutical industry is concerned, Nefarma believes that competition is a very good mechanism to keep all parties focused and challenge them to develop new medicines. These developments and quality controls will only work if there is competition. And for the pharmaceutical industries it is absolutely necessary to have shareholders who believe in new medicines and are willing to invest in the company. To make competition a success in the market for pharmaceutical care there are still a lot of developments necessary. One of the developments that are needed is the introduction of a new system of medication monitoring. Mr. Oltvoort considers privacy not a real issue since all people also have a credit card or a public transport card.
In short, the quality in pharmaceutical healthcare market has increased but there are still many other ways of making the system more efficient and of higher quality.

Appendix 3: Interview with Mr. H. van Vliet

Interview held on 3rd of March 2010 with Mr. H. van Vliet, Council Advisor of the Dutch Health authority (NZa).

The outline for this interview is five hypotheses which are investigated in this thesis. These hypotheses are in order:

(1) There is no consumer on the market for pharmaceutical care.

(2) There are no monopolies in the pharmaceutical industries. Even if a drug has been patented, there are alternatives. These alternatives might not be as effective as the patented drug but provide a reasonable alternative.

(3) There is a growing number of distribution channels regarding UR-medicines.

(4) The spending on pharmaceutical care decreases as a consequence of the introduction of a free market.

(5) The quality of the pharmaceutical care has increased under the influence of the free market.

Regarding hypothesis (1):
Currently there is no consumer on this market. There have been some small steps on the track from patient to consumer but the patient has not been empowered enough at the moment to be seen as a consumer.
In the healthcare market the patient should play the central role. The patient can only be a consumer if he can make choices that influence the healthcare supplier and the insurance company. Ideally the consumer chooses the insurance company that fits his demands best. The insurance company purchases the offered care from the healthcare providers. If this mechanism fails and neither the insurance company nor the healthcare provider needs to meet the demands of the consumer, there is no role for free-market mechanisms.
In order to empower the patient the information asymmetry that exists between the patient and the healthcare provider has to be made smaller. Several organizations (NPCF, CG-Raad and Consumentenbond for example) are working together to empower the patient. Those

organizations are also asked by the ministry of Healthcare and the NZa to play a role in the development of policies that should give the patient more power.
But the most important thing is that the consumer has to be aware of his position and his possibilities to switch to a healthcare provider who meets his demands. In order to do this the NZa stimulates the developing of performance indicators so that the consumer can actually choose his insurance company and healthcare provider on the basis of price and quality.
At this moment, some switching takes place but the switches are on a very small scale. Switches of healthcare providers are almost exclusively induced by price incentives given by insurance companies.
Switching in itself is a good development and should be developed further. However the reason for switching should not only be price but the balance between quality and price. The insurance company should, in the interest of its insured, select the pharmaceutical healthcare providers who perform best. At this moment insurance companies still contract every healthcare provider. The risk of selective contracting is that you loose insured who prefer their pharmacist around the corner whom you did not contract.
In short, the patient does not have yet enough market power to be seen as a consumer. The insurance companies are struggling with their role of selective care purchaser while the healthcare providers are afraid of the market power of the insurance company.

Regarding hypothesis (2):
There are two groups of medicines, the multi-source medicines and the single source medicines. The multi-source medicines make up 50% of the volume and only make up for 20% of the expenditure on medicines, and even less since the preference policies of the insurance companies. The producers of single source medicines are basically all monopolists. Those single source medicines have free prices up to the WGP maximum, the volume that is distributed is free and the prescriber can be influenced. Even if there are several brands for the same illness, it is not reflected in the prices for those single source medicines.
There are breakthrough medicines in niche diseases but not on endemic diseases. On the endemic diseases there are multiple brands for the same disease. Competition between the several brands is a matter of therapeutic substitution. This is a very sensitive subject since the prescriber claims autonomy in this matter. In the Netherlands a “Regieraad” has been introduced to look into therapeutic substitution in consultation with the Dutch General Practitioner Society (NHG).

If it is possible to have preference policies with regard to the single source medicines this is the next generation of preference policies. This however can certainly not take place via the insurance companies but has to take place via the regieraad.
Besides the competition and the possibility of preference policies in the single source market, there is the possibility of parallel import. The pharmaceutical industry tries to block parallel import via quotas. This is still rather effective and leads to the conclusion that in the market for single source medicines the pharmaceutical industry is capable of geographical discrimination.
In short, there are monopolies in the pharmaceutical industries. The introduction of preference policies has lead to the introduction of monopolies in the market for multi-source medicines. Still there are possibilities to avoid monopolies via parallel import but this is a very difficult market since the pharmaceutical industries are able to geographically discriminate and protect those markets via quota. Another risk of monopolies are formed by the direct deliveries. Direct deliveries are discussed under hypothesis 3.

Regarding hypothesis (3):
There is indeed a growing number of distribution channels for UR – medicines. The introduction of internet pharmacies, the Centraal Apotheek, Night Pharmacy services which might start delivery during daytime in the future, the policlinic pharmacy and the hospital pharmacy.
There is an expected development of academic hospitals forming purchaser combinations, which could also start delivering medicines both in and outside the hospital. The wholesaler protects his market by buying pharmacies to have his own distribution channel. These developments show that the market mechanisms in health care work but that this development is not reflected in the prices. Another conclusion that follows from these developments is that there are enough providers of pharmaceutical care. If there were not enough providers, the different market parties would not move.
Mr. van Vliet has suggested in the past that hospitals should form purchase combinations and become the local distributor of medicines. That way all the profits would stay in the healthcare market and the wholesaler would be bypassed. At this moment, the wholesaler margins are thin so there would not be much profit of such a development.
In short, there are several new distribution channels that create an excess supply of distributors for medicines. This shows that market mechanisms work, but because this is not reflected in the prices, policy makers are not satisfied with the current situation.

Regarding hypothesis (4):

At this moment the expenditure has decreased due to the falling prices of multi-source medicines. However, the steady growth of expenses has not stopped so the slope of the expenditure line has not changed, just a shift downwards of the line.

There also has to be distinguished between the medicines and the pharmaceutical care. If the quality increases, this will be reflected in the price. The increased quality can also be a substitution for hospitalization. In this regard we would have to look at the expenditure on total care. However, if there are fewer hospitalizations due to better medicines, this will not lead to fewer interventions in the hospital. There can be expected an increase of interventions that are currently not taking place.

The possibility of substitution requires a different approach by the government since the ministry has a budget per sector in healthcare and not an overall budget in which substitution is possible.

The awareness on the cost of healthcare should be raised under patients. In the light of the cuts that have to be made, there has to be a discussion about contributions and saving money for care.

The revenues of those plans would benefit all patients in the form of lower premiums. The benefits that the insurance companies have gained in the last years really flow back to the consumer. Since the insurance companies compete on prices, they have to give back everything they earn. In the last years the premium was under cost price. This will change to a premium that will allow the insurance company to break even.

In short, the expenditure has gone down but only as a consequence of lower margins. These cuts cannot be made multiple times. The expenditure on medicines and care will keep growing. The extra income for the insurance companies due to the lower expenditures on medicines has been given back to the insured. This can be deducted from the fact that all insurance companies still make a loss on the basic health insurance policy.

Regarding hypothesis (5):

Mr. van Vliet absolutely believes that the quality has increased. This is, among others, a consequence of a flexible tariff that can be offered now by the insurance companies. The innovative pharmacists are willing to develop better care for their patients. This is also induced by the success of the preference policies. The patient gets better care; there is more information available about medicines and medical devices.

The NZa keeps track of the performances and this is available for patients on the internetsites of Kies beter, Independer and others. Furthermore the NZa is doing research on what goes well and what doesn't in the relation between healthcare provider and insurance companies. There is also the recent introduction of a post bachelor study for farmakundige. This is a pharmacist's assistant who can also perform management tasks. The pharmacist can become the expert again and he has assistants who do the management and help as a regular assistant when it is busy. This could also lead to an improvement of the care delivered to patients.
In short, the quality has increased as a consequence of market mechanisms that are allowed on the market for pharmaceutical care. There have been some interesting developments in the field of employment and the division of labor as an extra impulse for higher quality.

Appendix 4: Interview with Mr. F. Vogelzang

Interview held on 4th of March 2010 with Mr. F. Vogelzang, Senior Policy Advisor of the Dutch Patient and Consumer Organization (NPCF).

The outline for this interview is five hypotheses which are investigated in this thesis. These hypotheses are in order:

(1) There is no consumer on the market for pharmaceutical care.

(2) The quality of the pharmaceutical care has increased under the influence of the free market.

(3) The spending on pharmaceutical care decreases as a consequence of the introduction of a free market.

(4) There are no monopolies in the pharmaceutical industries. Even if a drug has been patented, there are alternatives. These alternatives might not be as effective as the patented drug but provide a reasonable alternative.

(5) There is a growing number of distribution channels regarding UR-medicines.

Regarding hypothesis (1):
There is no such thing as "the patient" on the market for pharmaceutical care. The NPCF stresses that there are several ways to classify the patient population. Is the patient chronically ill or facing an acute illness, age of the patient plays an important role and also the level of education. All these factors influence the position of the individual as patient or consumer. Regardless this extra diversity, Mr. Vogelzang believes that there is more attention for the patient from the healthcare providers. Still regardless of the classification of the patient, he has an information disadvantage. Chronically ill have less information disadvantage than acute patients; they have have knowledge complementary to the knowledge of the healthcare provider (experience based knowledge). The chronically ill also have the advantage of specialized patient organizations, which collect a lot of information about the illness and the possible treatments.

The NPCF tries to influence the healthcare providers and the insurance companies to offer the best treatment against the lowest cost. This is a permanent effort. The NPCF tries to mobilize patients using quality measurements both aimed at the insurance companies and the pharmacies.
The goal of the NPCF is to raise awareness for their role as consumer under patients and stimulate patient empowerment. All market mechanisms that are introduced should be aimed at centralizing the role of the patient in the healthcare market. Market mechanisms always have a negative side, which is why regulations should protect the patient.
The NPCF is glad that the introduction of market mechanisms is so gradually that every newly introduced mechanism can be evaluated. The idea of a big bang in the healthcare market would lead to an unknown system of checks and balances to a disadvantage of the patient. In this market there will always be information asymmetry so the patient will never have the same position as the consumer in other markets. On the other had experience based knowledge can add value to the health care process.
In short, the patient has moved towards being a consumer under the influence of market mechanisms and with the help of patient organizations. The intrinsic values of the person are also an important parameter that decides how much patient and how much consumer someone is. The NPCF does not believe that all patients will ever be fully transferred to consumers due to information asymmetry, but due to the introduction of the right incentives health care can get more patient centered. Besides that experience based knowledge can create additional value to the healthcare process.

Regarding hypothesis (2):
This depends on your definition of quality and even if your definition is clear, quality is difficult to measure. Nevertheless health care should become more transparent to patients. The NPCF is doing several projects to give insight in the quality of the delivered care. This is done in cooperation with the healthcare providers. The NPCF also measures quality with patient questionnaires.
The first year in which quality was measured by the NPCF was in 2002. The results from the research between 2002 and 2007 show an increase in the perceived quality of the pharmacies. The reason for this increase has not been looked at so it might be a consequence of the introduction of market mechanisms but cannot be said for sure.
Furthermore, Mr. Vogelzang also believes that due to the increase in competition, there is the need for the pharmacist to increase quality. The introduction of chain pharmacies is not

problematic; those companies with many pharmacies usually are more able to reflect on their strategy and the needs of their patients. The NPCF works together with these companies and individual pharmacists to improve the quality and make it more aligned with the requests of the patient.
In short, the quality of pharmaceutical care has increased in the period between 2002 and 2007 but it is not certain that this is a consequence of the introduction of market mechanisms.

Regarding hypothesis (3):
There have been large savings in the pharmaceutical market. The NPCF believes in the system of solidarity. The money that is saved should, in their opinion, be used for this system. The NPCF is opposed to the introduction of co-payments. The hope is that the cost of care can be lowered by improving quality..
In healthcare standards the best possible care has been acknowledged. This care should become, in the perception of the NPCF, the insured care. As far as the insurance companies are concerned, we have to be sure that savings are reinvested in healthcare or will be used to restrain premiums. to keep the system of solidarity intact. .
In short, the NPCF believes that there have been savings on the expenditures in the pharmaceutical market. There is no reason to believe those savings did not benefit the patient and there will be more challenges ahead to keep the system of solidarity with the growing requests for care. We believe that improving quality of healthcare accompanies lower costs.

Regarding hypothesis (4):
As far as the chronic diseases are concerned, there are always alternatives. However, there might be rare diseases where the pharmaceutical industry has a monopoly.
The NPCF is not against preference policies but has the rule that the medicines that are prescribed should fit the needs of the patient and not of any other party. The medicines should be cheap if they can but expensive if they must be.
The preference policy should not lead to fast changing manufacturers since that could result in continuous switching and thereby harm the patient's interest.
The power of the pharmaceutical industry is limited. They have fewer possibilities to influence the prescriber and the NPCF is not depending on money from the industry to perform her daily business.
In short, the pharmaceutical industry has few or no monopolies and the influence of the pharmaceutical industry on prescribers is recently strongly regulated. Patient organizations do

not depend on contributions of the pharmaceutical industries and have adopted a common sponsor code. The NPCF is against rapid changing medicines as a result of the preference policy, but as long quality can be guaranteed there is room for substitution.

Regarding hypothesis (5):
There is a growing number of channels. The NPCF is not against this development. Her only concern is the quality of the distribution and if that is sufficient, the NPCF believes that they have an additional value for the pharmaceutical market.
The NPCF does not have direct influence on those new distribution mechanisms.

Appendix 5: Interview with Mr. F. Sitsen

Interview held on 11th of March 2010 with Mr. F. Sitsen, former secretary of the executive board of the KNMP.

The outline for this interview is five hypotheses that are investigated in this thesis. These hypotheses are in order:

(1) The quality of the pharmaceutical care has increased under the influence of the free market.

(2) The spending on pharmaceutical care decreases as a consequence of the introduction of a free market.

(3) There is a growing number of distribution channels regarding UR-medicines.

(4) There is no consumer on the market for pharmaceutical care.

(5) There are no monopolies in the pharmaceutical industries. Even if a drug has been patented, there are alternatives. These alternatives might not be as effective as the patented drug but provide a reasonable alternative.

Regarding hypothesis (1):
There are two different sectors in quality, the actual care and the service level. The level of actual care has to do with the amount of patients that are cured better; the service level deals with all kinds of services offered to the patient.
The introduction of market mechanisms did not lead to more deepening in the field of care, if anything it has led to less deepening. Before the introduction of market mechanisms profits were used for innovation in the pharmacies. Not by all pharmacists but many of them used their profits for innovation. Those profits can no longer be realized which leads inevitably to less investment in innovation which leads to a decrease in the quality of care.
The service level of pharmacies has increased over the last years. Those services contain longer opening hours, deliveries and other services. Before the introduction of market mechanisms those services were also provided but the pressure, put on pharmacists, to deliver all the services has increased.

The reason that those service levels have increased more and at the expense of the level of actual care is that the patient is actively looking for the highest service level. The level of actual care is much harder to determine for the patient so he pays less attention to that. Since the service level is important for the patient it also is important for the insurance companies. Since the insurance companies find service levels important, this is what the pharmacists try to improve and they compete on service.
Mr. Sitsen believes that only a very small portion of the patients will actually switch pharmacist because of the service level but this shows that the pharmacists has degraded to the level of any ordinary retailer. Mr. Sitsen hopes that the pharmacist will never fall apart in a part that only delivers the medicines and a part that only gives advice. There is a natural consistency between delivery of goods and advice on how to use them. The technical possibilities do not mean that it is cost efficient or that it is wise to do it.

In short, the service level has increased over the years and the level of actual care did, at best, not increase over the period. This is partly because there is less money now to invest in true innovations than there used to be, and on the other hand, the patients and insurance companies focus on those service levels while the level of the actual care is never a reason for an insurance company not to sign a contract with a pharmacist. Competition between pharmacists is focused on the service level and not on the actual care.

Regarding hypothesis (2):
The costs of pharmaceutical care do not decrease but some costs have been pressed out of the chain. The increase of expenditure on healthcare is still very much the same now and before the introduction of market mechanisms. The reasons for the increase in expenditures on pharmaceutical care have to be found in the aging problem, the introduction of new, more expensive medicines and the unique delivery systems. Unique delivery systems are a way to keep certain pharmaceuticals expensive and generate extra revenues for the pharmaceutical industries. Furthermore the introduction of new medicines leads to a higher amount of pharmaceuticals used by patients.
The market power of the pharmaceutical industries is still high but the current pricing policy could lead to an impoverishment of the research and development of new medicines.
It is unclear who has the benefits of the profits that were pressed out of the chain. The government was able to open all the books of the individual pharmacists but they cannot do

that with the insurance companies. If those insurance companies have made large profits, that cannot be seen by the government.
If all the profits went to the insurance companies they will need it to compensate for the shift of pharmaceuticals that went to the unique delivery system and are expensive as a consequence.

In short, the cost of pharmaceutical care as such has decreased but the annual growth of the pharmaceutical care has not decreased. Some extra profits were pressed out of the chain but the costs will keep rising in the future. Those benefits have gone primarily to the insurance companies but it is difficult to see what they did with it. Because of the introduction of unique delivery systems the cost for pharmaceutical care for the insurance companies went up as well.

Regarding hypothesis (3):
There are more and more distribution channels but not all of them are an enrichment of the pharmaceutical care. Mr. Sitsen believes that the internet pharmacist delivers care that is under the absolute minimum that can be expected from any healthcare provider.
The internet pharmacist can deliver his pharmaceuticals under the same conditions as a regular pharmacist and this is very damaging. The internet pharmacist can take up to 48 hours before a pharmaceutical is delivered, there is limited to no personal contact with the patient and they are not involved in night shifts.
The introduction of chain-pharmacies did not lead to more actual pharmacies. The risk of those chain-pharmacies is that they make deals with insurance companies to set-up a pharmacy in a small village that only has room for one pharmacy and the small, local pharmacy is competed out of business. Another problem is that the insurance companies award chain-pharmacies if they are the first to sign contracts with them. Once those contracts are signed all other pharmacists will have no option but to sign the contract with the insurance company as well. There is no level-playing field so the individual pharmacist can choose between signing the contract that is presented to him or not sign a contract for 75 – 90% of the market.
Central pharmacy has two potential problems if it presents itself as an alternative for a regular pharmacy. The first problem is that a patient rarely uses the pre-calculated amount of medicines. The doctor could have told him to take 2 or 3 doses depending on how the patient feels. If that is the case but the central pharmacy just sends of the package this leads to

unnecessary waste of medicines. The second problem is that repeat prescription is a very good source of income for a general practitioner and he does not like it when this source is compromised. Furthermore, repeat prescription is the ideal moment to check whether or not the right medication is still used by the patient. If you take away this control mechanism, pharmaceutical care might end up being more expensive instead of less. This will lead to cost-saving measures by insurance companies again.
Some unique deliveries really require the care that is added to the medicine. There are medicines that are only used by a dozen people in the Netherlands and it might very well be cost effective not to train all pharmacists on this medicine but just have a specialized agency that delivers and administer the medicine. Sometimes unique deliveries are abused to create a market position.
In short, there are several new distribution channels, some of them are useful and really add something but most of them make no contribution to better or more efficient care. They can only harm the quality of the pharmaceutical care in a sense that it is used for personal benefit in the case of unique delivery systems, creates an extra waste of medicines in the case of central filling and just has an insufficient level of care in the case of internet pharmacies.

Regarding hypothesis (4):
The patient is not a consumer but there have to be made some remarks. If the patient has side effects he is very well aware of his position and will claim an alternative but as far as prices are concerned, the patient shows no signs of economic behavior as long as the insurance company pays for the medicine.
When the GVS and the negative lists were introduced this showed that patients are sensitive for price differences when their own purse is involved. An example of a patient that used the same medicine for years and was not willing to switch, switched right away after he had to pay €2,40 himself.
The attitude of the patient is that he wants the most expensive medicine because he believes that there is a direct link between price and quality; he feels that he pays enough insurance premiums. That same patient is dependent on what the doctor is willing to prescribe, what medicines are obliged to be insured and what medicines are insured extra by the insurance company. The patient always has an information lag. The question is whether or not this information lag hurts him.
For this total lack of financial incentive on the side of the patient was a very simple solution, if the government had said that the patient could purchase every medicine, as far as the

generics are concerned, but that only the cheapest medicine would be compensated. This way the patient would have full freedom of choice and if he thinks the more expensive medicine is the best, he has to pay for that.
In short, the only time a patient acts as a consumer is when the quality of the product is not as good as he hoped. He never is aware of prices as long as the medicine is fully covered by the insurance company. A simple solution would be the introduction of a personal contribution if the patient wants something different from the cheapest medicine.

Regarding hypothesis (5):
For most medicines, there is a real alternative but there are some monopolies. A prime example of those true monopolies that were really expensive are the first HIV-inhibitors. Those cost €40,000 to €50,000 per year per patient. These types of monopolies do not exist for very long, maximum of a year.
Another market in which a monopoly sometimes arises is the market for orphan drugs and the unique delivery systems that come with those medicines.
The pharmaceutical industry has market power; they can set quotas for the delivery of certain medicines so parallel import is difficult.
The introduction of market mechanisms did not lead to extra substitution of medicines. The doctor does not want to fight with his patient and the insurance company is afraid of bad PR if they get involved in therapeutic substitution. This decision is restricted to the doctor who will be rather disgruntled if the insurance company gets involved in his decision for a certain medicine.
In short, there are some short-term monopolies possible for the pharmaceutical industry. The industry also uses tactics like unique delivery systems to create extra monopoly positions. The introduction of market mechanisms has not led to more substitution since the doctor does not want to fight with his patient and the insurance company has no interest in fighting with the doctor.

Appendix 6: Interview with Mr. J Broeren

Interview held on 12th of March 2010 with Mr. J. Broeren, Coordinator pharmaceutical care at Uvit.

The outline for this interview is five hypotheses that are investigated in this thesis. These hypotheses are in order:

(1) The spending on pharmaceutical care decreases as a consequence of the introduction of a free market.

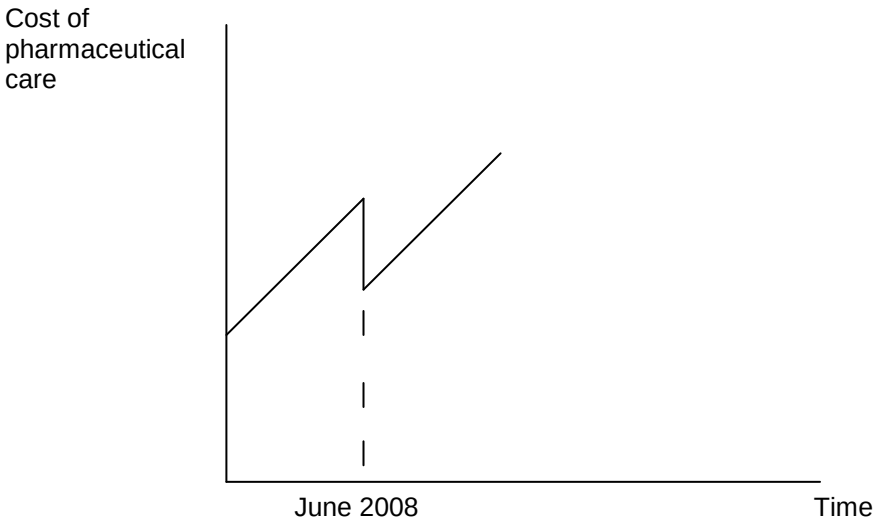
(2) There is a growing number of distribution channels regarding UR-medicines.

(3) There are no monopolies in the pharmaceutical industries. Even if a drug has been patented, there are alternatives. These alternatives might not be as effective as the patented drug but provide a reasonable alternative.

(4) There is no consumer on the market for pharmaceutical care.

(5) The quality of the pharmaceutical care has increased under the influence of the free market.

Regarding hypothesis (1):
Spending on pharmaceutical care has not decreased at all, there has been a year in which the cost for materials has been lower than the previous year but that is only one year. In general it is true that the increase in spending has been a bit lower but there is no structural decrease in the cost of pharmaceutical care. The preference policy led to a one-time drop in the prices, as shown in the figure below.



The extra profits that were in the chain have been cut away by the introduction of the preference policies. The revenues are used in many different ways; the most obvious is that the premiums have not increased as much as otherwise would have been needed.
Uvit uses the extra revenues in such a way that if an insured purchases the preferred medicine, this is not at the cost of their own risk. This way they try to influence their insured. The philosophy of Uvit behind this is that, if the preference policies have generated an extra profit of 20 million and they divide that profit equally over all 4,2 million insured that would only give every insured a benefit of €0,50 per month. If they give it to the people that are actively involved in the cost deductions they deserve more benefits from it.
The competition between insurance companies is fierce and they cannot permit themselves to treat insured badly. The amount of four big insurance companies is good for the competition, three would be too few and there is no room for more big companies. The government would like to see that the insurance companies use their market power to get better care from the healthcare providers. You need a certain minimum size to have market power, once you have it you need to stay above the minimum level to keep it. But other than that minimum size, growing bigger does not lead to more market power. This market power should be used very carefully by the insurance companies and certainly should not be abused.
In short, the spending on pharmaceutical care has not decreased but profits in the chain have been pressed out of it and are now used by the insurance companies to influence their insured. The big four insurance companies have market power which is necessary to execute the task given to them by the government but this market power should not be abused.

Regarding hypothesis (2):

Different groups of insured have different desires and Uvit is aware of those differences. There is a group that adores internet pharmacy. Uvit wants to be able to give those people what they want and Uvit even is willing to give financial benefits if the use of internet pharmacy is more cost effective than the regular pharmacy. Financial benefits are only given if a cost effective method is used. Those financial benefits are not a toy to manipulate with but, as the preferred medication, it is a very effective tool in making people aware of the most cost effective way of getting their care.

Quality is also an important parameter that has to be taken into account. It is however not a static parameter and quality can have different meanings depending on the situation. For example a chronically ill patient that takes the same medicines for the past five years does not need all the explanations in the pharmacy; he just wants the medicines and get out as fast as possible.

Uvit believes that current healthcare providers still offer the patient what the provider thinks is best instead of listening to the desires of the patient. Mr. Broeren is against any forced supply of care. The wish of the patient should be the leading thought. There has to be a minimum level of quality; but anything above that is up to the wishes of the patient.

The introduction of internet pharmacy is not a problem for the quality. It is very bad for the trust in doctors if the pharmacist always has to function as an extra security mechanism. This is unnecessary and mr. Broeren sees no harm in the use of internet to get medication to the patient.

Unique delivery systems are invented by the pharmaceutical industry to generate income for them. Unique delivery is the creation of artificial dependency on a certain service. The system is not invented by people who are working in the interest of the patient but by people who are working in the interest of the industry.

Uvit and mr. Broeren do not believe in the unique delivery systems that make medication more expensive than necessary and only for the benefit of the pharmaceutical industry.

In short, there are new distribution channels and some of them actually meet a need of some insured while others are only market mechanisms, used by the industry to generate extra income. For every new distribution channel Uvit requires that the quality is sufficient and it does not set any other regulations. If it is a more cost efficient distribution channel they give part of the benefits to the insured that use the channel and if it is not an improvement the users do not get extra benefits.

Regarding hypothesis (3):

There are no real monopolies in the pharmaceutical industry, however the pharmaceutical industry uses concepts like unique deliveries to get a strong market position and market power. Another reason that the pharmaceutical industry still has strong market power is because they bribe general practitioners and medical specialists. Mr. Broeren has no confidence that the Code on Drug Advertisement (CGR) will prevent this bribing.

The pharmaceutical companies have to compete for the favor of the prescriber but the benefits that are involved in those competitions do not benefit the patient or the insurance companies. 90% of the medicines from the same product group can be substituted but the way the prescriber is bribed decides eventually what medicine is used.

An example of this behavior is Pantazol and Nexium, which are both drugs, used for stomach problems. Half the hospitals in the Netherlands used Pantazol and the other half used Nexium. In 2009 the patent on Pantazol expired and the generic industries were ready to take over the market. When Pantazol actually expired, all hospitals that used it switched to Nexium instead of switching to the generic. According to mr. Broeren this switch was induced by the fact that generic industries have to give discounts to the insurance companies since that is a free market, while the innovative pharmaceutical industries can give their discounts to the hospitals.

The parallel import is also of no benefit for the insurance companies. The listed prices for national medicines are almost the same as the listed prices for imported medicines. That means that if a lot is imported the reason behind this is more margins for the pharmacist.

In short, there are many alternatives for most medication but due to damaging behavior from the pharmaceutical industry the benefits are not as high as they could have been. The industry still influences prescribers in such a way that not the most cost efficient medicine is used but the medicine that gives the most profit to the pharmaceutical industries. Parallel import only benefits the pharmacist and the wholesaler since the prices are the same. The only difference can be the margins but those do not flow to the insurance companies.

Regarding hypothesis (4):

“The patient can easily be manipulated so the insurance company represents him.”

This is the way Uvit looks at its insured. They are not able to oversee all the possible options and possible treatments. The insurance company negotiates with the healthcare providers on behalf of their insured.

In the Dutch healthcare system there is a lack of financial incentives. The patients are insured too well. The introduction of own risk and preference policies are attempts to fix this problem. According to mr. Broeren we should introduce a system in the Netherlands in which the patient is more aware of the different prices of different medicines. At this moment the patient only wants the best care, regardless of the costs, the own risk of €165,00 is also insufficient for this. Once a patient has used more care than for €165 he can no longer be influenced by the insurance company. The introduction of a personal contribution to the cost of care is a good way to permanently influence the patient and make him aware of the cost of treatment. The NZa limits the possibilities for market mechanisms severely. For example the limitation that an insurance company can only make extra deals with a pharmacist if they pay a higher price per prescribed line. This limitation is absolutely unnecessary.
In short, there is no consumer on the market for pharmaceutical care. This lack of price awareness from the patient is abused by the pharmaceutical industry. The rulings of the NZa also limit the negotiating power of the insurance companies who present themselves as representative of the patient. The only way a patient is going to be aware of the cost is by introducing a personal contribution and as long as that does not happen the patient will not be a consumer.

Regarding hypothesis (5):
In the past 30 years the quality of pharmaceutical care has increased. The introduction of market mechanisms has made it necessary for the pharmacists to show their added value. This results in some quality improvements but the results are not shocking yet.
Uvit is in favor of separating the two tasks of the pharmacies. They believe that in the future the delivery of medicines and the advisory role of the pharmacist will be done by two different institutions that are also awarded differently.
The quality has to be protected by an independent agency to avoid any discussion. The insurance company can have it's own opinion about the quality of healthcare providers and Uvit will start to reject contracts with certain healthcare providers within the next year. Insured who do not agree with this policy are free to switch from insurance company.
Uvit will use two criteria to determine whether or not they will offer a contract to an individual healthcare provider. The first criterion is whether or not the provider is necessary for the accessibility of healthcare. The other criterion is quality. If a provider is not necessary for accessibility, only the best provider will get a contract with Uvit. Uvit has this market power; even a big chain pharmacy could be refused a part of a contract.

In short, the quality has increased over the past years but it is not certain that this is the consequence of the introduction of market mechanisms. In the near future the insurance companies are going to select healthcare providers on the delivered quality and in this represent the insured. If the insured does not like this policy he can switch insurance company.

Appendix 7: Interview with Mr. J. Moes

Interview held on 26th of March 2010 with Mr. J Moes, LLM, Senior policy officer at the Ministry of Health, Welfare and Sport.

The outline for this interview is five hypotheses that are investigated in this thesis. These hypotheses are in order:

(1) The spending on pharmaceutical care decreases as a consequence of the introduction of a free market.

(2) There is no consumer on the market for pharmaceutical care.

(3) The quality of the pharmaceutical care has increased under the influence of the free market.

(4) There is a growing number of distribution channels regarding UR-medicines.

(5) There are no monopolies in the pharmaceutical industries. Even if a drug has been patented, there are alternatives. These alternatives might not be as effective as the patented drug but provide a reasonable alternative.

Regarding hypothesis (1):
This hypothesis is very firm; the decrease in spending on pharmaceutical care does not necessarily come from the introduction of market mechanisms. There are many underlying parameters that influence the expenditure on pharmaceutical care. The growth in the spending on pharmaceutical care never really decreases although we have seen some smaller increases in the expenditure on healthcare. There has been a positive exception but mr. Moes believes that it was not primarily the market mechanisms that led to this. He believes that the agreements between the government and the market parties led to this decrease in the expenditure on healthcare.
The introduction of market mechanisms has led to opportunities for insurance companies. The preference policies that are now used by the insurance companies to press unnecessary costs out of the system would not have been possible under the old system.

The main reason that in 2006 the law on market structure in health care has been introduced is to legalize developments that were going on for a long time already. The government no longer wants to take decisions for the field since those decisions will always be sub-optimal. The distance between the government and the field is too large to make fully balanced decisions. The market will always follow the rules from the government but it also means that new dynamic processes in the market are not stimulated.
The withdrawal of the government does not mean that the sector is no longer regulated. It still is and always will be. This is needed to ensure quality and as a control mechanism. As far as the ministry is concerned, the introduction of market mechanisms went well so far. There are no mass bankruptcies, although there have been some shifts in the position and payment of parties but no cold remediation.
According to the ministry there has to be more attention for payment dependent on the actual delivered service and the actual delivered goods. Insurance companies have to purchase high quality services and pharmacies have to offer those services. The patient has to have a central role in the system, the insurance company has to purchase what the patient wants and the pharmacist has to deliver what the patient wants.
The introduction of market mechanisms does not automatically lead to lower costs. It could also lead to higher quality for the same price but the goal is eventually to deliver higher quality for a lower price.
In the old system there was an incentive for pharmacists to purchase the cheapest medicine but because of behavior from other parties, the pharmaceutical industry and the wholesaler, those incentives failed to work. Once the government became aware of that the claw-back was introduced. This was only symptom control and the ministry wants to go back to a system in which parties negotiate about the best treatment for the best price instead of trying to beat the system.
The problem is that there is a lot of mistrust between the different parties. The insurance companies say they do not have enough market power or at least have a bare minimum and the pharmacists accuse the insurance companies of abusing their market power. Those differences are very uncomfortable but we have to get past them to reach our goal.
The introduction of preference policies have led to absolute savings on material costs and those savings have benefited us all. Because of the covenants with voluntary price agreements the expenditure on health care was about 1,4 billion Euros lower than it would have been otherwise. This means that the premiums per household are about €200,00 lower than they would have been.

In short, there have been some tremendous savings in the market for pharmaceutical care but not all of them are the consequence of market mechanisms. The government is withdrawing from the market and hopes the market parties start to cooperate with each other instead of fighting each other. The quality will always be under control of the government.

Regarding hypothesis (2):
By definition the insight of patients in the cost of care is very low. There is a very small group of patients who look everything up through the internet but the mass is not interested in the cost of care at all.
Whenever someone gets ill, he only wants the best care, regardless of the costs. The moment someone has to pay premium the insured finds the amount of premium rather high. Those two moments are rarely linked by anyone.
Due to the large amount of different policies new services arise, for example the consumentenbond or kiesbeter.nl who are able to determine what insurance policy fits your needs the best.
The preference policy only makes up a small part of the insurance policy but it is not accepted in the Netherlands in the same way as for example in Denmark. In Denmark they switch every two weeks from preferred product and in the Netherlands even switching once per year causes problems. The patient cannot oversee the different products and the price differences and is not a consumer in that sense.
The patient needs protection but he also can be represented by patient federations or by insurance companies. Mr. Moes believes that the insurance companies have, eventually, the best interest of the patient in mind. This representing function of the big insurance companies leads to changes in the system. Insurance companies focus on decreasing costs and it is expected that the quality will increase later on in the process. Healthcare has to be more efficient; otherwise it will lead to a increasing percentage of BBP used on it. A country can choose for this solution of spending more and more on healthcare but in the Netherlands, the choice has been to let market parties contain costs .
The ministry has the opinion that some extra laws can be scratched since at this moment laws are in place to uniform the treatments. This leads to a lack of innovation and innovation is something that should play an important role in this market.
In short, there is no consumer on the market for pharmaceutical care. The government, care suppliers and insurance companies have to come to the best possible care with respect to the

desires of the patient. The patient however is not capable of making a completely informed decision.

Regarding hypothesis (3):
The quality has not decreased, several parties have expressed the fear for this but there is no evidence that the cuts have led to a lower quality level.
The income of pharmacists out of bonuses and discounts has decreased but the premium per prescription line has increased. This does not completely compensate but the ministry does not see a decrease in quality. The question that comes up is, how to define quality exactly. The ministry would prefer some extra guidelines and protocols. There are other projects that are trying to show the quality of the pharmaceutical care. The insurance companies have not used this possibility enough. The insurance companies have started with putting pressure on the prices and trying to get as many insured as possible, quality is the next step. This step does require mutual trust.
Looking back further the quality has absolutely increased, especially in the field of service. This increase in quality is largely caused by better education, introduction of NAN-norms and working via protocols. The introduction of market mechanisms has led to an even higher service level.
In short, the quality has increased but there is still a lot to win. The insurance companies have to stop focusing and selecting on costs and should start selecting on quality and pay for that.

Regarding hypothesis (4):
All those new distribution channels are pharmacies since this is a legal obligation. This means that also the new distribution channels have to give the same services as a traditional pharmacy. A patient should be able to go to the internet pharmacy and ask for advice for example.
In practice, the internet pharmacy is an initiative aimed at repeat prescriptions which is 75% of the total market. Those patients do not need or want extra explanation and enjoy the delivery of the medicines at home. Such initiatives have come up much more than before due to the pressure on the system. Because of those new initiatives, the traditional pharmacy is also providing more services.
Another innovative delivery mechanism is the Central Filling. In this mechanism the medication is pre-packed in Baxter-Rolls that show the patient what pill he has to take at what

time. This helps the compliance to pharmaceutical therapy and it gives pharmacy assistants time to do other tasks that could benefit the level of care.
This system is a first step to a system in which the pharmacist gives advice and the patient gets his medication from another source. In this model it is also obvious what the insurance company pays for. In today's model insurance companies claim that they already paid for a certain service while pharmacists say that that service is not included in the price. It will be more clear what is and what is not included in the price, leading to more accurate purchases by the insurance companies.
The introduction of the EPD also gives room for more new initiatives like the internet pharmacy or other new delivery systems. The obligation to check the medication for every new patient is already on pharmacies but it sometimes is difficult to get the medication history. It has been used in the past to keep new entrants out.
The ministry tries to facilitate new initiatives that really have an added value. If a certain innovative project cannot start because of regulations, those regulations will be checked and eventually even made more lenient to allow the innovation.
Examples of this are the use of robotics in the pharmacy or the introduction of patient vaults in the pharmacy. The ministry tries not to block wishes from the patient and if there are problems concerning the standard of care, there is the IGZ to interfere.
The cost for distribution can be much lower and everything that is saved can be used for real care again.
Unique deliveries are also pharmacies and the competition focuses on who is going to be the unique deliverer. The ministry does not want to ban it, also because it is care that has some extra service attached to it. Even some insurance companies were enthusiastic about it. There are also in this segment exploits but it is no violation of the free market but if you really only use one distributor you might want to be careful with your price to avoid a visit from the NMa or NZa for abusing your market power.
In short, there are some good initiatives for new distribution channels and the ministry supports them. As long as the quality is sufficient and they do not abuse the market power that they created it is very well possible that it is a more efficient way of delivering care.

Regarding hypothesis (5):
There are monopolies in the pharmaceutical market. Patented medicines are the only medicine for a certain illness and they have a true monopoly in the insured package. This situation only rarely appears. After some time there are multiple medicines for every possible illness.

Sometimes you invent breakthrough medicines but this gets rarer and even for those medicines it holds true that a competitor will also bring a medicine on the market targeting the same illness. Not having a true monopoly does not mean that you do not have market power though. If your medicine is prescribed by many or even better, if it is listed in a guideline or protocol, you have high market power.

The preference policies are currently only targeting generics, in the future the ministry considers to allow therapeutic substitution. This is not going to be on a very short term. This has to do with the fact that insurance companies do not want to interfere with the decision of the prescriber as far as those medicines are concerned. De government has fewer problems with that and they made guidelines about what to prescribe in the case that there is an expensive patented medicine and a cheap generic variation.

In short, there are possibilities for monopolies in the pharmaceutical market but true monopolies are very rare. The fact that monopolies hardly exist does not mean that the industries do not have market power. If their products are prescribed a lot or are named in guidelines and protocols they still have large market power.

Appendix 8: Interview with Mr. K. Rosmalen

Interview held on 29th of March 2010 with Mr. K. Rosmalen, LHV.

The outline for this interview is five hypotheses that are investigated in this thesis. These hypotheses are in order:

(1) There is no consumer on the market for pharmaceutical care.

(2) There are no monopolies in the pharmaceutical industries. Even if a drug has been patented, there are alternatives. These alternatives might not be as effective as the patented drug but provide a reasonable alternative.

(3) The quality of the pharmaceutical care has increased under the influence of the free market.

(4) The spending on pharmaceutical care decreases as a consequence of the introduction of a free market.

(5) There is a growing number of distribution channels regarding UR-medicines.

Regarding hypothesis (1):
There is no consumer on the market for pharmaceutical care, most of the people are not even aware of the fact that there is a market for pharmaceutical care. Even a large part of the healthcare providers is unaware of the fact that they operate on a market. If you examine the market the concept of pharmaceutical care is dealt with in many different ways. Pharmacists have no uniform policy; they all have different ideas about what pharmaceutical care is.
The chronically ill patients are a bit more consumer than others, they might switch pharmacy because of different service levels. In that sense they appear to be partly consumers but this does not mean that the pharmaceutical care is a market.
The reason that patients do not behave as consumers is because they are not aware of the cost of care. As soon as a patient is confronted with the cost of care, he starts to think about those boundaries but is still unable to influence the costs so even then he is not a consumer. You can only switch from insurance company once a year but the different policies are so alike that most people are just glad that they are insured and cannot be bothered to switch. The only

people that are switching more often are chronically ill and those patients always have to move to more expensive policies. It is doubtful whether patients will be able to influence policies in the future. This will also depend on how policies will change in the near future and what the government will change in the insured package.
Mr. Rosmalen doubts whether the introduction of market mechanisms leads to benefits at all. The key of our system is that part of the insured package should show solidarity. This is a key value in a civilized country and if even the US introduces it, the free market obviously is not the best way to deal with healthcare.
The information asymmetry will always exist. Chronically ill patients know more about their illness than an acute patient but they do not know as much as the professional. Beside the asymmetry, the chronically ill have more to consider than just their illness and most of them do not have a single illness but multiple illnesses. There are some experts on their own illness but those are the really rare illnesses. The large majority however has a rather limited knowledge about their illness and the cures. In short, there is no consumer on the market for pharmaceutical care. There will always be an information asymmetry between patients and professionals and patients are not aware of the cost of healthcare.

Regarding hypothesis (2):
This hypothesis is true for many medicines but it also depends on what you consider tailored care. Many patients are content with their medicines and do not want to consider alternatives for any reason. At that point you do not have an alternative. The other situation in which the prescriber does not have an alternative is on rare illnesses for which only one medicine has been developed. 95 – 99% of the care that is delivered outside of the hospitals has alternatives and the industry will have to compete to keep its market position.
The industry has to compete for the favor of the patient. It is the patient who eventually decides what is prescribed. The pharmaceutical industry can try to influence the doctor but the only one that can effectively do that is the patient who tells the doctor whether or not he likes a certain medicine. Only if medicines are exactly identical to the patient marketing can influence the choice for either one of them. In all other cases, the choice of the patient is leading.
There has been more attention for efficient prescription of medicines. There is attention for this in guidelines and protocols since it plays an important role in the financial stability of the healthcare system. This substitution has, according to mr. Rosmalen nothing to do with the introduction of market mechanisms. The insurance companies are more aware of the

possibilities to substitute but doctors always have been aware of their duty to prescribe efficiently.
In short, the pharmaceutical industry holds very few monopolies. They have to compete for the favor of the patient. The doctor is not influenced by the pharmaceutical industry, but solely by the preferences of the patient. The industry does hold a strong position once many patients prefer their medicine.

Regarding hypothesis (3):
The pharmacists have been working on higher quality long before the introduction of the new healthcare system. For mr. Rosmalen this is also a sign that market mechanisms in healthcare do not work. Pharmacists have always tried to distinguish themselves from others. The more entrepreneurial pharmacists did that better or more profound than the less entrepreneurial ones but every pharmacist aims to deliver the best care. This drive to be the best is no consequence of the introduced market mechanisms but is caused by increasing returns to scale which lead to extra income.
The quality of pharmaceutical care has surely increased over the past 10 – 15 years. The field in which this increase has been the largest is providing information to patients and medication control.
The projects that are currently used to measure quality in pharmaceutical care are not beneficial for the healthcare market. It is a very expensive system that is only put in place because the government and the patient want to know everything about the professional care supplier. There is a lot of mistrust from the patient and the government towards the professional. This is understandable but it is not just. In every profession there are people who do not meet the standards, but in the quality system that is installed now, a lot of money has to be spend on administration instead of on care.
The professionals have their own control mechanisms to punish colleagues that work under the standard. These systems have been in place for many years and function well. The desire to control and check on quality is out of proportion now. Also, the system will not lead to the exclusion of professionals that deliver bad care but it will only lead to higher average levels of care.
To return to the case of pharmacists, the amount of information and materials that a patient receives when getting his medication is much higher than it was 10 – 15 years ago. The patient is aware of a higher quality but mr. Rosmalen does not believe that this is caused by the introduction of market mechanisms.

In short, the quality has increased in the past years but this is not the consequence of the introduction of market mechanisms. The desire of the government and the patient to check on the delivered quality leads to an imbalance between expenses on care and administrative expenses. It should be left to the professionals to take care of those who do not meet the standards.

Regarding hypothesis (4):
The spending on pharmaceutical care as such has not decreased but the growth has been less than it would have been. Mr. Rosmalen considers other policies that caused these savings for example the measure of prescribing generics and some other governmental measures. The introduction of market mechanisms has targeted the relation between insurance companies and suppliers of medicines. The preference policy that has been put in place by the insurance companies has led to lower prices for generic medicines.
The role of the doctor in the chain is to prescribe as efficient as possible. This does not automatically mean that you need to prescribe the cheapest medicines. In the healthcare market it is possible that a certain illness is now treated with a very expensive medicine but before this medicine was prescribed it took surgery to cure the illness. This substitution also has to be taken into account when looking at the increased expenses on pharmaceutical care.
It is a shared responsibility of the doctor, the supplier and the patient. The patient cannot oversee all the possibilities so the doctor should inform him. An informed patient can decide if he prefers the surgery or the medicines.
The revenues of these cost saving measures have benefitted society as a whole. Professionals whose behavior has led to the more efficient healthcare do not get the revenues.
In short, the spending on pharmaceutical care has not decreased but the increase is less than it would have been without measures. Those measures do not come from the introduction of market mechanisms and the substitution for other medical procedures has to be taken into account as well when looking to the increased expenditure on pharmaceutical care.

Regarding hypothesis (5):
Entrepreneurs who are looking for niches on the market develop those new distribution channels. The LHV does not play an important role in the development of those new channels. The position of the LHV with regard to these new channels is that they prefer the traditional chain in which a regular pharmacy delivers the medicines that were prescribed by a general practitioner. The LHV points out that supplying medicines is more than just

delivering a package to the patient. The quality in the traditional chain is high and if the system is not broken, don't try to fix it.

Unique deliveries are almost always induced by the hospitals. The LHV has no concern with them but takes the position that, if unique deliveries are used, it always has to be reported to the general practitioner and the pharmacy where the patient is registered and gets his medication.

The role of the pharmacy in the future is the same as it has been in the past. Mr. Rosmalen does not believe in splitting the current pharmacies in a company that solely delivers medicines and a party that solely gives advice. Pharmacies should start focusing on their core business of giving information to the patient and delivering his medicines and the doctor should stick to his core business of diagnosing the patient and stay away from delivering medicines. The only way to make healthcare better is that all parties in the chain try to improve their own business and fit it in the chain.

In short, there are more distribution channels but they are no addition to the pharmaceutical market. The LHV sees no role for those new delivery mechanisms and believes in the traditional chain. All parties in the chain have to return to their core businesses, optimize them and fit them in the chain. That way the best possible care is delivered.