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ETHICAL CONSIDERATIONS OF PRICING OF BELGIAN HEALTHCARE SERVICES

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Abstract

Healthcare is of most importance to consumers, and analyzing how its price is being fixed and perceived will reveal interesting insights for the literature. In order to respond to the study question: “Is pricing of healthcare in Belgium fair?”, firstly the existing literature on ethics, marketing and pricing basis are analyzed and discussed.

The ethics basis is set through four visions: utilitarianism, liberalism, marxism and liberal egalitarianism, and the most relevant ones to the Belgium society, utilitarianism and liberal egalitarianism, are used to reach the conclusions. Literature on ethics in healthcare is also consulted. Marketing concepts are further described, as well as characteristics of healthcare marketing. Moreover, price conception is generally explained and looked into more in details for healthcare pricing. The healthcare organization in Belgium is further explained and detailed, with a focus on main stakeholders.

Following the discussion of existing literature, 5 research questions on consumers’ perception of price and their experience are formulated. These research questions are: “*Do consumers have enough information on their choices in healthcare?*”, “*Do consumers perceive the price of healthcare services as important while making a choice?*”, “*Do consumers really seek for a choice in healthcare?*”, “*Are consumers satisfied by their healthcare service?*” and “*Did consumers already felt discriminated because of their presumed purchase power?*”. The research questions are answered with the help of hypotheses tested and studied through a quantitative research.

In chapter 5, research questions are explained together with the quantitative research’s methodology, sample and the hypotheses tests. The target group is composed out of people having been hospitalized in Belgium, since they are believed to have consumed the largest quantity of healthcare services, and the past decade is set as time limit in order to ensure results are corresponding with the current reality.

After the analysis of the survey results, it is concluded that consumers do feel sufficiently informed, that they do not consider the price of healthcare important in their choosing, that they value having a choice in their medical care, that they are satisfied with the service and that they are sometimes discriminated on the basis of their presumed purchase power.

Recommendations for further studies formulated include a larger population target, testing the information level of consumers not having been hospitalized and also further looking at the discrimination issue.

The healthcare organization in Belgium responds to the definition of utilitarianism and liberal egalitarianism societies as follows: the government lets the healthcare market reach its competitive equilibrium by not fixing all aspects of price and letting the medical fee to an agreement between the stakeholders. Moreover, through the compulsory insurance, the government ensures a minimum level of healthcare to all individuals and, implicitly, attributes healthcare to those who have the smallest amount of it. With the means of the social contribution, every individual in the society contributes to eliminate the negative externality of unforeseen medical needs and thus increase the average welfare.

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Introduction

“It is health that is real wealth and not pieces of gold and silver.”

Mahatma Gandhi (1948)

Health is, as Gandhi underlines, the most important resource an individual has. Maintaining and regaining health of greatest importance for individuals. Healthcare is, an extremely significant service in the eyes of the consumer, and looking at how pricing is constructed and applied has proven to be most revealing. The reality is that, while seeking healthcare, price is always an insecurity, because of the hidden layers of the need, but is never of greatest importance. People would pay any amount of money to be and stay healthy. Given price inelasticity of health, one should question whether this leads to abuse by any health institution, which leads us to the study question: “Is pricing of healthcare in Belgium fair?”.

In order to answer this study question the ethical grounds will need to be defined first. We will further describe the marketing landscape and identify the place price occupies. After the theoretical part, we will look more closely to the healthcare organization in Belgium, and reveal a more practical part: pricing conception.

To investigate how the price of health services affect the consumer, information will be gathered from people having already been hospitalized in Belgium. We feel that the success of a healthcare organization is best evaluated through the consumers’ perception of it. We consider the target group to having run through a considerable part of the healthcare process: general physician choice, medical specialist choice and the hospital experience. Variables like information, price, choice and satisfaction will be tested throughout several questions.

Afterwards, in order to answer the study question, the importance of price in making a choice will be analyzed. Not only the price itself, but also some variables influencing prices will be tested. Moreover, to better understand the necessity of access to choices, we will try to define if consumers really seek having a choice. The satisfaction of consumers regarding the care received is of great importance, and this will be described in relation to quality, price, recommendation and repurchase.

After the SPSS testing and the retention or rejection of the hypotheses conceived to answer the research questions, conclusions will be drawn to highlight the relevant findings. Moreover, the conclusions will be filtered through the lenses of ethical principles.

Chapter 1

Economic and social ethics

The Oxford dictionary (2010) defines ethics as “the branch of knowledge that deals with moral principles”, where moral is “derived from the code of behavior that is considered right or acceptable in a particular society”. In this study we will refer to ethics in the aspect of applied ethics defined by Brenda Almond (1996), the co-founder of the Society for Applied Philosophy, as being “*the philosophical examination, from a moral standpoint, of particular issues in private and public life that are matters of moral judgment*”.

In their book, “Economic and Social Ethics”, Christian Arnsperger and Philippe Van Parijs (2003) define social ethics as the political philosophy, seen as a part of moral philosophy. In this area, of a great importance is the theory of social justice, defined by Arnsperger and Van Parijs(2003) as all “the principles that govern the equitable definition and repartition of rights and duties between the members of the society”. It focuses on the social institutions and their fairness, rather than their ability to support economic growth. In their book, they present four visions of fair societies: utilitarianism, libertarianism, marxism and liberal egalitarianism (Arnsperger and Van Parijs, 2003).

The first one, the utilitarianism, is based on the idea that a fair society is a happy society and it should seek the greatest good for the greatest number of people (Arnsperger and Van Parijs, 2003). The term utility, for the founder of this theory, Jeremy Bentham (1789), has a hedonistic interpretation in terms of seeking pleasure and avoiding pain. The modern meaning refers to an indicator of satisfaction of individual preferences. The classical utilitarianism defines the collective welfare as the sum of levels of welfare of the individuals composing the society, meaning that, in order to maximize the social welfare, one should maximize the individual welfare of its individuals (Arnsperger and Van Parijs, 2003, pp. 15-28).

The second one, the libertarianism, is presented by Arnsperger and Van Parijs (2003) as being based on human dignity and the liberty of choice that society should guarantee. Its three principles are the self-ownership, original appropriation and fair traffic. In other words, everyone should be given the right to fully own its body and use it as he/she pleases, the only limitation being not to renounce to their liberty (slavery). Everyone should also have the right to own objects, provided they are the first to claim the ownership, and to exercise voluntary transactions on what they rightfully own (Arnsperger and Van Parijs, 2003, pp. 29-42). John

Locke (1690) argues that no one can own a part of nature without leaving enough and as good of it for those who follow, present or future.

The third one, the marxism, focuses on a more equal society as a critic to capitalism. Among its most important concepts are the theory of alienation, the theory of value, equal justice and extinguishing unfair exploitation- the worker's right to the fruit of its labor (Arnsperger and Van Parijs, 2003). The main idea is that people should be able to satisfy their needs through their capacity of labor: "from each according to his capacities, to each according to his needs" (Marx, 1875). The ideal society, here, would be one in which everyone works on what they do best, information and innovation are centralized and used towards the satisfaction of everyone's basic needs, without workers needing an actual pay. Marxism condemns as unfair the exploitation inflicted on workers by capitalism and believes in a society where workers are themselves deciding on the allocation of the product of their labor (Arnsperger and Van Parijs, 2003, pp. 43-55).

The fourth one, the liberal egalitarianism, refers to an equal and liberal conception of justice (Arnsperger and Van Parijs, 2003). The base of it is considered the theory of justice formulated by John Rawls. Rawls (1974) identifies two types of primary goods: natural (health, talents) and social (fundamental liberties, access to different social positions and the socio-economic advantages linked to those position). In his theory of justice, he defines three principles that should govern a society in order to equitably distribute the social primary goods among its individuals, while considering their natural primary goods. These are the principles of equal liberties; the principle of equality of chances and the principle of difference. Rawls (1974) states that a society should equally offer its individuals the fundamentals liberties of expression, conscience, association but also voting rights, protection against judgments and arbitrary imprisonments. However, if inequalities should occur, society should ensure that those possessing equal talents have access to equal chances. What is more, for different social positions, society should define a position accessible to everyone and maximize its gains (in terms of revenue, power, etc.). This social position should play a role of reconciliation between the social inequalities created by economic efficiency and the desired equality in a society (Arnsperger and Van Parijs, 2003, pp. 56-69).

1.1. Ethics in healthcare

The four visions of how fairness can be achieved in a society, presented in the previous section, are used by Arnsperger and Van Parijs (2003) to provide a response to the question of whether the healthcare services should be left to reach the free market equilibrium. From the utilitarianism point of view, governments should let the market reach its competitive equilibrium, but should design a distribution of revenues in order to maximize the individual utilities. A compulsory level of insurance should be established to deal with the unequal and unforeseen needs of medical care, in cases of accidents for example. In this way, everyone contributes to this negative externality and, with those in need profiting from it, the average welfare would increase. There is, of course, a question on how to allocate the health care in order to maximize the welfare and on if it should be strictly based on a cost/benefits criterion (Arnsperger and Van Parijs, 2003). From the libertarianism point of view, Arnsperger and Van Parijs (2003) state that every individual is the owner of its body and its resources and it should be entirely to their will the amount to be spend on healthcare or on insurance. Furthermore, it should also be of the will of the healthcare provider to accept, or not, to meet the demand of healthcare. Government should not interfere neither in the organization of the healthcare system, nor in imposing insurance or regulating prices. It should be of the freewill of healthcare providers to impose or not a price, and of the freewill of individuals to organize themselves around a system of insurance (Arnsperger and Van Parijs, 2003). Marxism would value healthcare at the utility value and its ability to satisfy people's need. It would, furthermore, condemn insurance because of its capitalist quest for the higher profit. The liberal egalitarianism point of view would stand for an attribution of healthcare to those who have the smallest amount of it. It would also stand for a basic amount of compulsory insurance to be used for the common good, as fighting an epidemic for example (Arnsperger and Van Parijs, 2003, pp. 87-96).

Mackenbach, Bakker, Sihto and Diderichsen (2002) justified the need of reducing socioeconomic inequalities in health as with the following two arguments: “because inequalities in health contradict values of fairness and justice” (Mackenbach and al., 2002, p. 26) and “because reducing inequalities in health may lead to better average health in the population as a whole” (Mckenback and al., 2002, p. 26). The first argument refers to inequalities in healthcare as being inequitable distributions of health that are “defined as those that are avoidable, unnecessary and unfair” (Mackenback and al., 2002, p. 26). Differences in health statuses between individuals in a society that are caused by natural, biological variation or freely chosen health-damaging behavior (such as smoking) are not perceived as unfair. The second

argument refers to improving the health of the lower socioeconomic groups without worsening the one of higher socioeconomic groups (Mackenback and al., 2002, p. 26). “Health inequalities are not only a function of the maldistribution of economic and social resources that lie outside the health system but are also exacerbated by differential access to health services” (Paterson and Ken, 2010, p. 169). This is translated into access to primary care and to hospital care.

Health problems may constitute an obstacle to individual freedom, a freedom for everyone to choose the life they value that should be the ultimate criterion for development in societies (Sen, 1999). It is important to reduce variation in health, by reducing the consequences of illness in term of disability and participation (Mackenback and al., 2002, p. 28).

**Highlights for research questions:**

A fair society should ensure a proper allocation of healthcare to all individuals.

It should guarantee that every individual has access to proper healthcare, regardless of the socioeconomic status. In other words, every individual of a society should be able to afford quality healthcare without discrimination.

Chapter 2

Marketing and marketing mix

The term “marketing” is literally the process of delivering to the market (Lambin, 2007, 7), where the market is “a regular gathering of people for the purchase and sale of provisions, livestock, and other commodities” as defined by the Oxford dictionary (2010). Marketing, as defined by the American Marketing Association (2013), “is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large”. Marketing activities are centered on satisfying customers’ wants and needs with products that offer competitive value (Keegan, Green, 2011, p. 39).

Accordingly to the groups of buyers, marketing can be divided in three areas: consumer marketing, business marketing and social marketing. The first is used when transactions are between companies and end-consumer (individuals or household); the second is used when the two parties in the exchange are organizations; and the third when it covers non-profit organizations as producers (Lambin, 2007, p. 6).

The marketing process can be divided into two approaches: strategic and operational. Strategic marketing includes a needs analysis, market segmentation, attractiveness analysis, competitiveness analysis and the choice of a positioning. Operational marketing is a more action-oriented process that focuses on the product, distribution, price, communication and the marketing program (objectives, budget) (Lambin, 2007, p. 7). A third approach can be considered as a cultural component: market-oriented. This one is thought-oriented and represents the strategic choices made by management (Lambin and de Moerloose, 2012, p. 11).

Strategic marketing can be reactive or proactive, the former means responding to an already existing need on the market, and the latter represents inventing a product and searching for the need to match it with (Lambin and de Moerloose, 2012, pp. 18-21). This means that the objective of strategic marketing is not only to listen and respond to customers’ needs, but also to help the customers satisfy the needs they did not know they had. Operational marketing can be divided between transactional and relational according to the target or sector of activity: if the target is the final consumer of a product we talk about transactional marketing, and if the target is another company or the service sector, then we talk about relational marketing (Lambin and de Moerloose, 2012, pp. 18-21). Transactional marketing has as objective to concur market

shares, to efficiently manage brand/products portfolios and mass communication on non-saturated markets (Lambin and de Moerloose, 2012, pp. 18-21). Relational marketing has as objective building and growing the relationship with the client in order to gain its loyalty and to manage clients' portfolios by maintaining a permanent and personal communication on saturated markets (Lambin and de Moerloose, 2012, pp. 18-21).

The marketing mix, as part of the operational marketing, is the set of “controllable variables that an organization can co-ordinate to satisfy its target market” (McCarthy and Perreault, 1987). They are the basic tactical components of a marketing plan. Cengiz and Yayla (2007) describe the term as being a combination of tactics used by a business to achieve its objectives by marketing its products or services effectively to a particular target/customer group. The marketing mix was originally composed out of four Ps, firstly suggested by McCarthy (1960) as being the product, the price, the place of distribution and the promotion. The product represents the item or service being marketed along with its characteristics, quality, benefits and quantities. The price represents the value of exchange of the item, its changes and payment methods. The place refers to the location in which the item is available to customers, including distribution logistics. The promotion refers to market communication which goes from personal selling, advertising, direct marketing, public relation, sales promotion to sponsorship. This mix was criticized for being too simplistic and a fifth P was introduced: people. People consist in this context of the employees involved in the conception, production and selling of the item. Booms and Bitner (1980) added three extra Ps to the original 4Ps' model: participants, physical evidence and process. This addition to the traditional marketing mix is influenced by the growing services sector (Khan, 2014).

The marketing mix was lately submitted to a series of critics, linked to their lack of strategic content, their orientation which seems to be more inside-outside and does not focus enough on the customers, and their lack of long-term focalization, meaning that the marketing mix is appropriate for fast-moving products and it does not take into account the relationship so important in the service sector (Lambin and de Moerloose, 2012, pp. 24-25).

2.1. Marketing services

The product can either be a good or a service. As observed earlier, services require different approaches in the marketing area. Services, as underlined by Lambin (2007), have unique characteristics that need to be considered in marketing: intangibility, perishability, inseparability and variability. The intangibility of services refers to their immateriality, they are produced when consumed and cannot be tested or observed beforehand. This makes it difficult

to communicate their features and qualities. The perishability of services implies that they cannot be stored, they are produced when consumed, and thus challenges can arise in meeting the supply and demand. It is difficult to balance the capacity and their inventory, ensure their availability in peak periods and re-use the capacity in off-periods. The inseparability of services refers to the human component, since the provider of the service has a direct contact with the consumer, it is difficult to ensure a standardization of the performance. What is more, the client participates in the process and the interaction with the service provider which represents another factor of unpredictability. The variability of services is linked to the fluctuations in quality caused by the three characteristics described previously. It is because of the human factor that a service may not be evaluated the same at every encounter; this can, of course, be minimized by strong selection and training of employees and clearly defined standards (Lambin, 2007, pp. 158-159).

Services can be divided into four categories according to their degree of interaction and adjustment linked to the customer and the degree of intensity of the workforce (as illustrated in the matrix in Appendix nr.1): industrialized service (airlines, public transportation, and hotels), mass services (distribution, schools), adapted services (hospitals, car-shops, other repairing services) and professional services (doctors, lawyers, accountants) (Schmenner, 1986).

Professional services' marketing "*consists of organized activities and programs by professional services firms that are designed to retain present clients and attract new clients by sensing, serving and satisfying their needs through delivery of appropriate services on a paid basis in a manner consistent with creditable professional goals and norms.*" (Kotler and Conner, 1977, p. 72). Three barriers to marketing professional services were identified by Kotler and Conner (1977): disdain of commercialism (professionals do not want to be seen as motivated by money), associations' codes of ethics (professional associations prohibit selling activities and referrals to commissions), and equating marketing with selling (the strong association between marketing and selling influences professionals in repealing the idea of marketing their services). The authors also identified several strategies for a professional firm to do marketing: expanding services to existing clients, identifying and cultivating high potential prospective clients, widening and deepening personal referral sources, favorable awareness programs (public speaking and writing, organizing seminars, sponsoring scholarships, awards), service and market specialization and replacing clients. Professional service firms are doing marketing whether they want it or not, it is important to do it efficiently (Kotler and Conner, 1977).

2.2. Marketing in healthcare

One of the first articles dealing with the issue of healthcare marketing identifies the challenges an administrator of a hospital as being the following: “to minimize dissatisfaction or maximize satisfaction - minimize the frequency, duration and seriousness of illness or optimize health; to accept a subjective judgment of satisfaction or dissatisfaction - the report of patient or practitioner on the patient; or to measure satisfaction before or after the marketer has had a chance to correct dissatisfaction, which presumes a system for handling patient complaints” (Andreasen, 1979, p. 90). Six different kinds of measures were identified by Andreasen (1979): sales, repeat purchasing, salesmen’s or middlemen’s opinions, consumer’s satisfaction, voiced complaints and reported problems. Sales is an objective and easy-to-measure tool, but in terms of quantity or revenue might not be an appropriate tool for hospitals, as the same customer coming back often speaks poorly on the quality of the medical care. An elevated sale price might reflect on a willingness of hospitals to take advantage of price inelasticity or on a growing use of laboratory procedures to protect against malpractice suits. A good use of this tool might be to measure certain types of consumers’ visits in preventing health problems. Repeat purchasing, in terms of coming back to the same doctor, creates an inertia between doctors and patients. Patients are reluctant to change doctors because of the cost that might represent in repeating certain procedures, but also because information about a doctor’s training experience or even prices is hard to come by. Repeat “purchasing” measures might be good indicator in the case of preventive care. Salesmen or middlemen’s opinion on their performance is undesired in this type of service as it requires the doctor to always doubt his abilities and this can become problematic especially in life-or-death situations. Consumers’ satisfaction might also appear problematic-to-measure as customers’ knowledge is questionable, their access to information on other alternatives is not guaranteed, their expectations might be unrealistic and they may also be unable to judge the effectiveness of curative or preventative treatments. Voiced complains are difficult to be resolved in healthcare, mostly due to the sophistication of the service offered and the lack of knowledge from the plaintive. Reports of problems go in the same direction as voiced complains: consumer education in evaluating medical care is needed. (Andeasen, 1979).

The main two conclusions here are that healthcare marketing should be focused on preventive care, and that consumers need to be more educated in the type of information to seek before seeking for a healthcare service and the aspects of the service they should evaluate.

Boonekamp (1994) (Figure 8, Appendix nr. 2) represented the network relations a hospital has to entertain as being linked to different actors: patients/customers, authorities, banks, suppliers, other providers and third parties (i.e. insurers). In healthcare organizations, the relationships with these various stakeholders need to be considered when applying strategic marketing (Boonekamp, 1994). The relationship with the consumer is far more complicated in healthcare compared to other service areas, as the person receiving the service might not be the one paying for it, or patients might not necessarily choose the provider, as they might have a referral from another provider, mostly the general physician. There is also the problem of meeting the demands of the customer, since they usually are in a discomfort state when consuming the service, and there is a technical and a functional aspect of the service to be evaluated. As stated previously, the technical aspect is difficult to evaluate by regular patients. With regard to the others above-mentioned actors, the relationships might change from interdependence to mutual trust and might sometimes damage the provider-receiver focus (Boonekamp, 1994).

Healthcare marketing faces a crucial dilemma, created by the complex institutional environment and the link between providers, consumers and government, of whether the well-being of the patient or the profit is of most importance. Healthcare marketers need to solve salient issues of patients, linked to healthcare quality, satisfaction, anxiety, ambiguity or uncertainty, and the lack of control on the subject; and they have to solve this while taking into account the competitive environment, rising medical costs and mutations of the medical focus (Zineldin, 2006). When it comes to healthcare, patients seek quality with little regard to the price. Zineldin (2006) concluded that quality is important in serious health decisions and compromising on care is unacceptable. What is more, there is a certain frustration linked to the lack of information and the ability to judge the medical treatment that may cause dissatisfaction. Gruppen, Margolin, Wisdom and Grum (1994) found in their study that, for many treatment choices, patients are confronted to a lack of accessible and medically-sound information to enable them to weight the benefits and drawbacks of medical procedures. The consumption of medical treatments is often beyond a patient's decision as the healthcare provider selects the procedure and treatment, and it seems that the industry belongs more to the providers than the consumers (Higgs and Wieringa, 2007).

The provider encounters issues, described by Lim and Ting (2012), in term of the mutation of medical focus, as there is a tendency towards advancing medical technology and an increasing interest in preventive care and proactive treatment. The focus is also sometimes shifted to new diseases and technological advances that raise the cost of the service. Other important issues

are the growing numbers of providers and the competition they bring along, and the several actors involved in the process that might influence the cost (Lim and Ting, 2012).

2.3. Value chain in healthcare

To better understand the whole picture of healthcare organization, it is important to describe the value chain. “The healthcare value chain consists of a healthcare payment chain and a healthcare delivery chain” (Lim and Ting, 2012, p. 6). The following figure (Figure 1) gives an insight of the value chain:

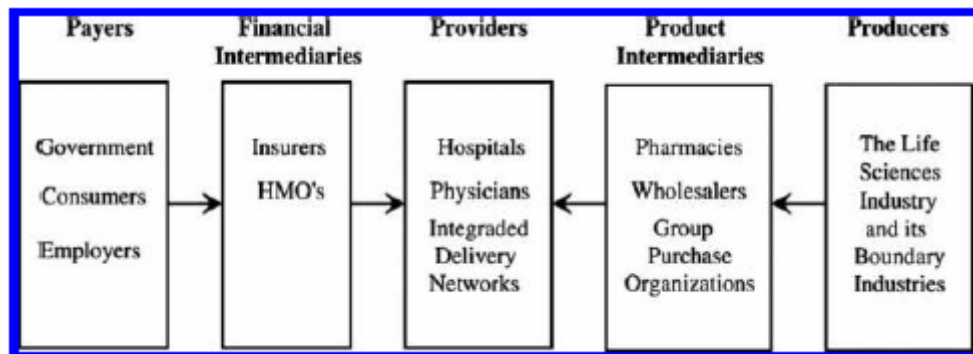


Figure 1: Healthcare value chain (Bruns, 2005)

The value chain presented by Bruns (2005) is composed of groupings of organizations performing similar tasks: payers, fiscal intermediaries, providers, purchasers and producers. The care providers are in the center of the chain, and they would receive incentives from both sides. In this paper we will mostly look at the left hand side: the payer and fiscal intermediaries. Several actors pay a share of the treatment cost, and the main contributors are the government and insurance companies. Moreover, there is a part of the cost that is being paid by the patients/ consumer.

Another value chain model is illustrated in Figure 9 (Appendix nr. 3). It is Porter's (1985) model that “separates the steps required for developing capability, which must take place prior to any health care delivery” (Pitta and Laric, 2004, p. 457). Furthermore, Figure 10 (Appendix nr. 4) paints the picture of relationships between stakeholders in the value chain. The value chain can neither be linear nor sequential in the opinion of Pitta and Laric (2004), it should be circular or iterative. It follows the flow of information among the participants.

**Highlight for research questions:**

Healthcare providers need to ensure a quality of the service in order to maximize consumers' satisfaction and inspire repeat purchase. However, repeat purchase, even if it translates in higher profits, might speak poorly on the quality of the service in healthcare. Providers need to find a balance between the pursuit of profit and the satisfaction and well-being of customer.

What is more, as observed in the value chain in healthcare, there are multiple actors influencing the services. In this paper, the main actors are considered the government, the insurers, the providers (hospitals/doctors) and the consumer.

Chapter 3

Pricing

Price, according to Oxford dictionary (2010), is “*the amount of money expected, required or given in payment for something*”. Price is a part of the marketing mix, no matter which mix (4Ps, 5Ps, 7Ps) one company chooses to implement in its marketing strategy, and therefore necessary to take a closer look at in the framework of this study. Smith (2012) observes that it is important to set the right price, as it directly affects the profit of a company, as well as indirectly. He further explains that the cost of pricing errors can be difficult to surpass and sometimes even impossible to redress. When prices of goods and services are set too high, few customers will be incited to buy or will avoid consuming, since competition has lower price levels (Smith, 2012, p. 3). With little sales, the company will be forced to lower the price to meet the ones of the competition, but that might not be enough to attract consumers. When prices are set too low, the profit is substantially affected, even with the gain in volume sold (Smith, 2012, p. 3). Moreover, customers’ expectations will refrain the company from raising the price. When costs are not covered by the low prices, companies become insolvent. Repeatedly, the wrong pricing will translate in losses in revenues, profits, customers and image (Smith, 2012, p. 3).

The science of pricing “refers to the act of gathering information, conducting quantitative analysis and revealing an accurate understanding of the range of prices likely to yield positive results”(Smith, 2012, p. 8). The art of pricing “*refers to the ability to influence consumer price acceptance, adapt pricing structures to shift the competitive playing field and align pricing strategy to the competitive strategy, marketing strategy and industrial policy*”(Smith, 2012, p. 8). In this paper we will mostly refer to the art of pricing.

In every organization, price setting is a cross-functional decision influenced, as described by Smith (2012), by finance, sales, marketing and sometimes operations. Finance executives will most likely ask for a higher price, as in their accounting perspective it translates into higher profits and thus higher shareholders’ value. Sales and marketing representatives will be influenced by the customer orientation and their willingness to pay, and will most probably advocate for lower prices in order to attract more customers. Operations representatives will influence the pricing decision with arguments related to economies of scale and scope, and will

most likely prefer a lower price in order to increase volumes and thus improve capacity utilization and, with it, lowering costs (Smith, 2012, p. 4). In some cases, we can add to this complicated scenario the influences of the government and their specific regulations concerning some markets.

The three most commonly used quantitative methods for setting prices, as presented by Smith (2012), are: exchange value models, economic price optimization, and customer perception-based pricing. Exchange value models translate in the ability to “manage pricing decisions shifts pricing challenges from the position of managing internal corporate politics or copying historic practices that may have little bearing on the challenge at hand, to one of focusing on the value created and the firm’s ability to capture its fair share of that value” (Smith, 2012, p. 8). It consists of knowing the boundaries of good prices which can be extreme or narrow. Extreme boundaries “define the range of acceptable prices outside of which no rational buyer or seller would ever transact”, whereas narrower boundaries “define the range of prices that are most likely to encourage customer transactions and leave the firm in the most favorable position” (Smith, 2012, pp. 8-9). Economic price optimization is “a method of identifying the price that maximizes profits” (Smith, 2012, p. 24) and it will lead to a profit-sensitivity analysis in which the impact of every small change in price is considered.

Another aspect to be considered here is the type of market, either is elastic or inelastic. Elastic markets are those where “a small change in price has a large effect on the quantity sold” (Smith, 2012, p. 31), and it represents those markets where competition is high and customer change providers at the smallest change in price. Inelastic markets are those where “a small change in price has only a small effect on the quantity sold” (Smith, 2012, p. 31), and it concerns markets where customers are unlikely to switch providers or to decrease usage when prices change.

Customer perception-based pricing, as defined by Nagle, Hogan and Zale (2011), is a pricing technique that uses as a guide the willingness to pay of customers, which is strictly related to the value they attach to a product. The term value “commonly refers to the overall satisfaction that a customer receives from using a product or service offering” (Nagle and al., 2011, p. 18), usually called by economists the use-value. When pricing, different values has to be considered: use-value, economic value (exchange value), monetary value (“the total cost savings or income enhancements that a customer accrues as a result of purchasing a product” (Nagle and al., 2011, p. 19)), and psychological value (the “ways that a product creates innate satisfaction for the customer” (Nagle and al., 2011, p. 19)). Customer perception-based pricing is mostly done through conjoint analysis. Conjoint analysis “reveals the tradeoffs the customers make in

purchasing decisions and therefore identifies the best price that can both encourage customer purchases and deliver profits” (Smith, 2012, p. 46). There are five basic steps in a conjoint analysis: defining the attributes and their levels, presenting the stimulus, measuring the response, setting the evaluation criterion and analyzing the data (Smith, 2012, p. 53).

Customers’ perceptions of the benefits of product are explained by Smith (2012) to constitute the product’s value. The benefits can have different natures: functional, process-related or relational. Functional benefits “derive from the physical nature or performance characteristics of the product itself” (Smith, 2012, p. 67), process benefits “derive from reducing transactional costs by making the product available when and where customers desire or reducing search costs in identifying products” (Smith, 2012, p. 67), and relationship benefits “accrue to customers through their mutually beneficial relationship with the seller and may be created through an emotional connection to the brand or sales representative, loyalty programs or information provisions” (Smith, 2012, p. 67).

Value received, as described by Nagle and al. (2011), is sometimes not increasing with the quantity of the product, as we might intuitively assume, and this kind of products need special price metrics (price metrics are “units to which the price is applied” (Nagle and al., 2011, p. 56)). This is best described by the example of healthcare, where stakeholders (government, insurer, and patient) would be unsatisfied with paying a fee-for-service (that is the method of paying the performer for each procedure separately) because the delivery may take more than one day in hospital or because more tests can translate in poor quality in the service or in treatment choices. Both stakeholders and providers benefit from a value-based price metrics (price metrics created in the basis of the value perceived by the consumer): either a price that covers all services for a year or a price per illness or procedure, covering all services requires to reach a satisfactory outcome. In adopting such benefit-based price metrics, the providers can become more cost-efficient (Nagle and al., 2011, p. 56). An ideal type of price metrics is the performance-based one, where the price is directly linked to the performance offered, but it is only implementable when the performance can be quantified (Nagle and al., 2011). An example of this is an attorney that is paid for a litigation a percentage of the wins. What is interesting here is that it takes the performance risk from the hands of the customer and puts it in the hands of the provider.

3.1. Pricing in healthcare

Healthcare pricing, as represented by Smith (2012), can be perceived as a multipart price structure: on one hand the customer pays an insurance fee and on the other hand he/she pays the fee per doctor-visit or medical service. The first represents the access to the service, which has different value at the buying time than when they actually need it. By pricing the use of every service, the structure discourages abusive practices (Smith, 2012, p. 168).

Reimbursement from insurances is being organized worldwide, as described by Porter and Guth (2012), in one of these two ways: either a global budget one ; a fixed payment is being send to the provider irrespective of the actual medical services provided, or a fee-for-service approach; payment for individual treatments. The first one shifts insurance risks to providers and creates incentives for rational care and proliferation of service lines, and the second one creates incentives to deliver more services, regardless of their true added value. None of them are aligned with the value for patient. Porter and Guth (2012) further recommend that payment should be shifted to bundled or total packages prices covering all the care needed to address a certain medical condition, responsibility for avoidable complication being included. They describe the bundled reimbursements in three forms: acute conditions (stroke, hip replacement), chronic conditions (diabetes) and primary and preventive care. The first bundled payment should cover the entire care cycle, the second should be defined for a fixed period of time, and the third should cover a set of cares for an overall health management for a defined group for a period of time. This type of reimbursement should maximize the value of care, encourage coordination and integration, and incite improvement and innovation by allowing providers to retain the gains (Porter and Guth, 2012, p. 47).

Healthcare is considered by Porter and Guth (2012) to be co-produced by patients and doctors. Patients' choice in drugs and other treatment regimes, their compliance with routine appointments and their lifestyle have an important impact on their health status. Their involvement is also essential in preventive care and disease management. Patients must be involved in their care delivery and providers must facilitate this. The fragmentation of systems works against patient involvement: when patients see many doctors across multiple sites, the information received by the patient is not guaranteed. What is more, delays produced by the complexity of the organization of healthcare and uncoordinated visits might confuse the patient in its treatment (Porter and Guth, 2012).

Porter and Guth (2012) describe a virtuous circle in healthcare presented in Figure 2:



Figure 2-Virtuous circle in healthcare (Porter and Guth, 2012, p. 35)

With greater patient volume, explain Porter and Guth (2012), a doctor gains in experience and scale, and becomes more skilled, improving patient outcomes. Patient volume allows for a more dedicated clinical and support team, facilitates effectiveness and efficiency in a particular medical care. The experience accumulated from continuously care of a particular medical condition or a small group of conditions also facilitates innovation and doctors can improve and modify methods. Experience, scale and learning lead to better patient outcome, which attract more patients, and the circle continues (Porter and Guth, 2012).

This means that both doctors and patients would benefit from more strategic choices in the service line (Porter and Guth, 2012, p. 34). If institutions would specialize in the type of care they are best equipped and where they deliver the highest quality, thus having a value-based delivery. Large establishments could offer multiple service lines, as long as they are organized around practice units specialized in treating particular medical conditions, rather than organized on specialty or procedure-based (Porter and Guth, 2012, p. 34). The question that arises is how to measure the value. This could be done through measuring the outcome of care, but also the full cost of care for individual patients, in order to improve efficiency and facilitate innovation. Outcome measurement begins with the chain of causality, observed in the following figure (Figure 3).

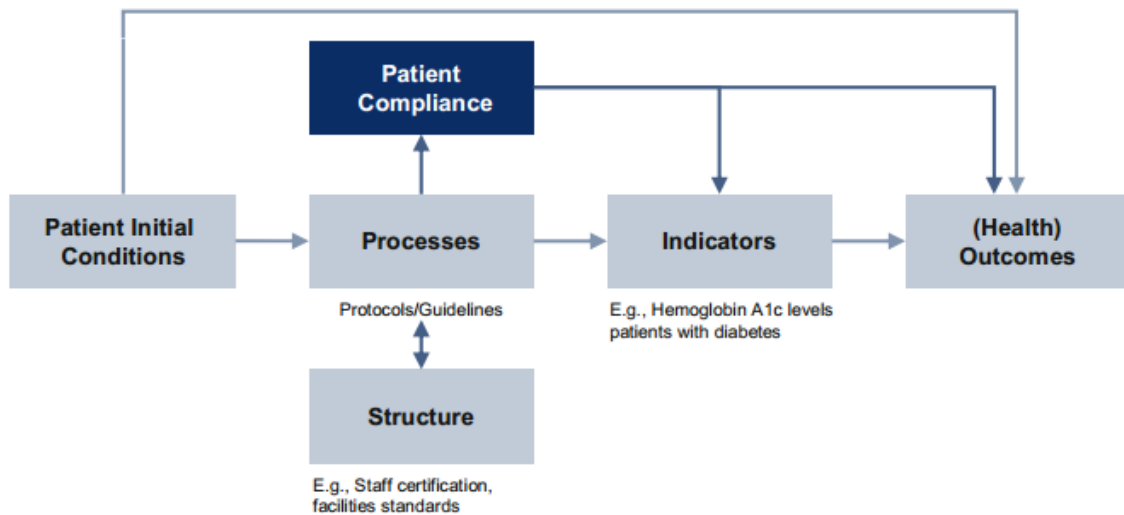


Figure 3: Factors influencing the health outcome of a patient (Porter and Guth, 2012, p. 37)

The outcome is influenced by patient's initial conditions, its compliance to the process, and other indicators, which are “*patient measures that are expected to be predictors of outcomes and can be highly correlated with actual outcomes over time*” (Porter and Guth, 2012, p. 38). Patient's compliance with preventive measures, preparations for treatment, treatment steps and recovery approaches have a great influence on the outcome. Porter and Guth (2012) believe that the outcome is relevant when more metrics are traced for a given medical condition. They further give an example of a full set of outcomes for a medical condition composed out of health status achieved (survival, degree of health/recovery), process of recovery (time to recovery/return to normal activities and disutility of care or treatment process) and sustainability of health (sustainability of health or recovery and nature of recurrences and long-term consequences of therapy). The importance of each component varies across medical conditions and patient populations. “In a value-based system, measurement and reporting of outcomes must be mandatory or every provider and health plan” (Porter and Guth, 2012, p. 41) and it should be considered at a national level.

In what concerns cost measurement, explain Porter and Guth (2012), it should also be measured by medical condition across an entire care cycle, including all services and provider units. The cost should reflect the specific use of time and resources (Porter and Guth, 2012, p. 42). The authors identify as a current problem in healthcare services the cost-aggregation of costs per departments, specialties or line items. For them, to understand the reality of costs, they should be aggregated around patient/medical condition in order to allow them to be compared to outcomes achieved. A second problem that Porter and Guth (2012) identified is the cost-

allocation one: the cost is shared between physicians, staff, facilities, equipment and other resources and it is difficult to clearly divide the costs between patients. “Cost aggregation around the patient, and proper cost allocation of individual resources and services, facilitates the clear separation of costs and charges and an understanding of the components of costs and the sources of cost differences among patients” (Porter and Guth, 2012, p. 44).

**Highlight for research questions:**

The healthcare market can be considered as price inelastic, which means that a change in price will not influence the purchase, since the purchase is usually motivated by the urgency of physical or psychological need. In order to justify their prices, providers need to ensure the creation of a maximum value for consumers, guaranteeing functional, process-related and relational benefits. The process-related benefits are difficult understood by customers if they do not translate in an improvement in their health status, because they lack technical expertise.

Chapter 4

Healthcare organization in Belgium

4.1. The organization

The healthcare system in Belgium is described by Crommelynck, Degraeve and Lefèbvre (2013) as being composed out of different stakeholders: the government, the social security, health insurances and the providers (hospitals in the purpose of this study). The total financial means budget for Belgian hospitals is 7.5 billion euros to hospitals (Crommelynck and al., 2013, p. 21). Hospitals are either public or private, and can be divided into categories like general hospital, university hospital, specific hospital, psychological hospital, etc.

The basic concept of social security is solidarity between the employed and the jobless, the healthy and the ill, the families with children and those without children, people with and without income, the young and the old, etc. (Federal Public Service Social Security, 2014). The solidarity is guaranteed because it is financed by contributions based on the salaries, the communities, the trade unions and the health insurance funds (mutual insurance funds).

The choice of the health insurance fund is left to the individual, but it is compulsory that everyone has an insurance in Belgium (INAMI, 2014a). For employees, social contribution is deducted automatically from their salary. The insurance intervenes in medical consultation fees, hospitalization fees, maternity, incapacity of working, medication etc. (INAMI, 2014a). In special social cases, the insurance can intervene more substantially in the cost of medical care. This is done automatically with information from the social security.

There is a maximum billing system (INAMI, 2014b): when the medical expenses for one year reaches a certain sum of personal shares (around 450 euros) the reimbursement of further medical expenses is set at 100%. There are different types of maximum billing: social maximum billing, maximum billing on the basis of individual entitlement and income-based maximum billing (the amount that trigger the full reimbursement might fluctuate according to the income of the person). This guarantees that, in case of severe illness requiring expensive medical services, the patient's expenses are covered.

The following figure (Figure 4) gives us an insight of the Belgian healthcare expenditure compared to the average of the 34 members of the Organization for Economic Co-operation and Development (OECD).

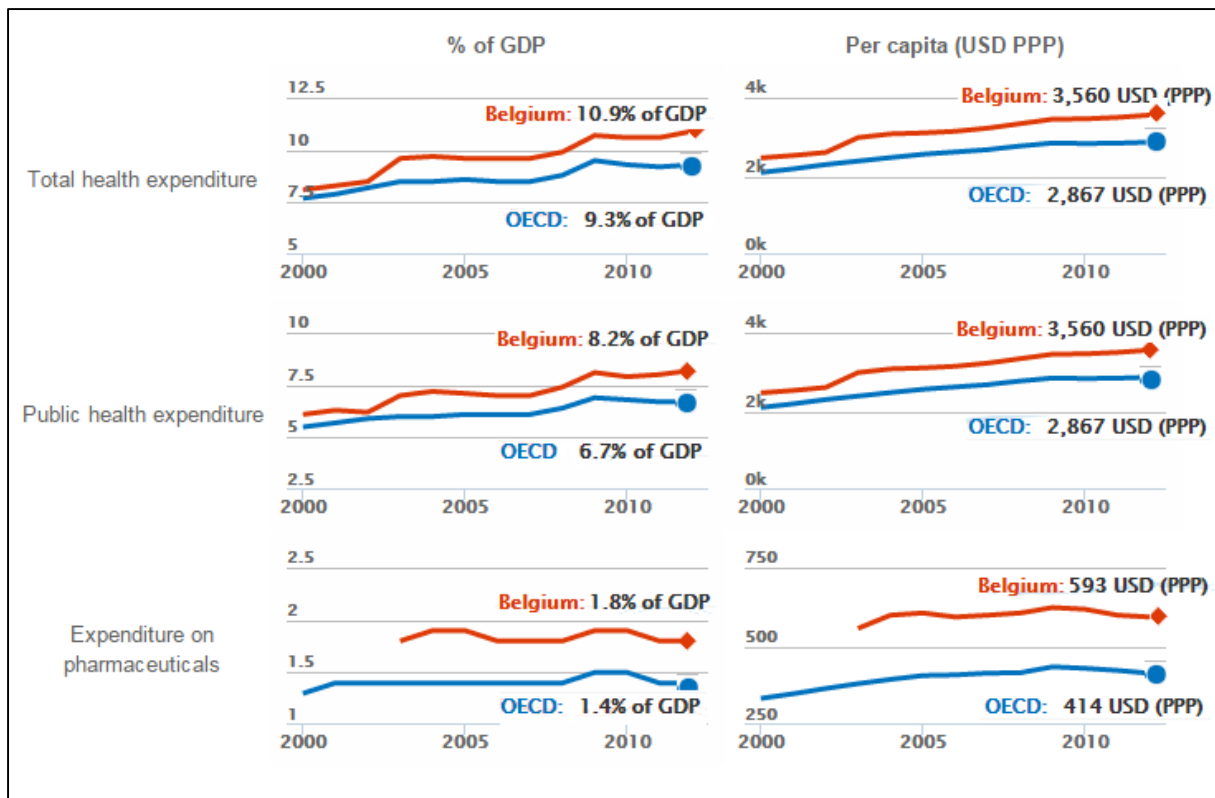


Figure 4: Healthcare expenditure up to year 2012 (OECD, 2012)

As we can observe, Belgium spends more than the OECD average in both healthcare services expenses and pharmaceutical ones. What is interesting to observe is that for healthcare services expenses, the trends for both OECD and Belgium are growing. The total health expenditure in Belgium in 2012 was 11% of the Gross Domestic Progress (GDP). With a growing trend in healthcare expenses translated in a growing in the demand for healthcare services, the regulation of doctors' fees is of great importance.

Rousseau and Mullié (2015) painted the portrait of healthcare in Belgium by naming several types of stakeholders: the care providers (doctors, dentists, kinesiotherapists, etc.), the care institutions (hospitals, nursing home, medical home, accommodation and rehabilitation centers, etc.), the insurances (mutual insurances), the authorities (federal, regional and communitarians), and the patients (individually or through patients association).

The main actors in the healthcare market will be further discussed separately:

4.2. The government

The federal government's contribution to healthcare can be best described by the legislation regulating several aspect of the service:

The legislation

The legislation regulates the healthcare profession (Royal Order nr. 78- 10th of November 1967), non-conventional practices in healthcare (Law of 29th of April 1999), emergency healthcare (law of 8th of July 1964), hospitals and other healthcare institutions (Law of 10th of July 2008), patients' right (Law of 22nd of August 2002), compulsory insurance and reimbursement (Law of 14th of July 1994), general medical file (Royal Order of 3rd of May 1999), e-health platform (Law of 21 of August, 2008), etc.

The legislation concerning the healthcare services regulates the conditions that a person has to attain in order to be legally eligible for providing healthcare. It regulates all healthcare providers, from pharmacists, nurses, midwives to doctors. The law of 29th of April 1999 completes the professional practitioners list with specializations like homeopathy, chiropractic, osteopathy and acupuncture.

In what concerns the hospitals, the legislation (Law of 10th of July 2008) defines each type of hospital (psychiatric hospital, university hospitals, social medical institutions, etc.), their organization, their management, the role of management and directors, the structure of the medical and infirmary activity, the respect of patients' rights, authorization, payment procedure, laboratories, etc. What is important to underline in this legislation is the fact that, when a patient is admitted in the hospital on regular conditions (common room or double room; when a patient requests a single room, he is considered by the legislation to have a budget above the minimum wage), the doctors' fees are the conventional ones. However, when a patient requests a single room, conventional and partially conventional doctors may inflict a supplement on the fee (Crommelynck and al., 2013). Non-conventional doctors that do not want to comply to the official fee for patients admitted under regular conditions have to inform the management who, at its turn, has to inform the Doctors' Council (Crommelynck and al., 2013).

The legislation of 22nd of August 2002 defines the right a patient has when seeking healthcare services. A patient is defined as being "the physical person who receives healthcare, at his demand or not" (Law of 22nd of August, 2002, Art. 2, 1). Healthcare is defined as being "services provided by a professional practitioner regarding the promotion, determination, conservation, restauration or amelioration of the health status of a patient; the modification of his corporal appearances in aesthetics goals or in the accompaniment of ending of life" (Law of 22nd of August, 2002, Art. 2.2). Practitioners should ensure the quality of services according to the patient's needs, while respecting its human dignity and its autonomy without

discrimination (Law of 22nd of August 2002, Art. 5). This legislation also states that the patient has the right to freely choose the practitioner and has the right to receive information in a comprehensive language about his health status and the procedures and treatment. The patient also has the right to express his consent in receiving or not the procedure, which can be verbal or non-verbal (handing the hand for an injection). However, in emergency cases where there is uncertainty about the wishes of a patient, the doctor can choose to immediately perform a procedure if it is in the best interest of the patient (Law of 22nd of August 2002, Art. 8, 5). The legislation further defines the rights to a medical file well-kept and the right to complain about a care. Chapter five of the legislation introduces a federal commission on patients' rights which is required to collect data, formulate an opinion and evaluate on subjects concerning patients' rights (Law of 22nd of August 2002).

The law of 14th of July 1994 regulates the compulsory insurance and reimbursement. It first directs the constitution of different commissions and councils to coordinate the insurances, among which the National Institute of Disease-Invalidity Insurance (in French "Institut National d'assurances maladie-invalidité" – INAMI). INAMI is a federal public institution in social security in charge with managing and controlling compulsory insurance in healthcare. This legislation further defines the healthcare types covered by the compulsory insurance: preventive and curative cares provided by general physicians and specialized doctors, as well as physiotherapy and dental care, child delivery, etc. (Law of 14th of July 1994, Art. 34). It also regulates the amount of sanctions in case of irregularities.

The law regarding the general medical file defines it as being "a functional and selective ensemble of medical, social and administrative pertinent data regarding a patient" (Royal Order 3rd of May, 1999, Art. 1). There can only be one general medical file per patient, managed by the general physician, chosen freely by the patient. Furthermore, the charge of the general medical file is 100% covered by insurance and after agreeing to have one, the patient is entitled to more reimbursement on fees from conventional doctors.

The law of 21st of August 2008 regulates the institution and organization of the e-health platform, which has as objective of "optimizing the quality and the continuity of healthcare services and the security of patients, promoting the simplification of administrative formalities for all stakeholders of healthcare services and supporting the policy in healthcare, and this by offering services and electronic mutual information exchange between all stakeholders of healthcare, organized with the necessary guarantee in what concerns security of information and protection of private life" (Law of 21st of May 2008, Art. 5). The platform should develop

a vision and a strategy in providing services and an efficient, effective and secure electronic exchange of information. It also determines norms, standards and specification in technology of information and communication, both functional and technique, as well as the architecture of the implementation of a technology, its vision and strategy. This platform should also verify that software for managing electronic files of patients correspond to the norms. All in all, the platform is created in order to facilitate in a standardized and secure electronic environment for the exchange of information among the stakeholders of healthcare (Law of 21st of May 2008).

What is more, in Belgium, doctors have to take an oath to access to the profession. The oath (Appendix nr. 5) implicates engagements in many aspects of the healthcare service as quality, pain-relieving, correctly informing the patients, accessibility, respect towards the profession, no discrimination between patients, etc. This speaks to the quality standard of the profession in Belgium.

As we observed so far, the healthcare services in Belgium are highly regulated in all aspects and a considerable number of institutions and systems guard the quality of care. The only thing that seems to be left out of the regulation is the actual fee a doctor should receive for a consultation. This, as stated previously, is left to agreements between insurance and doctors' representatives.

4.3. The mutual insurances

INAMI (2014c) lists seven mutual insurances in Belgium : Christian Mutual Insurance, Neutral Mutual Insurance, Socialist Mutual Insurance, Liberal Mutual Insurance, Free Mutual Insurance, Auxiliary Illness-Invalidity Insurance, and HR Rail Insurance. Their daily work is to defend patients' rights on different levels.

This is be explained by Rousseau and Mullié (2015), in the example of the Christian Mutual Insurance, on three levels: micro-level, meso-level and macro-level. The micro-level involves answering to patients' questions or reacting and supporting individual patient's problems encountered in the healthcare service. This can go up to contacting a provider in the name of a patient or take legal action against a doctor. The meso-level is where patients' problems are grouped and action is taken to in order to deal it them on a more general level. This goes from information being generated targeting a certain set of questions frequently asked by patients or lobbying providers in the benefits of the groups to guarantee accessibility and quality. For example, the Christian Mutual Insurance organizes every year an information event on patients' rights, in order to provide insight into certain topics. What is more, at a regional level, mutual

insurances negotiate with providers for lower prices in certain types of care. Finally, the macro-level, refers to the influence mutual insurances have at the national level: management of INAMI, lobby for certain issues to authorities, participation in the negotiation of the convention of medical fee, or the role of expert mutual insurances play when the government wants to know what would be the real impact of a new legislation (Rousseau and Mullié, 2015).

4.4. The providers

The difference in fees of doctors comes from their authorization by the social security authority or not. Crommelynck and al. (2013) explain that conventional doctors apply the official fees. Partially conventional doctors apply the official fees at certain hours and/or in certain institutions. The non-conventional doctors, or private doctors, can freely fix their fees. Insurances and doctors' representatives fix regularly the fee per consult (every two years). The agreements and conventions fix the doctors' fees as well as the reimbursement level from insurances, in order to guarantee a security in tariffs for patients, all by maintaining the quality of the care. The doctors signing the agreement (conventional doctors) respect the fee imposed which guarantees a minimal participation from the patient. For 2013-2014, more than 88% of general physicians were conventional. The low percentage was in specialized doctors, around 12% (Solidaris, n.d.). For 2015 they concluded an agreement to generally keep the same amounts as the previous year, with the exception of type 2 diabetes. This agreement is believed to be at minimum level by Jean-Pascal Labille, the president of one insurance company, who states that *"the agreement doctors-insurances concluded [...] is a minimum agreement. But the absence of an agreement would have added to the difficulties the patients already have in the insecurity of free in healthcare. The advancement, even as limited as it is, represents an encouragement in our fight for quality healthcare accessible to everyone"* (Le Soir, 2014). He adds that in some regions it is difficult to find a conventional doctor in certain specialties and urges for a solution.

Table 1 gives accurate data regarding the doctors adhering to the agreement. It is important to highlight the differences between regions: Brussels has the lowest percentage of doctors signing the medical-mutual agreement, which is alarming when compared to the population density of the area.

Table 1: Percentage of doctors signing the convention (INAMI, 2015)

Region	General physician Signing	General physician Refusing	Specialists Signing	Specialists Refusing	Total Signing	Total Refusal
Brussels region	80,45	19,55	80,38	19,62	80,40	19,60
Flemish region	91,81	8,19	79,26	20,74	84,25	15,75
Walloon region	86,32	13,68	83,52	16,48	84,63	15,37
Total	88,59	11,41	80,78	19,22	83,83	16,17

Doctors are independent economic agents, and their interest in joining the convention was explained by Rousseau and Mullié (2015) as, firstly, an economic advantage in which they receive a compensation for their social contributions, certain funds for information technologies and primes for managing the electronic files of patients, and secondly, as a reputation advantage in which they are seen as price-wise trustworthy by a potential patient. In what concerns medical specialists, they could have another incentive to join the convention: if the hospital imposes restrictions on the price supplements to be applied, it might be more profitable to join the conventional fees and benefit from the economic gains of the status (Rousseau and Mullié, 2015).

In what concerns the hospitals, as explained in the legislation description, they are allowed to apply price supplements, especially when a patient requests a single room hospitalization. Accordingly to these supplements, in this paper, hospitals will be categorized into four groups based on the level of these supplements: low-priced hospitals (100% supplements), medium-low-priced hospitals (200% supplements), medium-high-priced hospitals (300% supplements) and high-priced hospitals (400% supplements).

4.5. Insight into the price of healthcare in Belgium

The setting of the price in health services is explained by Rousseau and Mullié (2015) as a triangle between the providers, the mutual insurances and the authority. As previously mentioned, the convention is negotiated by these actors, usually on the basis of the previous convention signed, and they try to achieve an agreement through negotiations. This convention is an important part in the pricing of healthcare since it sets the official fee doctors can receive. In this convention, the patient is mostly represented by the mutual insurances and INAMI.

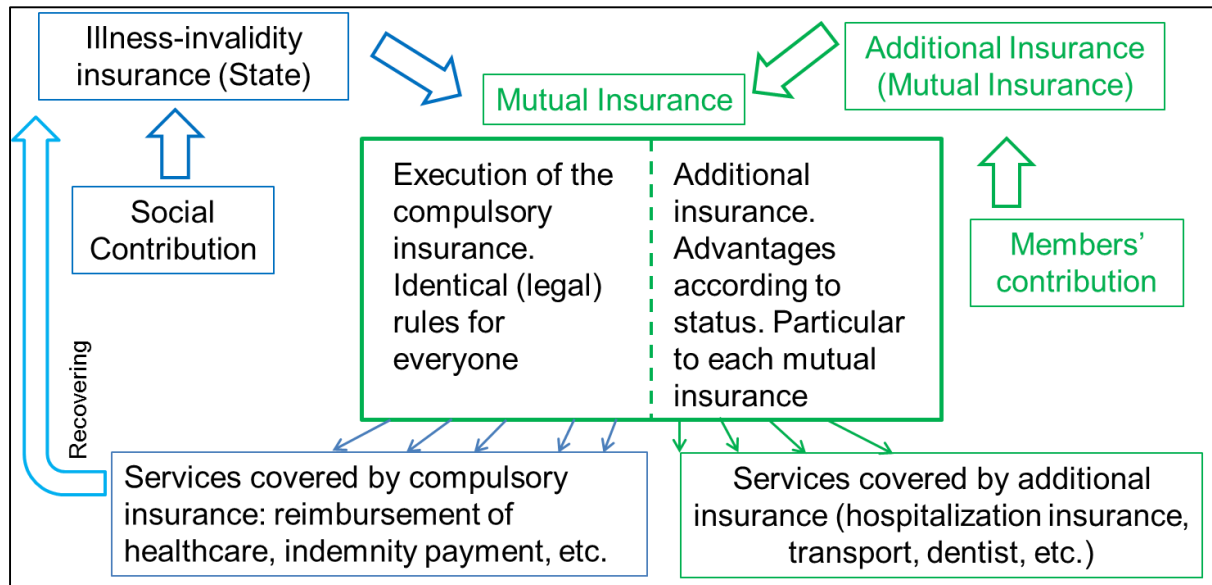


Figure 5: How insurances reimbursement works (Rousseau and Mullié, 2015)

The above figure (Figure 5) explains how mutual insurance works: there is a part of the compulsory insurance execution, regulated by the law, and a part of additional insurance, decided upon by each mutual insurance in particular. The first (left side of Figure 5) part is funded by the legal contribution in healthcare raised by the government through the Social Security, a part of which is allocated to the Illness-Invalidity Insurance. The resources of Illness-Invalidity Insurance are used equally by all mutual insurances to reimburse the percentages fixed by the legislation. The second part (right side of Figure 5) is composed out of specific services covered by the additional insurance that the mutual insurance offers. It is up to the mutual insurance to choose where to contribute more (Rousseau and Mullié, 2015).

The following figure (Figure 6) takes the example of a doctor's appointment to illustrate how it actually works for the patient.

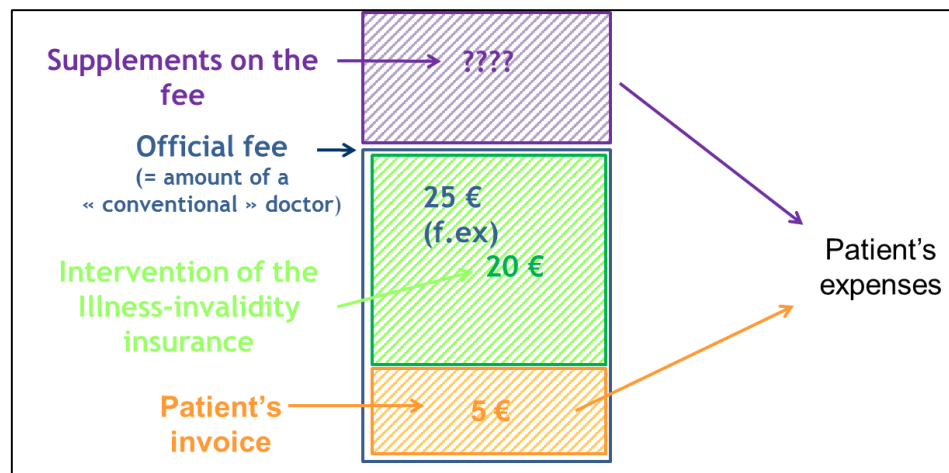


Figure 6: Example of a consultation price (Rousseau and Mullié, 2015)

The supplements in fee represent the addition to the official fee that a doctor that did not sign the convention can overcharge. This supplements and the invoice are at the patient's expense. The doctors are supposed to inform the patient beforehand on the supplements. Accordingly to what every mutual insurance decided, an additional insurance can cover these costs for certain health cares, or even reimbursed cares that are not covered by the compulsory insurance (Rousseau and Mullié, 2015).

The supplements on the fees are even more important when the care involves hospitalization. The additional insurance for hospitalization would cover some percentage of the supplements and would significantly reduce patient's insecurity about the price of the hospitalization. The Christian Mutual Insurance, for example, offers in the basic package (for the French-Speaking Region of Belgium) hospitalization insurance to all their members, compared to other mutual insurances for which this is optional (Rousseau and Mullié, 2015).



Highlight for research questions:

In healthcare there are multiple stakeholders and Belgium is not an exception. Some of them have a critical influence on the patient's expenses on healthcare: the government through Social Security and compulsory insurance, the mutual insurances and the providers in terms of conventional doctors and supplements in fees. It is highly important to verify if information has reached the consumer and if he/she knows what influences a higher/smaller price in healthcare.

Chapter 5

The study

5.1. Research questions and hypotheses

After reviewing the literature on healthcare services, the current situation in Belgium and the semi-directive interview with an expert, the study question “Is pricing of healthcare in Belgium fair?” needs to be addressed. Through the previous chapters, certain aspects were highlighted: a society should ensure a fair allocation of the healthcare, the quality of the service should maximize consumers’ satisfaction and repurchase and should justify the prices, and the main actors need to inform the consumers on the choices that influence the price such as the conventional status of the doctor. The highlights are translated in the following research questions, organized from the more general to the more specific ones. Every research question is explained by hypotheses that can be tested from the consumers’ perspective.

The first question concerns the information that consumers feel they have:

Q1. Do consumers have enough information on their choices in healthcare?

H1: Consumers do not seek information on their choices in providers

H2: Consumers do not feel sufficiently informed by the principal actors in healthcare (the government, the mutual insurances, the hospitals, the general physicians)

This research question is intended to define the level of information on the healthcare services choices, in terms of facility, that reaches the consumers. In order for a choice to be ethically selected, a consumer should have all the information regarding it. In a fair society, all the actors playing on the healthcare market should inform the consumers; this is what hypothesis nr. 2 is testing: what information reached the consumers, enough to make an informed choice.

On the other hand, it is also important to know if consumers seek the information, in order to judge the fairness and the relevancy of the choices they are presented with. If consumers do not seek information, trying to inform them would only represent a waste of money and other resources. This leads to the second question, the influence of the price on the choice.

Q2: Do consumers perceive the price of healthcare services as important while making a choice?

H3: Consumers do not grant much importance to price

H3a: Consumers do not grant much importance on the conventional status of their medical specialist

H4: Consumers with low revenue grant more importance to price than those with high revenue

H5: Consumers do not know the price supplements practiced in the hospital of their choice

H6: Consumers do not know the amount they annually spend on healthcare

This research question aims to evaluate the importance consumers give to the price of healthcare. This question is answered through several hypotheses that test the consumer's knowledge of price through several attributes: importance, conventional status of the doctor and price supplements in hospitals. To further measure the importance of price, it is important to test if spending on healthcare is of the concern to the consumer. Moreover, in order to draw an ethical conclusion on the relevancy of different pricing, it is important to check if the poorest part of the population is more concerned with the prices of healthcare services.

Q3: Do consumers really seek for a choice in healthcare?

H7: Consumers go to the nearest hospital

H8: Consumers go to the medical specialist recommended by the general physician

This research question aims to investigate how important having a choice for the consumer is. When consumers do not value choices, it is not relevant to offer them. It is important to look how far consumers go to have lower prices/better quality and how they choose their medical specialist, which is strongly related to their choice in hospital, since it is the facility where the service is actually being performed. In a fair society, people should be given the choice, but if they do not value having to make a decision amongst the choices present, is it relevant to facilitate them? Whatever the choices, quality should be guaranteed to all individuals, and this is going to be tested through the satisfaction and its link to the price in the following research question.

Q4: Are consumers satisfied by their healthcare service?

H9: Consumers are satisfied by the quality of the healthcare

H10: Consumers considered they paid too much for their healthcare

H11: Consumers would recommend the healthcare provider to a friend

H11a: Consumers would more highly recommend the provider because of the quality of the service than because of the quality/price ratio

H12: Consumers would return to the provider (repurchase)

This research question seeks to define the satisfaction level of the consumer, and thus the justification of the pricing levels. Satisfaction is deeply related to the ratio quality/price. A consumer is considered unsatisfied if he/she feels the price of the healthcare was too high. What is more, satisfaction is reflected in the recommendation (Ladhari, 2011) and the repurchase (Andreasen, 1979) of the service.

Q5: Did consumers already felt discriminated because of their presumed purchase power?

H13: Consumers were discriminated on the basis of their insurance

H14: Consumers were discriminated on the lack of hospitalization insurance

The last research question of this study investigates whether consumers were discriminated/treated poorly because of their purchase power. A higher purchase power is defined by the additional insurance for hospitalization, which entitles the hospital to inflict price supplements. Hospitals are not allowed to ask information about the private insurance consumers have, but it is believed by experts (Rousseau and Mullié, 2015) that that information is used to overprice the service. Overpricing the same service on the basis of insurance is considered price discrimination (where price discrimination is “defined as systematic price variations based on individual customer data but unrelated to those customers’ expected losses or other marginal costs “ Thomas (2012)) in this study.

5.2. Methodology

In order to proceed with the descriptive study of the above-mentioned hypotheses, the quantitative research was chosen as the most appropriate method to capture the importance of certain variables in the choice of hospitals of Belgian consumers. Healthcare is a sensitive topic for consumers, hence a quantitative research shortens the information respondents need to share in order to answer the questions of the survey, making it an effective way of collecting insights. An anonymous survey was the most relevant method to gain insight into consumers’ preferences without crossing the boundaries of privacy.

5.3. The survey questions

The survey proposed a questionnaire composed out of multiple choices answers in order to guarantee the obtention of specific information. The questions evaluating certain attributes were constructed on the Likert scale in seven points, which is a non-comparative scale with a detailed rating. The seven points scale was chosen in order to captivate more in detail the information from the respondent.

Open questions were used for the hospitals' names, age and distance, and multiple nominal choice questions were used when the answer was yes/no. The question regarding information on the respondent (age, revenue, gender and distance to the hospital) were situated at the end of the questionnaire, because their response requires less attention from the respondent, and thus more attention was focused on the more relevant questions (Malhotra and al., 2007, p. 245). The sensitive questions, like age and revenue, were situated at the end of the questionnaire in order to increase the respondents' disposition to answer (Malhotra and al., 2007, p. 233). What is more, in order to ensure the obtention of an answer to the revenue question, the answers were required in categories, since asking precise numbers would not encourage respondents to answer (Malhotra and al., 2007, p. 234). The questionnaire was written in French, as the survey is aimed at the Belgian hospital in the French-speaking part. The paper version of the questionnaire can be found in Appendix nr. 7, along with the translation of the questions in English written in *Italic*.

In order to avoid influencing the respondents and making the subject of inquiry on the price too obvious, the questions related to the price were given additional answers such as the amiability of the staff or the modernity of the equipment (Malhotra and al., 2007, p. 234).

The question nr. 1 asking the hospital of their choice had as a purpose the classification of different hospitals accordingly to their supplements on official price levels they apply, respectively 100%, 200%, 300% and 400%. The name of the hospital was replaced by these percentages in order to compare between different types of hospitals and to keep the anonymity of the hospitals. In the following matrix shows which question covers which hypothesis:

Hypothesis Question Matrix																
	H1	H2	H3	H3a	H4	H5	H6	H7	H8	H9	H10	H11	H11a	H12	H13	H14
Q1																
Q2		X														
Q3	X							X								
Q4			X					X		X						
Q5			X								X					
Q6						X										
Q7														X	X	X
Q8															X	X
Q9										X	X	X	X			
Q10			X		X		X									
Q11				X				X	X							
Q16					X											
Q17								X								

5.4. Distribution of the survey

The survey was designed for people who were hospitalized in Belgium, which represents a first constraint in the target. A second constraint was added in order to ensure the relevancy of the data to the current situation: to have been hospitalized in the past decade.

An online version of the survey using Google Forms (Appendix nr. 8) was distributed to potential respondents via email and social media platform, such as Facebook. This distribution method was used because of its anonymity guarantee and its time-efficiency - the responses were encoded directly in an excel file. It was also used because respondent had the possibility to answer at their preferred time, in the intimacy of their house, had the necessary time to attentively read the questions and the anonymity to respond honestly. Before starting the survey, the two constraints were exposed clearly in the beginning of the form (Appendix nr. 8). All questions, except for 8.1 and 8.2 (which were conditioned by question 8), were set as required, and, thus, the survey was submitted only when all the required questions were answered. This guaranteed respondents would not forget to answer any questions. The online version was sent to more than 400 people, and 68 responses were gathered.

The paper version of the survey was used to question people on the street, in trains and in one hospital. The potential respondents were asked about the two above mentioned constraints, and if both were met, they would be asked if they agreed to complete the questionnaire, all by assuring them of the anonymity of both the facility and the respondent. The locations were chosen strategically in order to balance the number of responses in every type of hospital. For the hospital where the survey was given, the permission was obtained from both the manager and the medical chief executive, as well as the ethics committee. 71 responses were thus gathered, regarding three types of hospitals (100%, 300% and 400%).

5.5. Sample

The sample was gathered through a non-probabilistic quota method (Malhotra and al., 2007, p. 267), meaning that not every individual had the possibility to be chosen and that the quota for each hospital were intended to be equal.

Out of the 139 responses at the questionnaire, 3 were considered invalid: one was missing answers to the questions on the verso of the page, and two were considered to have a low variance: answers were systematically neutral to multiple answers which is not rational accordingly to the contradiction between the some affirmations (Malhotra and al., 2007, p. 318).

The final sample used was of 136, composed out of 77 females and 59 males between the ages of 19 to 90 years old.

Table 2: Sample population by gender

Sample population by gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	77	56,6	56,6	56,6
	Male	59	43,4	43,4	100,0
	Total	136	100,0	100,0	

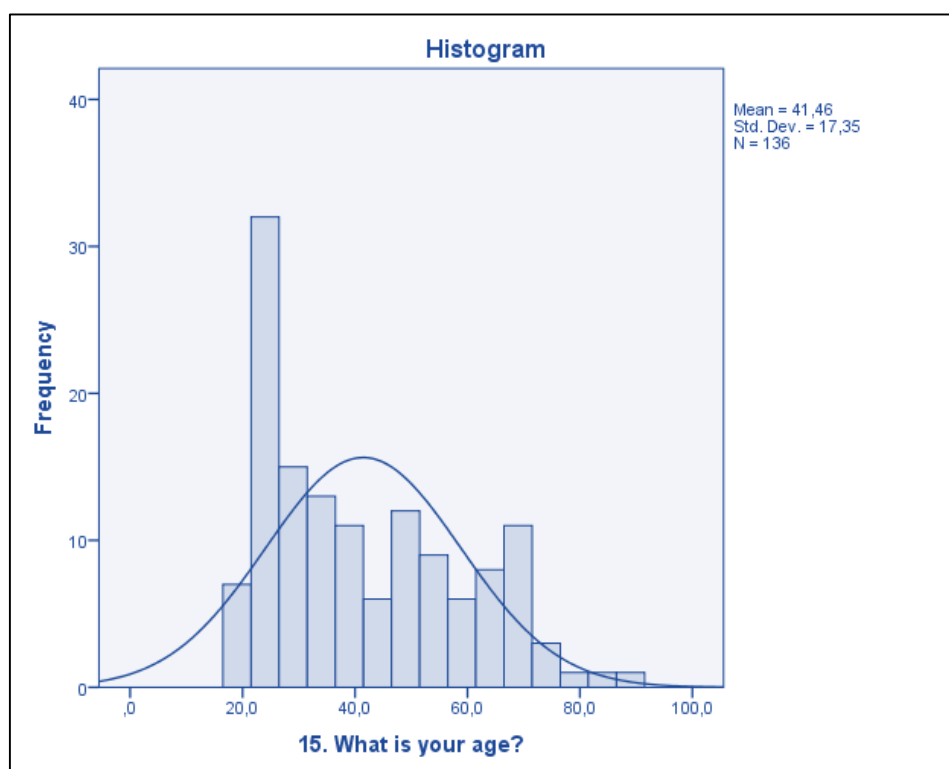


Figure 7: Sample by age

The above figure (Figure 7) shows the diversity in age of the sample. Details of it can be found in Appendix nr. 9(1). All legal ages are represented, however the ages between 20-30 years are more significant.

Table 3: Sample accordingly to the monthly revenue

Sample accordingly to the monthly revenue:					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low revenue (<1000 euros/month)	30	22,1	22,1	22,1
	Medium revenue (between 1000-3000 euros/month)	87	64,0	64,0	86,0
	High revenue (>3000 euros/month)	17	12,5	12,5	98,5
	N/A	2	1,5	1,5	100,0
	Total	136	100,0	100,0	

In table 3 it is represented the type of revenue of the respondents. The medium monthly revenue is considerably more represented than the others. However the medium revenue includes minimum wage as well as pensions, so it is representative for a large population: more than 65% of the population in Belgium (SPF Economie, 2015).

Table 4: Type of hospital of the sample

Type of hospital of the sample					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low-priced hospital	36	26,5	26,5	26,5
	Medium-low-priced hospital	41	30,1	30,1	56,6
	Medium-high-priced hospital	30	22,1	22,1	78,7
	High-priced hospital	29	21,3	21,3	100,0
	Total	136	100,0	100,0	

In what concerns the type of hospitals, every type is fairly represented in the sample. Low-priced hospital represents those applying supplements in pricing of 100%, medium-low-priced of 200%, medium high-priced of 300%, and high-priced 400%.

5.6. Preparation of the data

The data from the online version was quantified in order to correspond with the paper version as follows: “Definitely don’t agree”=1, “Don’t agree”=2, “Mostly don’t agree”=3, “Neutral”=4, “Mostly agree”=5, “Agree”=6, “Definitely agree”=7.

In order to be treated in SPSS, the rest of the data was encoded as follows: “Yes”=1, “No”=2, “Low revenue”=1, “Medium revenue”=2, “High revenue”=3, and the hospital names were transformed into their percentage as explained above.

5.7. Analyses of the data

Before proceeding to the testing of the hypotheses, a special attention should be given to the Likert scale questions. The literature is somehow contradictory on whether the scale should be considered ordinal or interval. The Likert scale used in this survey is in 7 points, with the Neutral point being 4. Since the distance between categories is important and the equidistance between two answers is respected, in this study the Likert scale will be considered as an interval variable.

5.7.1. H1: Consumers do not seek information on their choices in providers

To test if consumers do seek information before getting hospitalized, the following question was asked: “3. *Where do you search for information on your choice in hospital in case of hospitalization?*”. The responses that were rated on a Likert scale were: “at my mutual insurance”, “at the governmental platforms”, “at my general physician”, “at the hospital”, and “I don’t search for information, I go to the closest hospital”. The following descriptive analysis (“The descriptives procedure displays univariate summary statistics for several variables in a single table and calculates standardized values” (IBM, 2011, p. 13)) gives more insight into the observations:

Table 5: Descriptive statistics of question nr. 3

Descriptive Statistics of Question 3				
	Mean	Minimum	Maximum	N
At my mutual insurance (at their office or on their internet site)	3,3	1,0	7,0	136
At the governmental platforms (INAMI, e-health, etc.)	2,0	1,0	7,0	136
At my general physician	5,9	1,0	7,0	136
At the hospital	4,7	1,0	7,0	136
I don’t search for information, I go to the closest hospital	2,8	1,0	7,0	136

A one sample t-test was performed on all response choices (details in Appendix nr. 9 (2)), which means it “Compares the mean of one variable with a known or hypothesized value. Descriptive statistics for the test variables are displayed along with the t test. A 95% confidence interval for

the difference between the mean of the test variable and the hypothesized test value is part of the default output” (IBM, 2011, 45).

The respondents did not agree with the affirmation « I don't search for information, I go to the closest hospital ». A uninominal test ($H_0: \mu \geq 4$, $H_1: \mu < 4$), with the null hypothesis “the majority of respondents agreed to the affirmation”, was conducted and the null hypothesis was rejected with a p-value of 0 (p-value: 0/2 > 0,05). This shows that at a confidence interval of the difference of 95%, respondents significantly disagreed with the affirmation. This means that they do search for information and do not go to the nearest hospital.

In order to evaluate the degree to which they search for information, the other responses to the questions will be tested in the same manner. In what concerns the respondents disagreement to them searching for information at the mutual insurance or on the governmental platforms, the null hypotheses “the majority of respondents agreed with the affirmation” ($H_0: \mu \geq 4$, $H_1: \mu < 4$) were rejected because of p-values equal to 0 (0/2 > 0,05). Therefore, it can be stated that respondents significantly disagreed with the affirmations.

When looking if respondents search for information at their general physician or at the hospital, the null hypothesis “the majority of the respondents disagreed with the affirmation” ($H_0: \mu \leq 4$, $H_1: \mu > 4$) was rejected since the p-values equaled 0 (0 < 0,05). This means that the respondents significantly agree with the affirmation, thus they mostly search for information at their general physician and at the hospital.

Given the results of the Question Nr. 3, the hypothesis stating that consumers do not seek for information on their choices in providers is rejected, even if mutual insurances and governmental platforms do not seem to be considered as sources of information for the respondents.

5.7.2. H2: Consumers do not feel sufficiently informed by the principal actors in healthcare (the government, the mutual insurances, the hospitals, the general physicians)

To test if consumers are sufficiently informed, the following question was asked: “*Do you feel sufficiently informed when you need to choose were to get hospitalized?*”. The affirmations were evaluated on a Likert scale as illustrated below:

Table 6: Descriptive statistics of question nr. 2

Descriptive Statistics of Question 2				
	Mean	Minimum	Maximum	N
The mutual insurance puts all information at my disposal	4,3	1,0	7,0	136
The government puts all information at my disposal	2,7	1,0	7,0	136
My general physician puts all information at my disposal	5,4	1,0	7,0	136
The hospital puts all information at my disposal	4,8	1,0	7,0	136
I don't feel sufficiently informed	3,9	1,0	7,0	136

Uninominal tests (details in Appendix nr. 9(3)) were performed for all answers.

To verify the significance of the disagreement to the affirmation « I don't feel sufficiently informed », null hypothesis was defined as « the majority of the respondents agree with the affirmation » ($H_0: \mu \geq 4$, $H_1: \mu < 4$). The null hypothesis cannot be rejected since the p-value is 0,337 ($0,674/2 > 0,05$), meaning that it cannot be affirmed that respondents significantly disagree with the affirmation.

The contribution of each principal actor to the level of information of the consumer is being measured in a similar method. For the information received from the mutual insurances, general physician and hospitals, the null hypothesis $H_0: \mu \leq 4$ ($H_1: \mu > 4$) was rejected in all three cases with the p-values smaller than the significance level (0,05), respectively 0,013 for the mutual insurances, 0 for general physician and 0 for hospitals. It can thus be considered that respondents significantly feel informed by the mutual insurances, general physicians and hospitals.

In what concerns the disagreement to the affirmation that the government puts all the information at their disposal, the null hypothesis $H_0: \mu \geq 4$ ($H_1: \mu < 4$) was also rejected (p-value: 0). It can, therefore, be affirmed that respondents significantly disagreed with the affirmation, and do they do not feel that the government informs them.

Therefore, the hypothesis nr. 2 of this study cannot be retained taking into account that consumers perceive three out of the four actors as significantly informing them.

5.7.3. H3: Consumers do not grant much importance to price

In order to test the importance of the price for the consumers, the level of appreciation of the quality/price ratio and of the price in question nr. 4 ("What did you appreciate at this hospitalization service") will be tested through uninominal tests (details in Appendix nr. 9

(4)). The level of information will also be tested through the answer “I don’t know how much I paid” from the question nr. 5 (“*Did the amount of your invoice, after the hospitalization, surprised you?*”). What is more, the importance of the price of healthcare is also observed in the answer “No, I never asked myself this question” to the question nr. 10 “*Do you know the amount you spend annually for healthcare?*”.

The descriptive statistics of the data for these three variables are presented in the following table.

Table 7: Descriptive statistics for hypothesis nr. 3

Descriptive Statistics for hypothesis nr. 3				
	Mean	Minimum	Maximum	N
4. What did you appreciate at this hospitalization service? [The quality/price ratio]	4,8	1,0	7,0	136
4. What did you appreciate at this hospitalization service? [The price level]	4,4	1,0	7,0	136
5. Did the amount of your invoice, after the hospitalization, surprised you? [I don’t know the amount I paid]	3,6	1,0	7,0	136
10. Do you know the amount you spend annually for healthcare? [No, I never asked myself this question]	4,2	1,0	7,0	136

The level of agreement to the satisfaction given by the price level is tested and the null hypothesis “the respondents were not satisfied by the price level” ($H_0: \mu \leq 4$, $H_1: \mu > 4$) is rejected with a p-value equal to 0. This means that respondents were significantly satisfied by the price level. The same null hypothesis concerning the satisfaction in the quality/price ratio could not be rejected since the p-value is 0,2345 (0,469/2). This means that consumers were not significantly satisfied by the ratio quality/price.

The disagreement to the affirmation “I don’t know the amount I paid” is significantly smaller than the neutral level. The null hypothesis “the majority of respondents agree with the affirmation” is rejected since the p-value is 0,0265 (0,053/2 < 0,05). This shows that respondents do know the amount they paid.

The significance of the agreement to the affirmation “I never asked myself this question” was also tested at the 95% confidence interval of difference. The null hypothesis “the majority of the respondents disagree with the affirmation” could not be rejected since the p-value is 0,067

(0,134/2). This means that we cannot affirm that respondents significantly agree with the affirmation.

Taking into account that two of the tests were not significantly larger/smaller than the neutral value, but also the average means, we can assume that consumers do not feel that price is of a big importance.

5.7.4. H3a: Consumers do not grant much importance on the conventional status of their medical specialist

When asked how they choose their medical specialist, their conventional status was one of the answers to be graded on a Likert scale. This is important to test because it has a great impact on the price of the care, as explained in Chapter 4.

Table 8: One sample Statistics for hypothesis 3a

One-Sample Statistics for Hypothesis 3a				
	Mean	Std. Deviation	Std. Error Mean	N
11. How do you choose your medical specialist? [If he is conventional]	3,5	1,9	0,16	136

The null hypothesis $H_0: \mu \geq 4$ ($H_1: \mu < 4$) can be rejected because the p-value is equal to 0,0025 ($0,005/2 < 0,05$). This means that respondents significantly disagreed with the affirmation, and thus they do not perceive the conventional status as important when choosing a medical specialist. This test (details in Appendix nr. 9(5)) confirms the hypothesis 3a of this study.

5.7.5. H4: Consumers with low revenue grant more importance to price than those with high revenue

In order to test this hypothesis the means of the different groups (according to the revenue level) of the values of the answer “No, I never asked myself this question” to question nr. 10 (“Do you know the amount you spend annually for healthcare?”) will be compared. This will be done with an Anova test (“The One-Way ANOVA procedure produces a one-way analysis of variance for a quantitative dependent variable by a single factor (independent) variable.” (IBM, 2011, p. 52) , because the revenue was gathered as a qualitative variable, in terms of choosing one category. The details of this test can be found in appendix nr. 9(6).

Table 9: Descriptive of the Anova analysis

Descriptive of the Anova analysis						
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Low revenue (<1000 euros/month)	30	4,3	2,1	0,3	3,5	5,0
Medium revenue (between 1000-3000 euros/month)	87	4,0	2,1	0,2	3,6	4,5
High revenue (>3000 euros/month)	17	5,5	1,8	0,4	4,5	6,4
Total	134	4,3	2,1	0,1	3,9	4,6

As it can be observed, the mean for the group with higher revenue is higher than the other two categories. The null hypothesis “the means of all groups are equal” was rejected with a p-value of 0,039. This means that there is a significant difference between the means of the groups.

With a significant difference between the means of the group, the hypothesis nr. 4 of this study is retained.

5.7.6. H5: Consumers do not know the price supplements practices in the hospital of their choice

The question nr. 6 of the questionnaire addresses this particular question: “Do you know the level of price supplements applied in this hospital?”. A frequency procedure was used to describe the data, as observed in table 10 below:

Table 10: Frequency of the Question nr. 6

Do you know the level of price supplements applied in this hospital ?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Answers	100%	11	8,1	8,1	8,1
	150%	2	1,5	1,5	9,6
	200%	4	2,9	2,9	99,3
	300%	1	0,7	0,7	100,0
	2 (No)	118	86,8	86,8	96,3
	Total	136	100,0	100,0	

As we can observe, 118 respondents, 86,8% of the sample did not know the level of supplements of price of the hospital of their choice (2 was encoded as “No” as explained in the preparation of the data section). Out of the positive responses, only 9 answers were correct, the other 9 were smaller than the real supplements of the hospitals. It is also important to mention that out of the 9 correct answers, 6 were concerning low-priced hospitals (100%) and the other three medium-low-priced hospitals (200%). No correct answer was given for the other two categories.

We can conclude that the consumer does indeed not know the level of supplements practiced in the hospital and thus the hypothesis nr. 5 is retained.

5.7.7. H6: Consumers do not know the amount they annually spend on healthcare

Question nr. 10 (“Do you know the amount you spend annually for healthcare?”) will be used to analyse this hypothesis.

The descriptive of the variables are in the following table:

Table 11: Descriptive statistics for testing hypothesis nr. 6

Descriptive Statistics for Hypothesis nr. 6					
	Mean	Minimum	Maximum	Std. Deviation	N
Yes, I closely monitor my spending	2,9	1,0	7,0	1,8	136
Yes, I ask my mutual insurance	2,7	1,0	7,0	1,8	136
Yes, mostly for consultations	3,8	1,0	7,0	2,0	136
No, it is all covered by my insurances (mutual insurance and private ones)	4,5	1,0	7,0	1,8	136
No, health has no price	5,4	1,0	7,0	1,7	136
No, I never asked myself this question	4,2	1,0	7,0	2,1	136

It can be observed that the means for all answers go in the same direction: respondents do not know the amount they annually spend on healthcare. Their means are tested with uninominal tests detailed in Appendix nr. 9(7).

The significance of the agreement with the answer “No, it is all covered by my insurances” was tested and the null hypothesis $H_0: \mu \leq 4$ ($H_1: \mu > 4$) was rejected at the confidence interval of difference of 95%, because the p-value was 0,0005 (0,001/2). This means that respondents

significantly agree to this affirmation and do not pay attention to their annual spending because it is covered by the insurance.

Furthermore, the null hypotheses “the majority of respondents agree with the affirmation” regarding the three positive affirmations to question nr. 10 were also rejected (p-values of 0). This means that their disagreement to the affirmation was significantly smaller than the neutral level. Therefore the respondents do not know the amount they annually spend on healthcare.

The agreement with the affirmation “No, I never asked myself this question” is not significantly different than the neutral level, as tested in hypothesis nr. 3.

With all the answers going in the same direction, hypothesis nr. 6 can be retained, and it can be concluded that consumers do not know the amount they annually spend on healthcare.

5.7.8. H7: Consumers go to the nearest hospital

The proximity of the hospital to the respondents’ home was introduced in three questions of the questionnaire: question nr. 3 (“Where do you search for information on your choice in hospital in case of hospitalization?”), question nr. 4 (“What did you appreciate at this hospitalization service?”) and question nr. 11 (“How do you choose your medical specialist?”). The descriptive of the affirmations related to this topic are illustrated in table 12:

Table 12: Descriptive statistics for testing hypothesis nr. 7

Descriptive Statistics for testing hypothesis nr. 7					
	Mean	Minimum	Maximum	Std. Deviation	N
3. Where do you search for information on your choice in hospital in case of hospitalization? [I don't search for information, I go to the closest hospital]	2,8	1,0	7,0	2,0	136
4. What did you appreciate at this hospitalization service? [The proximity to my house]	4,1	1,0	7,0	2,0	136
11. How do you choose your medical specialist? [My proximity to the hospital]	3,3	1,0	7,0	1,9	136

The difference between the above means and the neutral level will be tested through uninominal tests (details in Appendix nr. 9(8)). The affirmation “I don't search for information, I go to the

closest hospital” has already been tested for hypothesis nr. 1 and it was observed that respondents significantly disagree with the affirmation.

The null hypothesis $H_0: \mu \leq 4$ ($H_1: \mu > 4$), concerning the satisfaction in the proximity of the hospital to their houses, cannot be rejected since the p-value, 0,2345 (0,469/2), is higher than the acceptance level α (0,05). It can, thus, not be affirmed that respondents significantly agree with the affirmation, and they do not give a special significance to the proximity of the hospital.

The null hypothesis $H_0: \mu \geq 4$ ($H_1: \mu < 4$), regarding the affirmation that respondents seek proximity while choosing their medical specialist, is rejected at the significance level of 95% since the p-value is 0. This means that respondents significantly disagreed to proximity being important when choosing their medical specialist.

In order to have a clear image of the situation, the means of kilometers (Question nr. 17: “At what distance from your house is the hospital situated? In kilometers”) respondents traveled to the hospital of their choosing between the responses obtained at question nr. 11 are illustrated in table 13.

Table 13: Importance of proximity to the hospital

Report of means in kilometers regarding the importance of proximity of the hospital				
	17. At what distance from your house is the hospital situated? In kilometers			
		Mean	N	Std. Deviation
11. How do you choose your medical specialist ? [My proximity to the hospital]	Definitely don't agree	39,6	26	40,2
	Don't agree	28,4	38	22,1
	Mostly don't agree	33,0	6	25,6
	Neutral	21,2	25	14,4
	Mostly agree	10,4	14	6,5
	Agree	14,2	17	12,2
	Definitely agree	19,5	10	16,7
	Total	25,1	136	24,9

We can observe that those for whom the proximity is less important travel further for their medical care. What is more, the mean in kilometers of the sample is 25,1 kilometers (Appendix nr. 9(8) for the descriptive statistics of this question), which for a country as small as Belgium, translates into people not choosing the nearest hospital.

Therefore, the results of the testing do not allow us to retain the hypothesis nr. 7 which states that consumers go to the nearest hospital.

5.7.9. H8: Consumers go to the medical specialist recommended by the general physician

In order to obtain information on what attributes are more important when choosing a medical specialist, question nr. 11 gave respondents the possibility to rate on a Likert scale several affirmations:

Table 14: Descriptive statistics for question nr. 11

Descriptive Statistics for question nr. 11: How do you choose your medical specialist ?					
	Mean	Minimum	Maximum	Std. Deviation	N
If he is conventional	3,5	1,0	7,0	1,9	136
On a friend's advice	4,3	1,0	7,0	1,9	136
On my general physician's advice	6,0	1,0	7,0	1,3	136
On his reputation	5,0	1,0	7,0	1,8	136
By habit	3,3	1,0	7,0	1,9	136
My proximity to the hospital	3,3	1,0	7,0	1,9	136

As it can be observed in table 14, the highest mean was obtained for the general physician's advice. The null hypothesis $H_0: \mu \leq 4$ ($H_1: \mu > 4$), is rejected as the p-value is 0 (Appendix nr. 9(9)). Respondents significantly agree with this affirmation which means they do consider the recommendation of the general physician important.

What is more, the importance of the advice from the general physician was also evaluated in question nr. 3 ("Where do you search for information on your choice in hospital in case of hospitalization?"). The significance in difference with the neutral value of this affirmation was tested and confirmed for hypothesis nr. 1.

The hypothesis nr.8 affirming that consumers go to the medical specialist recommended by their general physician is hereby retained.

5.7.10. H9: Consumers are satisfied by the quality of the healthcare

Respondents' satisfaction with the healthcare service was evaluated in question nr. 4 ("What did you appreciate at this hospitalization service?") and question nr. 9 ("Would you recommend this hospital to your friends or family?") as illustrated in the following descriptive statistics:

Table 15: Descriptive statistics regarding the satisfaction in the quality of the healthcare service

Descriptive Statistics regarding the satisfaction in the quality of the healthcare service					
	Mean	Minimum	Maximum	Std. Deviation	N
4. What did you appreciate at this hospitalization service? [The quality of care]	6,1	1,0	7,0	1,0	136
4. What did you appreciate at this hospitalization service? [The quality/price ratio]	4,8	1,0	7,0	1,3	136
9. Would you recommend this hospital to your friends or family? [Yes, because of the quality of care]	5,7	1,0	7,0	1,3	136
9. Would you recommend this hospital to your friends or family? [Yes, because of the quality/price ratio]	4,5	1,0	7,0	1,3	136
9. Would you recommend this hospital to your friends or family? [No, I was not satisfied]	1,9	1,0	7,0	1,4	136

The results of uninominal tests for the affirmations can be found in Appendix nr. 9(10).

The significance of the mean of the affirmation “the quality/price ratio” in question nr. 4 has already been tested for the hypothesis nr. 3, and it resulted that respondents significantly agree to it.

In what concerns the satisfaction with the quality of the care, the null hypothesis $H_0: \mu \leq 4$ ($H_1: \mu > 4$) is rejected. Hence, the strong agreement (mean of 6.1) of the respondents with the satisfaction in the quality of care is significant.

Through the same reasoning, the recommendation of the facility related to the quality and the quality/price ratio is also significantly different to the neutral level (p-values are also 0).

When regarding the significance of the dissatisfaction in the service, the null hypothesis $H_0: \mu \geq 4$ ($H_1: \mu < 4$) is also rejected with a p-value of 0. It can therefore be affirmed that respondents were not dissatisfied with the service.

All in all, the hypothesis nr. 9 affirming that consumers are satisfied with the quality of the care is retained.

5.7.11. H10: Consumers considered they paid too much for their healthcare

To test this hypothesis, question nr. 5 (*“Did the amount of your invoice, after the hospitalization, surprised you?”*) gave the possibility to respondents to rate the following affirmations: “I paid more than predicted” and “I paid a fair amount”. The recommendation of the facility according to the quality/price ratio (Question nr. 9: “Would you recommend this hospital to your friends or family?” – “Yes, because of the quality/price ratio”) will also be used. The descriptive of these questions can be found in table 16, and the details of the uninominal tests in Appendix nr. 9(11).

Table 16: Descriptive statistics regarding consumers' opinion on the amount they paid

Descriptive Statistics regarding consumers opinion on the amount they paid on the service in question					
	Mean	Minimum	Maximum	Std. Deviation	N
5. Did the amount of your invoice, after the hospitalization, surprised you? [I paid more than I predicted]	3,1	1,0	7,0	1,7	136
5. Did the amount of your invoice, after the hospitalization, surprised you? [I paid a fair amount]	4,8	1,0	7,0	1,4	136
9. Would you recommend this hospital to your friends or family ? [Yes, because of the quality/price ratio]	4,5	1,0	7,0	1,3	136

As it can be observed in table 16, consumers do not feel they paid too much for the service. The significance in difference to the neutral level of the means will further be tested.

The null hypothesis ($H_0: \mu \geq 4$, $H_1: \mu < 4$) stating that consumers do consider that they paid too much for their healthcare service was rejected at the 95% confidence interval of difference (p-value=0). This implies that consumers significantly disagree to having paid too much for the service.

The null hypotheses regarding the disagreement to the affirmations “I paid a fair amount” and “Yes, because of the quality/price ratio” were also rejected since their p-values are 0. This

means that consumers significantly believe that they paid a fair amount and would recommend the facility because of the quality/price ratio.

The Hypothesis nr. 10 stating that consumers considered they paid too much for their healthcare is hereby rejected.

5.7.12. H11: Consumers would recommend the healthcare provider to a friend

Respondents were asked if they would recommend the hospital of their choosing to a friend or family in question nr. 9. Table 18 illustrates the descriptive statistics of the affirmations they rated on the Likert scale, while more details of the uninominal tests can be found in Appendix nr. 9(12).

Table 17: Descriptive statistics of Question nr. 9

Descriptive Statistics of Question nr. 9: Would you recommend this hospital to your friends or family ?					
	Mean	Minimum	Maximum	Std. Deviation	N
Yes, because of the quality of care	5,7	1,0	7,0	1,3	136
Yes, because of the amiability of the staff	5,6	1,0	7,0	1,1	136
Yes, because of the modernity of the equipment	5,5	1,0	7,0	1,2	136
Yes, because of the quality/price ratio	4,5	1,0	7,0	1,3	136
No, I was not satisfied	1,9	1,0	7,0	1,4	136

As it can be observed, consumers would recommend the facility to their friends and family. The means for the affirmations “Yes, because of the quality of care”, “Yes, because of the quality/price ratio” and “No, I was not satisfied” have already been tested for hypothesis nr. 9 and their significant difference to the neutral level was confirmed.

The null hypotheses $H_0: \mu \leq 4$ ($H_1: \mu > 4$) were also rejected regarding the recommendation based on the amiability of the staff and the modernity of the equipment (p-values are 0). This means that respondents would recommend the facility because of the amiability of the staff and the modernity of the equipment.

All positive answers to a recommendation being significantly larger than the neutral level, hypothesis nr. 11 is hereby retained.

5.7.13. H11a: Consumers would more highly recommend the provider because of the quality of the service than because of the quality/price ratio

To test the greater importance of the quality (X_1) in the recommendation than that of the quality/price ratio (X_2), it will firstly be checked if the affirmation “No I was not satisfied” (Y) can be explained by this two independent variables and, then, the significance of their importance will be tested. This will be done through a multiple linear regression: $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$. A linear regression “estimates the coefficients of the linear equation, involving one or more independent variables, that best predict the value of the dependent variable” (IBM, 2011, 98).

Table 18: Regression model summary

Regression Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,717 ^a	0,515	0,507	1,0098
a. Predictors: (Constant), 9. Would you recommend this hospital to your friends or family ? [Yes, because of the quality of care], 9. Would you recommend this hospital to your friends or family ? [Yes, because of the quality/price ratio]				

The R Square value from table 19 signifies that 51,5% of Y can be explained by X_1 and X_2 . The p-value of 0 in the Anova analysis in Appendix nr. 9(13) allows the rejection of the null hypothesis “the variable Y cannot be explained by the multiple regression model” and confirms the relevance of the regression model.

Table 19: Coefficients of the multiple regression

Coefficients ^a of the multiple regression						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,591	0,414		15,935	0,000
	Yes, because of the quality/price ratio	-0,110	0,069	-0,105	-1,605	0,111
	Yes, because of the quality of care	-0,726	0,071	-0,670	-10,209	0,000
a. Dependent Variable: 9. Would you recommend this hospital to your friends or family ? [No, I was not satisfied]						

Table 20 illustrates that the value of β_1 is -0,110 and the one of β_2 is -0,726. Their significance in explaining the dependent variable Y will be tested: the null hypothesis “the variable does not

significantly explain the dependent variable” ($H_0: \beta=0$; $H_1: \beta \neq 0$) is rejected for the case of the quality of care (p-value equals to 0, smaller than the 0,05) and the contribution of the quality of care is significant. Through the same reasoning, the null hypothesis for the quality/price ratio is not rejected (p-value=0,111), and the contribution of the quality/price ratio cannot be considered significantly different from 0.

Considering that the quality of the care do explain (negatively) why people would not recommend the facilitation, and that the quality/price ratio does not, it can be concluded that the quality of the care influence more the recommendation of the facility. The hypothesis nr. 11a of this study is hereby retained.

5.7.14. H12: Consumers would return to the provider (repurchase)

Repurchase is important in confirming the satisfaction of customers. In this respect, question nr. 7 asked if they would hesitate to return in the hospital of their choosing because of the price they paid.

Table 20: Descriptive statistics of repurchase question

Descriptive Statistics of repurchase question					
	Mean	Minimum	Maximum	Std. Deviation	N
7. Would you hesitate to return to this hospital because of the price of your latest hospitalization ?	2,6	1,0	7,0	1,5	136

The significance of their disagreement to the hesitation of returning to the hospital because of the price is being tested through a unimodal test (details in Appendix nr. 9(14)). The null hypothesis $H_0: \mu \geq 4$ ($H_1: \mu < 4$) is rejected at the confidence level of difference of 95% since the p-value is 0. This translates into a significant difference from the neutral level of the disagreement of respondents in the affirmation. Respondent would therefore return to the hospital, and they would not hesitate to do so because of the price. The hypothesis nr. 12 is hereby retained.

5.7.15. H13: Consumers were discriminated on the basis of their insurance

Before looking at the answers to question nr. 8.1 (“If you don’t have insurance for hospitalization, did you already felt poorly welcomed in a hospital because of it?”), question

n.8 should be addressed. Table 22 shows the descriptive statistics of the frequencies of this qualitative data.

Table 21: Frequency of question nr. 8

Question nr. 8. Do you have an insurance for hospitalization ?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	118	86,8	86,8	86,8
	No	18	13,2	13,2	100,0
	Total	136	100,0	100,0	

It needs to be noted that 86,8% of the sample has insurance and therefore is not concerned with the question nr. 8.1.

Table 22: Frequency of question nr. 8.1

Question nr. 8.1. If you don't have insurance for hospitalization, did you already felt poorly welcomed in a hospital because of it?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	17	12,5	12,5	12,5
	N/A	119	87,5	87,5	100,0
	Total	136	100,0	100,0	

Table 23 illustrates the descriptive statistics of the question designed to test this hypothesis. Since there were only 17 answers to this question the hypothesis cannot be tested and is therefore considered inconclusive.

5.7.16. H14: Consumers were discriminated on the lack of hospitalization insurance

As explained in the previous hypothesis, 86,8% of the sample does have insurance for hospitalization. It has to be noted here that hospitals should not ask their patients details on their insurance. Being asked what their insurance covers and hence most probably being added price supplements that enter the given coverage (Rousseau and Mullié, 2015) is considered in the case of this study as a price discrimination.

Table 23: Frequency of question nr. 8.2

Question nr. 8.2. If you have insurance for hospitalization, were you asked to say what it covered?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	47	34,6	34,6	34,6
	No	71	52,2	52,2	86,8
	N/A	18	13,2	13,2	100,0
	Total	136	100,0	100,0	

47 respondents affirmed to being asked details about the coverage of the insurance at the moment of their hospitalization. 34,6% of a sample is considered a high percentage in a discrimination claim.

In order to be thorough, the means of certain variables will be compared accordingly to two groups: those who were asked information about insurance, and those who were not (details in Appendix nr. 9(15)). Question nr. 4 and question nr. 5 will be used, as illustrated in the below table (Table 25):

Table 24: Comparing means by groups of question nr. 8.2

Comparing means by groups of question nr. 8.2			
	8.2. If you have insurance for hospitalization, were you asked to say what it covered?	Mean	N
4. What did you appreciate at this hospitalization service? [The quality of care]	Yes	6,3	47
	No	5,9	71
4. What did you appreciate at this hospitalization service? [The price level]	Yes	4,1	47
	No	4,5	71
5. Did the amount of your invoice, after the hospitalization, surprised you? [I paid more than I predicted]	Yes	2,9	47
	No	3,0	71
5. Did the amount of your invoice, after the hospitalization, surprised you? [I was correctly informed on the price]	Yes	4,3	47
	No	3,6	71
5. Did the amount of your invoice, after the hospitalization, surprised you? [I don't know the amount I paid]	Yes	3,3	47
	No	3,8	71

The null hypothesis “the means of the two groups are equal” ($H_0: \mu_1 = \mu_2$, $H_1: \mu_1 \neq \mu_2$) is only rejected for the quality of care and the correctness of the information received on the price. With p-values of 0,012 and respectively 0,023, smaller than the significance level of 0,05, the means of the two variables between the groups are significantly different.

It can thus be considered that people are being welcomed differently according to their insurance information, therefore the hypothesis nr. 14 is retained.

5.8. Discussion of the results

The above table (Table 26) shows the results of the testing of hypotheses classifies by the variable characterizing the research questions:

Table 25: Summary of testing of hypotheses

Summary of testing of hypotheses		
Variable	Hypotheses	Outcome
Information	H1: Consumers do not seek information on their choices in providers	Rejected
	H2: Consumers do not feel sufficiently informed by the principal actors in healthcare (the government, the mutual insurances, the hospitals, the general physicians)	Rejected
Price	H3: Consumers do not grant much importance to price	Retained
	H3a: Consumers do not grant much importance on the conventional status of their medical specialist	Retained
	H4: Consumers with low revenue grant more importance to price than those with high revenue	Retained
	H5: Consumers do not know the price supplements practices in the hospital of their choice	Retained
	H6: Consumers do not know the amount they annually spend on healthcare	Retained
Choice	H7: Consumers go to the nearest hospital	Rejected
	H8: Consumers go to the medical specialist recommended by the general physician	Retained
Satisfaction	H9: Consumers are satisfied by the quality of the healthcare	Retained
	H10: Consumers considered they paid too much for their healthcare	Rejected
	H11: Consumers would recommend the healthcare provider to a friend	Retained
	H11a: Consumers would more highly recommend the provider because of the quality of the service than because of the quality/price ratio	Retained
	H12: Consumers would return to the provider (repurchase)	Retained
Discrimination	H13: Consumers were discriminated on the basis of their insurance	Inconclusive
	H14: Consumers were discriminated on the lack of hospitalization insurance	Retained.

The first stop in discussing the results will be regarding the information consumers have when choosing their healthcare facility. As it can be observed in table 26, both hypotheses regarding this variable were rejected. It was shown that mutual insurances, general physicians and

hospitals do inform consumers and that consumers do feel informed. It is important to underline that government was not seen as neither informing nor as an information source. Furthermore, mutual insurances were not considered as an information source either.

The second variable, regarding the importance of the price level consumers have, proved to be disregarded, fact confirmed by all five hypotheses. The perception of the price level was analyzed through different parts of it: the invoice, the supplements added by the facility and the conventional status of the medical specialist. All aspect are disregarded when consumers seeks healthcare. Furthermore, respondents did not know the annual amount they spend on healthcare. It can be thus concluded that consumers do not consider price as an important variable of healthcare.

When looking at the choice respondents value, it has been concluded that respondents do not go to the nearest hospital and do search for information before choosing. On the other hand, a high percentage of respondents go to the medical specialist recommended by their general physician. This can mean that respondents value the choice, but they are not necessarily the one choosing.

To justify the price of healthcare, it is important to look at the satisfaction level. The four hypotheses investigating if respondents were satisfied with the hospitalization service were confirmed. It can thus be concluded that respondents are satisfied with their healthcare, and thus the price is justified. What is more, the rejection of hypothesis nr. 10 confirms that respondents consider they had their money's worth.

Finally, when looking at a possible discrimination in healthcare, it firstly has to be pointed out that discrimination is not inflected on a majority. Even when a small percentage of respondents feel discriminated, it is consider highly relevant. It can be thus confirmed by the retention of hypothesis nr. 14 that consumers are being discriminated based on their insurance. What is more, the means comparison between the groups of those having been asked information about their hospitalization insurance and those not having been asked was significant for the responses about the quality of care and the correct information received on the hospitalization price. This implies a difference in the service.

5.9. Limitations and recommendations for future studies

The first and most important limitation of this study was the access to respondents. Even if the questionnaire was distributed online for more than a month, the desired size of the sample was not achieve. Hospitals are also rather reluctant to granting access and a time-inefficient process

of having the opinion of the ethical committee is in place. What is more, the sample used contained a significantly large age group between 20-30 years old. It would be interesting to have all age groups represented equally.

A second very important limitation was the type of information a respondent would agree to share on their health status. Healthcare is a sensitive topic so, in order to ensure a willingness to respond to the questions from the questionnaire, significant details were excluded as the reason for hospitalization, the number of hospitalizations, etc. .

Regarding the information on insurance, it would be interesting to have this retested to ensure the people without an insurance are not being discriminated on their purchase power.

It is recommended that healthcare expenses be looked closely through one of the main actors. Mutual insurances or hospitals have much more information regarding the real cost of healthcare and possible discrimination. It is also recommended that studies should be made concerning the same illness. It is difficult to have relevant information if the reason for hospitalization was of immediate necessity as, for example, a broken leg or child birth. When patients have time before hospitalization, they also have the possibility to choose. What is more, the information consumers that were never hospitalized should also be tested, as well as the process they would follow to choose a facility.

Conclusion

The healthcare organization in Belgium was described in chapter 4 as being complex, well regulated, with a compulsory insurance that vouches for every individual's access to a defined level of medical care. In this thesis, consumers' were questioned in order to check the accessibility of medical care in terms of price, quality and this equally distributed.

The first research question of this thesis regarding the information consumers have on their choices seems to be answered to positively. It should however be noted that the entire sample was composed out of consumers of hospitalization service, and can thus be speculated that their information level grew because of their hospitalization. The result cannot be generated to all consumers of healthcare. Furthermore, as pointed out previously, the government and its platforms were not seen as information sources. This should raise an important question taking into account how much of the governmental budget is spend on healthcare. Government should make significant efforts in both informing the consumer and the visibility as a source of information. Government should inform the consumer about healthcare services' topics such as the different price supplements hospitals have, the conventional status of doctors and its implication, etc.

Price levels were proven to be unimportant when seeking healthcare, meaning that the second research question is being answered to negatively. Consumers do not perceive pricing of healthcare as being important. It was shown that survey respondents that have a low monthly income were more concerned by the price level. However, all consumers of healthcare in Belgium have mutual insurance and a high percentage of them also have additional insurance or hospitalization, which could explain the unimportance of price level.

The response to the third research question is somehow problematic. The first hypothesis was rejected, and it was proven that consumers do not go to the nearest hospital and do travel to the hospital of their choosing. On the other hand, when choosing their medical specialist, and with it, the facility, consumers allocate a significant importance to the recommendation from their general physician. This was explained in the literature review by the consumers' lack of technical knowledge on healthcare (Wisdom and Grum, 1994). It can thus be concluded that consumers do value having choices in facilities for healthcare, but when it comes to actually choosing they leave it to the general physician.

Taking into account how satisfied respondents were by their hospitalization service, the fourth research question of this study can be answered to positively. Consumers are satisfied with their

service, with both the quality and the quality/price ratio, and they would recommend and return to the facility of their choosing. This confirms that in Belgium the quality of healthcare is highly respected. The satisfaction of consumers could translate into a justified price.

Discrimination is difficult to be proven and highly unethical. The fifth research question of this study is positively answered since consumers are being asked in some hospitals what their insurance covers, and the quality of care and the information on the price was higher for those having given details on their insurance. It can be assumed, as the experts (Rousseau and Mullié, 2015) also suspect, that supplements are being added, especially if they are covered by insurance. Consumers do pay for an additional insurance and are thus being overcharged because of their greater purchasing power.

All in all, healthcare is the most important service a provider can offer in a society and should be continually improved. Government should also focus on informing the consumers on their choices, since it is something they value. By doing so, especially for choices influencing the price, the government would reduce its annual spending on healthcare. Consumers should be made more aware of their spending in healthcare, especially a hospitalization cost, and be incited to value preventive measures.

Ethical considerations on the conclusion

Before evaluating the conclusion accordingly to ethical basis, those basis need to first be selected. In the first chapter, several visions on ethical societies have been described. Concerning the Belgian society, utilitarianism and liberal egalitarianism are considered the most appropriate ones, together with some aspects of libertarianism.

The healthcare organization in Belgium, as described in chapter 4, responds to the definition of these two ethical bases as follows: the government lets the healthcare market reach its competitive equilibrium by not fixing all aspects of price and letting the medical fee to an agreement between the stakeholders. Moreover, through the compulsory insurance, the government ensures a minimum level of healthcare to all individuals and, implicitly, attributes healthcare to those who have the smallest amount of it. With the means of the social contribution, every individual in the society contributes to eliminate the negative externality of unforeseen medical needs and thus increase the average welfare. The questions that remains to be answered are, as defined by Arnsperger and Van Parijs (2003, p. 88), how to allocate the healthcare in order to maximize the welfare and if it should be strictly based on a cost/benefits criterion (Arnsperger and Van Parijs, 2003, pp. 90-91).

The first research question, regarding the information consumers have on their choices was positively answered. In order to maximize their welfare, individuals need the pertinent information on choices that influence their decisions in healthcare. The government should facilitate the propagation of this information to ensure the greater good for the greatest number of people, and the results of this study show that it was not the case.

Consumers do not perceive the price in healthcare important, so it can be considered that a change in price will not influence their welfare. However, this is an assumption that is highly unlikely since an increase in price can be translated into a decrease in resources allocates to other purposes that contribute to individuals' welfare. Hence, even if the actual price is not considered important, they should not significantly change since it would cause a decrease in the individual welfare, more importantly for those demanding more medical care.

Choice was shown to be highly valued by consumers, which ensures the liberty of choice that a libertarian society demands. The fact that they leave the choice to the general physician, which translates into a better quality of care, is helping maximize their welfare.

Consumers are satisfied with their healthcare service, with both the quality and the quality/price ratio, as demonstrated by the fourth research question of the study. This implies that the price

of healthcare does not decrease the individual welfare since it is supported by its quality. It can further imply that an increase in price, explained by an increase in quality (for example more resources for medical research that would generate better quality/ more effective solutions), is acceptable and would increase the society's welfare.

Rawls (1974) defined, in his theory of social justice, a fair society as a society where the social primary goods are equitably distributed among its individuals, while considering their natural primary goods (health included). This implies an equally distributed healthcare, which is ensured by the compulsory insurance as above mentioned, but discrimination was identified in healthcare services in the study, which causes inequalities in healthcare.

All in all, health services in Belgium have aspects that respond to utilitarianism and liberal egalitarianism standards, but inequalities do occur, even if consumers have no knowledge of it. In this thesis, we have identified inequalities in terms of hospital supplements, access to conventional specialist and information on tariffs (Rousseau and Mullié, 2015). It is strongly advised that government reduces the inequalities, in order to maximize the individual welfare and thus the society's welfare.

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