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Master thesis

Perceived patient satisfaction with the treatment of back problems: Exploring the differences between general hospitals and private clinics.

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Abstract

Introduction: Patients in general appear to be more satisfied with treatment at private clinics than with treatment at general hospitals. However, little scientific literature has been published regarding this comparison and no scientific literature was found regarding back patient satisfaction at private clinics and general hospitals.

Purpose: To explore the differences between perceived patient satisfaction of back patients who received treatment at a general hospital and back patients who received treatment at a private clinic.

Data sources/study setting: Qualitative interview transcripts and secondary survey data of 28 adults aged 18 years and above with a confirmed physical cause for their back problems who recently underwent treatment in either a general hospital or a private clinic.

Study design: A posttest-only non-experimental design. It is a phenomenological study, in which patient satisfaction (dependent variable) is measured after exposure of the back patient to the healthcare encounter (independent variable). There is no control group, and only one wave of measurement.

Data collection: Back patients who received treatment either at the general hospital or at the private clinic have completed a small survey and participated in a qualitative interview regarding patient satisfaction. The survey data is used as background data. The qualitative interviews are transcribed and coded with qualitative analysis software.

Principal findings: Patients treated at the private clinic report 0.5 point higher on a one to ten Thurstone scale than the patients treated at the general hospital. Back patients from both samples highly value clear explanations provided by the doctor, friendliness of ancillary staff, and an easy to access location. Patients from the private clinic also valued a short waiting time for the first appointment and clear explanations provided by the ancillary staff. Patients from the general hospital also valued the communication with the doctor and the familiarity with the healthcare provider. A perceived performance analysis shows ancillary staff performing slightly better in the private clinic and pain control is slightly better in the general hospital. The physical environment appears to be much better in the private clinic. Both healthcare providers perform poorly on information provision, which was the main source for negative responses.

Conclusions: These findings suggest that there is a difference between perceived patient satisfaction of back patients who received treatment at a general hospital and back patients who received treatment at a private clinic. Differences are observed in general patient satisfaction ratings, information provision, pain control, and the physical environment.

Key words: CAHPS, perceived patient satisfaction, Dutch healthcare, general hospital, private clinic, back problems

Preface

This research has been commissioned by a private clinic and aims at exploring the differences between perceived patients satisfaction of back patients who received treatment at private clinics and general hospitals. The thesis serves as the final assessment component of my Master Business Administration. This course is provided by the University of Twente. Any opinions, findings, conclusions and/or recommendations expressed in this thesis are my own and do not necessarily reflect the views of the participating healthcare providers and/or supervisors. I hope you will read this thesis with interest and gain valuable insights in the process.

After the initial approval of the plan of approach in February 2012, the study was interrupted because I had to undergo surgery. It took six months before being fully recovered and to be able to continue the study. Although the research did not start as scheduled, the frequent visits at the hospital did give me a firsthand experience of the concept of patient satisfaction. This certainly was a convenient experience, before engaging in interviews with back patients. Both thesis supervisors let me take the time to recover from surgery and I could pick up my research afterwards. In the autumn of 2013 the initial plan to compare interviews held at the private clinic with a national data set was set aside, because this data set ultimately did not appear to be complete. Hence, another approach was taken and a general hospital situated in the west of The Netherlands was found willing to participate in the study as a comparison group. The time and effort taken by the neurosurgeons and ancillary staff of that particular general hospital is much appreciated. Furthermore, I would like to thank my external supervisor, dr. Klopper-Kes, for supporting me throughout this research. She functioned as my sparring partner, by always taking time to discuss matters and by critically evaluating my work. This constant process was made possible because I was able to conduct this research at the private clinic's office. Also supervising this study from the start was my first internal supervisor, dr. Van Manen. Although we did not meet often, she actively kept track of my progress. She always shared her insights on deliverables and she was always available for advice. This gave me the opportunity to conduct large parts of this research myself, and thereby developing my own research skills. In the last phase of writing this thesis, my second internal supervisor, dr. Boere-Boonekamp shared her insights upon this research. Her critical focus on the research methods allowed me to evaluate my study once more before delivering the final product.

Because I was able to perform most of this research at the private clinic I had the pleasure to get to know most of the employees. This familiarity made it more easy for me to obtain information, to recruit study participants, and it made me feel like a part of the team. Without the help and expertise of all the staff it would have been more difficult to conduct this research. Last, but certainly not least I would like to give a big thanks to all my family and friends who have supported me throughout the research period. Without their help, it would not have been possible for me to do this research. A final thanks goes out to you, dear reader. If you read this page before reading this sentence, at least you took the effort of reading one page of my master thesis.

Many thanks to all of you!

Elmar M. Kleinjan

Table of content

1 Introduction

1.1 Research problem

In the last decade the Dutch healthcare sector has been subject to reforms imposed by the Dutch government. The main reason for reforming is that the Dutch healthcare industry is characterized by high costs and decreasing quality of care (Maarse, 2011). With the introduction of managed competition to the Dutch healthcare sector the Dutch government aimed at changing the healthcare system from supply-driven to demand-driven. With this change, a decrease of costs, a higher efficiency, and a more client focused approach was supposed to be achieved (Delnoij & Hendriks, 2008). The Dutch government emphasized accountability of healthcare providers, price transparency, performance management (Arah, et al., 2006), and consumer choice (Hekkert, Cihangir, Kleefstra, Van den Berg, & Kool, 2009). Due to the reforms patients would lose their role as passive care receivers and would become critical healthcare consumers. They would become an important pivot in the healthcare system, demanding qualitative good care against a reasonable price (Delnoij & Hendriks, 2008). Hence, it would be useful for healthcare providers to study how patients perceive their healthcare experience. By measuring patient satisfaction healthcare providers will have an established outcome indicator for the quality and the efficiency of their healthcare (Merkouris, Papathanassoglou, & Lemonidou, 2004). The use of this concept is justified, because patients are the ultimate source of information about how healthcare providers perform (Avis, Bond, & Arthur, 1995). In The Netherlands, patient experiences with healthcare are amongst others measured by the Consumer Quality Index. Together with the United Kingdom and the United States of America it is one of the few countries that measures patient satisfaction systematically and standardized (Delnoij & Hendriks, 2008).

A consequence of the proposed change in the healthcare system is that patients would have a larger freedom of choice. There is a variety of healthcare providers from which patients can choose, e.g. general hospitals and private clinics. Especially the number of private clinics has grown rapidly in the past decade (NZa, 2012). Also, more often patients appear to choose for treatment at a private clinic, rather than at a general hospital or other healthcare providers (ZKN, 2012). This shift might be explained because private clinics may have anticipated better on the outcomes of the reforms imposed by the Dutch government. The report of Boer & Croon (2011) suggests that private clinics are better able to meet the needs of patients than general hospitals. Also, they state that patients seem to be more satisfied with treatment at private clinics (scoring 8.5 on a one to ten *Thurstone scale* (Babbie, 2007)) than with treatment at general hospitals (scoring 7.4 on a one to ten Thurstone scale). From the few articles found regarding the comparison of satisfaction at private clinics and general hospitals a few factors could be distinguished that might explain (a part of) the apparent success of private clinics. However, it must be kept in mind that since the private clinic is rather new to the Dutch healthcare context, publication bias may occur. Articles found regarding the performance of private clinics appear to support the assumption of Boer & Croon that private clinics produce higher satisfaction ratings than general hospitals (2011). However, articles suggesting the opposite (general hospitals performing better than private clinics) were not found either.

A couple of factors are suggested to attribute to a higher performance of private clinics compared to general hospitals. Firstly, Calnan (1988) suggests that the expectations of a patient may change. As a consequence of the healthcare reforms, patients can now actively shop for healthcare and choose the healthcare provider that best fulfills their needs. Secondly, the doctor-affiliated aspects of care might be different in both settings. According to Moret, Rochedreux, Chevalier, Lombrail, & Gasquet (2008), patients do not wish to receive treatment from a doctor who takes a dominant role in the patient-doctor relationship. Kalda, Põlluste, & Lember (2003) suggest that patients will be more satisfied with healthcare if they get to choose their own doctor. Private clinics might be better able to relate to these doctor-affiliated aspects of care. Thirdly, it is suggested that the large size of most hospitals is negatively correlated with patient satisfaction (Kalda, et al., 2003). This might be because general hospitals have a more impersonal image, whereas private clinics seem to be more able to engage in personal contact and individualized care (ZKN, 2012). A fourth possible explanation might be that private clinics are run more efficiently. A more client-focused approach might be a reason for this (Boer & Croon, 2011). Whereas general hospitals often have to schedule multiple appointments on different days, private clinics often apply a one-stop-shop principle (Kearns & Barnett, 1997). This implies that a multidisciplinary team of professionals diagnose and treat the back problem on the same day. The fact that

private clinics generally score higher than general hospitals regarding healthcare (Boer & Croon, 2011) has lead to this research. The underlying question is what factors could possibly affect patient satisfaction. Next to satisfaction with outcome, patient satisfaction may also be affected by other aspects of the care process, e.g. characteristics of staff or interpersonal skills of the doctor. When performing a specific literature search regarding the difference between patient satisfaction in general hospitals and private clinics not much was found. The apparent gap in scientific literature is partly filled by a few authors who generally suggest that patients are more satisfied with healthcare received in the private sector than with healthcare received in the public sector in Ireland (Casserley-Feeney, Bury, Daly, & Hurley, 2008), Pakistan (Khattak, et al., 2012), Nigeria (Odebiyi, Aiyejusunle, Ojo, & Tella, 2009) and The Netherlands (Boer & Croon, 2011). For further exploration of this research problem regarding the Dutch context an exploratory approach is used which emphasizes on qualitative methods. A smaller qualitative study aids in evaluating and interpreting results from a previously conducted quantitative study such as that of Boer & Croon (2011). In-depth interviewing may help to explain why healthcare providers generate different levels of patient satisfaction (Morgan, 1998). By taking this exploratory approach, we hope to explore the differences between perceived patient satisfaction of back patients who received treatment at private clinics and general hospitals. In the following paragraph, the central research question, the sub questions and the purpose statement will be stated.

1.2 Central research question & sub questions

What are the differences between perceived patient satisfaction of back patients who received treatment at general hospitals and back patients who received treatment at private clinics?

(1) How do healthcare providers perform regarding satisfaction with the treatment of back problems?

(2) What do back patients consider important aspects of healthcare regarding the treatment of their back problems?

1.3 Purpose statement

The purpose of this phenomenological study is to explore the differences between perceived patient satisfaction of back patients who received treatment at general hospitals and back patients who received treatment at private clinics. A tentative definition of perceived patient satisfaction with the treatment of back problems at this time is "how a back patient evaluates the healthcare received on a satisfaction continuum". The study participants are drawn from two populations; a general hospital (neurosurgical unit) and a private clinic. The findings of the study will create an insight into what back patient satisfaction is, what back patients consider important aspects of care, how healthcare providers perform regarding this satisfaction, what aspects of care they should cherish, and what aspects of care they could improve on.

2 Literature review

2.1 Introduction

A lot of research has been performed on the topic of patient satisfaction. Performing a search regarding patient satisfaction in general on ScienceDirect generates 134,794 articles (ScienceDirect, 2013). However, studies focusing specifically on the differences between perceived patient satisfaction of back patients receiving treatment at general hospitals and private clinics were not found in the first hundred results (sorted by relevance). This research seeks to fill this apparent gap in the scientific literature. Since not much has been written about this topic this research calls for an exploratory approach. By interviewing and listening to patients the essence of patient experiences with their healthcare encounter can be obtained and a deeper understanding of the phenomenon can be build (Creswell, 2009). The literature review presented below provides us with a basic understanding of the concept of patient satisfaction and is meant to frame the research problem. The literature review is divided into three sections:

- 2.2 The importance of patient satisfaction;
- 2.3 Patient satisfaction – A valid concept?;
- 2.4 A proposed back patient satisfaction framework.

The scientific literature discussed in this literature review is obtained through an extensive examination of available literature on patient satisfaction. An ancestry searching strategy was used (Conn, et al., 2003), repeatedly reviewing citations from initially acquired studies and thereby finding other potentially useful studies. The specific articles were acquired in the fields of patient satisfaction with physiotherapy, spine surgery, and hospital stay. Three databases were primarily used for the literature research. Additional articles were found using Google Scholar with University of Twente Access. Multiple (combinations of) search terms were used (Table 2.1). The search results were firstly screened (reading title and abstract), after which a consideration is made to include or exclude the article in the literature review.

Databases searched and search terms used	
Databases	Search terms
ScienceDirect (ScienceDirect, 2013)	Patient satisfaction
	Satisfaction framework
National Center for Biotechnology Information (NCBI, 2013)	Back problems
	Hospital stay
	Spine surgery
Wiley Online Library (Wiley-Blackwell, 2013)	Consumer Quality Index
	CAHPS (Consumer Assessment of Health Plans Survey)
	Physiotherapy
	Disability questionnaire (Roland Morris)
	Functional status
	General health (SF-12)
	Pain score (VAS/NRS)
	Quality of care

Table 2.1: Databases and search items.

2.2 The importance of patient satisfaction

In addition to the United Kingdom and the United States, The Netherlands is only one of few countries that measures patient experiences systematically and standardized (Delnoij & Hendriks, 2008). This might imply that patient satisfaction in The Netherlands is regarded as a useful and important concept by various parties, such as patients, healthcare providers, and insurance companies. The term healthcare provider refers not to the individual care provider, but to the actual organization that provides health services to healthcare consumers (Mosby's Medical Dictionary, 2009). But why exactly could patient satisfaction be useful and important? The concept of patient satisfaction has been widely debated in healthcare literature. This is

because it has become an established outcome indicator for the quality and efficiency of healthcare systems (Avis, Bond, & Arthur, 1997; Donabedian, 1965; May, 2001; Merkouris, et al., 2004).

From the patient's perspective, the measurement of patient satisfaction offers an insight in the healthcare provider's level of success (Jackson, Chamberlin, & Kroenke, 2001; Sitzia & Wood, 1997). With the enlarged transparency regarding healthcare provider performance (Hekkert, et al., 2009), patients can compare different healthcare providers and choose a suitable healthcare provider for having their condition treated (Jackson, et al., 2001). Also, from an ethical perspective, healthcare providers have an obligation to humanize their care process by bringing forth and reporting patients' point of views (Calnan, 1988; Merkouris, et al., 2004; Sitzia & Wood, 1997).

Next to the patient's perspective and ethical perspective mentioned above, Beattie, Pinto, Nelson, and Nelson (2002) distinguish between a clinical perspective and a business perspective. From a clinical perspective, four different consequences of patient satisfaction were identified. Firstly, patient satisfaction is related to an improved compliance with treatment recommendations (Greenslade & Jimmieson, 2011; Hall & Dornan, 1990). Within these treatment recommendations a second consequence of patient satisfaction is embedded; patients who are satisfied with the healthcare received more easily accept new forms of intervention, which might be attributed to a higher trust in the healthcare provider (Cheung, Bower, Kwok, & Van Hasselt, 2009). Thirdly, patient satisfaction has been linked to the continuity of care. Patients who have a satisfactory healthcare experience will often seek healthcare at the same provider when a health problem reoccurs (Beattie, et al., 2002). Lastly, patient satisfaction is believed to have a positive influence on the self-perceived health status of the patient (Calnan, 1988; May, 2001).

From a business perspective, feedback on the healthcare experience provided by patients can be used by the medical and management staff. They can use this valuable information to improve their healthcare program (Jackson, et al., 2001). Moreover, they can benchmark their satisfaction ratings to that of other healthcare providers, gathering valuable information on how they perform compared to other healthcare providers. This way, best practices can be identified and similar problems experienced by multiple healthcare providers can be addressed (Hekkert, et al., 2009). Also, when the patients are satisfied with the healthcare they receive they will also be less likely to engage in legal actions against the healthcare provider (Robinson & Heritage, 2006). By periodically updating the healthcare programs, healthcare providers can stay in tune with the needs and wishes of patients (Greenslade & Jimmieson, 2011; Goldstein, Elliott, & Guccione, 2000).

2.3 Patient satisfaction: A valid concept?

The concept of patient satisfaction is a breeding ground for discussion. Whereas in paragraph 2.2 the advantages of patient satisfaction were discussed, this paragraph focuses on the criticisms. Patient satisfaction seems very understandable, but what exactly is meant by patient satisfaction? For the individual layman, patient satisfaction might be easy to define, however for the researcher this might prove difficult. Patients tend to develop an individual reaction to aspects of the healthcare received which they find relevant and important (Greenslade & Jimmieson, 2011). This creates a large pool of patients that all have an individual set of satisfaction variables. Also, patient satisfaction differs across clinical settings (May, 2001). These two factors have contributed to patient satisfaction becoming an abstract, complex, and multidimensional phenomenon, which is not likely to be congregated into one universal definition (Beattie, et al., 2002). Several authors have proposed approaches to defining patient satisfaction, which can roughly be divided into an attitudinal, judgmental, and expectational approach.

The attitudinal approach for defining patient satisfaction implies that patient satisfaction is an attitudinal response that occurs when an individual's cognitive evaluation of aspects of care meets or exceeds the patient's personal subjective standards (Greenslade & Jimmieson, 2011). In an earlier study, Linder-Pelz (1982) adopts the same viewpoint, arguing that patient satisfaction is the individual's positive attitude towards the healthcare received. The second approach regards judgment as the key to defining patient satisfaction. This approach has existed for a prolonged period of time in medical literature. Donabedian (1965) links the quality of healthcare, which is argued to be associated with patient satisfaction, to value judgments that are applied on several aspects, properties, and dimensions of the medical care process. Jackson, et al. (2001) also state that patients judge, or reflect upon their healthcare encounter. Patient satisfaction can also be defined by adopting

an expectational approach. It is suggested that patient satisfaction is determined by the degree of congruence between the patient's expectations and the actual healthcare received (Sitzia & Wood, 1997). This is also argued by Avis, et al. (1995), who state that patient satisfaction is a function of the fulfillment of prior expectations. According to Merkouris, et al. (2004), patients enter the healthcare system with an established set of expectations about care, providing a subjective standard against which the quality of care received can be measured.

In addition to these three approaches for defining patient satisfaction it is important to differentiate between patient satisfaction with outcome and patient satisfaction with care. Patient satisfaction with outcome refers to the actual treatment received, whereas patient satisfaction with care refers to the services the patient received during the healthcare experience (Beattie, et al., 2002). For healthcare providers, distinguishing on the actual treatment offered might prove more difficult than distinguishing on the surrounding services. Often mentioned dimensions that are believed to impact patient satisfaction with care are staff characteristics (Beattie, et al., 2002; Cooper, Smith, & Hancock, 2008; Roush & Sonstroem, 1999) and the patient-doctor relationship (Donabedian, 1988; May, 2001). The use of the word *doctor* may not always be appropriate when considering the medical staff in general hospitals and private clinics. Therefore, whenever the word 'doctor' is used in this thesis, both 'practitioner' (private clinic) and 'attending physician' (general hospital) is meant.

Next to the difficulties in defining patient satisfaction other authors have focused on criticizing the way patient satisfaction is measured. The most often heard criticism is that most patient satisfaction research reports high levels of patient satisfaction (Avis, et al., 1997). A lack of variation in response could suggest that the instruments used for assessing patient satisfaction are simply not discriminating enough, implying that the patients may be unable to identify themselves with the format of the questions. Especially in questionnaires, patients are often forced to express themselves in alien terms, criteria based on the healthcare provider's assumptions rather than on the patient's own values and experiences (Avis, et al., 1997). The key to increasing the variation in response might be to choose clear and obvious indicators, and questions patients can identify themselves with. However, choosing the right indicators and questions does not eliminate all the problems that arise with measuring patient satisfaction. A second criticism is while most of the socio-demographic characteristics of patients are at best a minor predictor of patient satisfaction, age is reported as a consistent predictor (Sitzia & Wood, 1997). In general, older patients are reported to be more satisfied with their healthcare experience than younger patients. The main reason for this could be that older patients are generally more mellow, accepting and more reluctant than younger patients to pass negative judgments, whereas younger patients often seek quick solutions and are therefore more often dissatisfied (Hall & Dornan, 1990). The third criticism is associated to a lack of knowledge on behalf of the patient. In patient satisfaction assessment, the technical competence of healthcare provider personnel also has to be evaluated. Often, the typical layman patient does not have the knowledge needed to give an accurate assessment of this technical aspect. In addition to this, patients are not always able to recall all aspects of the care delivery process accurately. Not remembering certain aspects may lead to patients expressing higher satisfaction with these aspects than actually perceived (Goldstein, et al., 2000). The fifth criticism is that patients often have different perceptions of the things that happen with and around them while receiving healthcare. This can lead to an assessment of the care delivery process that does not correspond with reality or with perceptions of hospital staff (Guzman, et al., 1988). However, it is very important to keep in mind that patient satisfaction will always be a subjective measure for evaluating the quality of care, reflecting the patient's personal preferences and expectations.

In addition to the above mentioned criticisms, LeVois, Nguyen, & Attkisson suggest that patient satisfaction research should take into account a number of social-psychological artifacts (1981). Firstly, social desirability bias may occur when patients report higher satisfaction than they actually perceive. This is triggered by their believe that positive remarks about their treatment are more acceptable than negative remarks. Secondly, patients may try to ingratiate themselves with the researcher or medical staff. This effect is most likely to take place when there are reservations over the confidentiality. Thirdly, the Hawthorne effect may occur (Hansson & Wigblad, 2006). The additional attention received by the patient may lead to a more positive perception of the healthcare experience. The fourth artifact concerns researcher bias. The patient may be influenced by the researcher's expectation of favorable ratings. The fifth artifact is economic self-interest. The patient may think expressions of satisfaction will lead to the continuation of healthcare services at the healthcare provider where they have received their care. Lastly, cognitive consistency can take place. Patients may seek for justification of their time and effort invested, leading to higher satisfaction ratings (LeVois, et al., 1981).

Concluding it can be said that although the concept of patient satisfaction is an important tool in healthcare evaluations, researchers should keep the above mentioned criticisms and identified difficulties in mind when interpreting data during patient satisfaction research.

2.4 A proposed back patient satisfaction framework

The data collection in this study is based on the H-CAHPS (Hospital-Level Consumer Assessment of Health Plans Survey) structure as described by Arah, et al. (2006). Before choosing this framework an extensive literature review has been conducted. This review identified three frameworks, which have some advantages and disadvantages. The first framework identified from the literature was the PSQ, or Patient Satisfaction Questionnaire (Ware, Snyder, Wright, & Davies, 1983). This framework distinguishes eight dimensions that overarch patient satisfaction. These dimensions are:

- Interpersonal manner: how the provider interacts personally with the patients;
- Technical quality: competence of providers and adherence to high standards of diagnosis/treatment;
- Accessibility/convenience: factors involved in arranging to receive medical care;
- Finances: factors involved in paying for the medical services received;
- Efficacy/outcomes: the results of the medical care received;
- Continuity: sameness of provider and location of care;
- Physical environment: features of the setting in which the care is delivered;
- Availability: the presence of medical care resources in a region.

Ware, et al. (1983) did a thorough job in identifying the dimensions that make up the concept of patient satisfaction from their point of view . However, it is a general framework that is not dedicated to a single field of medical care, such as the treatment of back problems. In addition to the general patient satisfaction literature, scientific articles on physiotherapy and spinal surgery were also studied. The most notable framework that came forth from the review is that of Goldstein, et al. (2000). Their framework consists of five dimensions that compose patient satisfaction with physical therapy:

- Access: the actual location of the facility, hours of operation, telephone access, and waiting times;
- Administrative technical management: ambience of the facility, parking, finances, and quality;
- Clinical technical management: qualifications and skills of staff;
- Interpersonal management: responses to complaints, friendliness, time spent, and privacy;
- Continuity of care: intent to have condition managed by provider, and knowledge of patient history.

This framework however, has not been tested for reliability and validity for use in the Dutch healthcare context. Another framework that does meet that requirement is the H-CAHPS structure as proposed by Arah, et al. (2006). This framework is the translation of the H-CAHPS that is widely used in the USA. Although it is not specifically aimed at a specific field of medical care other than with hospital stay in general, it has been tested for reliability and validity for use in the Dutch healthcare context. This is important, because it implies that the constructs that are used in the H-CAHPS are not unfamiliar to Dutch patients. Because of the aforementioned testing regarding reliability and validity this framework has been chosen to form the basis of the interview questions. The only drawback that this framework has is that it is too general and is constructed for use in general hospitals. Therefore the framework has been modified, by adding and changing multiple dimensions and indicators based on scientific literature regarding back physiotherapy and spinal surgery. The newly composed framework is schematically represented in Appendix I. Changes have been marked by asterisks. The dimensions and indicators of the newly composed framework are discussed below.

2.4.1 Doctor's care and communication

In the original H-CAHPS structure, the dimension 'doctor's care and communication' consists of five indicators: respect, careful listening, clear explanations, spending enough time, and involvement in treatment decisions (Arah, et al., 2006). Two indicators have been added to this dimension; 'friendliness' and 'promptness to help requests'. The former indicator has been added from scientific literature, and the latter indicator has been added from the seventh dimension of the original H-CAHPS structure, being 'Nursing services'. Satisfaction with

this dimension can be established when the following occurs. The patient who is treated for his back condition should be treated with a degree of respect, which is the positive response of the doctor from a certain perspective in an appropriate way (Dillon, 1992). The doctor should take enough time to listen to the patient carefully (Cohen, 1996), understand his concerns (Butler & Johnson, 2008), and respond to his questions (May, 2001). The doctor should give easy to understand explanations (Sixma, Spreeuwenberg, Zuidgeest, & Rademakers, 2009), without the excessive use of medical jargon (Jackson, et al., 2001). Furthermore, the doctor should spent an appropriate amount of time with the patient (Sixma, et al., 2009). The patient should be involved in his own treatment decisions, because it is suggested that the patient tends to be more at ease when they have the feeling that the treatment decision is made during the consultation process (Cooper, et al., 2008). Also, the doctor should treat the patient in a pleasant, helpful, and sympathetic manner (Gerris, et al., 1998). Lastly, the doctor should help the patient immediately when the patient requests help (Merkouris, et al., 2004).

2.4.2 Ancillary staff's care and communication

This dimension was formerly called 'Nurses' care and communication'. However, since private clinics do not always have nurses employed, all ancillary staff is included in this dimension. Ancillary staff includes employees such as secretaries, MRI personnel, and nurses. The dimension originally consists of four indicators: respect, careful listening, clear explanations, and spending enough time. The two indicators 'friendliness' and 'promptness to help requests' have also been added to this dimension. Satisfaction with ancillary staff's care and communication can be established when the following occurs. A patient who is treated for his back condition should be treated with a degree of respect, which is the positive response of the ancillary staff from a certain perspective in an appropriate way (Dillon, 1992). The ancillary staff should take enough time to listen to the patient carefully (Cohen, 1996), understand his concerns (Butler & Johnson, 2008), and respond to his questions (May, 2001). The ancillary staff should also give easy to understand explanations (Sixma, et al., 2009), without the excessive use of medical jargon (Jackson, et al., 2001). The ancillary staff should spent enough time with the patient (Sixma, et al., 2009). Also, the patient should be treated in a pleasant, helpful, and sympathetic manner (Gerris, et al., 1998), and the ancillary staff should help the patient immediately when the patient requests help (Merkouris, et al., 2004).

2.5.3 Information provision

The definition of this dimension has been made broader by including all the information a patient can get during an healthcare encounter. The dimension in the original H-CAHPS structure was called 'discharge information', however in this research not all patients have been discharged yet. Four indicators make up the original dimension, being information about what activities can and cannot be done (written/verbal), information about post-discharge help, information about problems to look out for (written/verbal), and information about taking medication at home (written verbal). The indicator 'information about post-discharge help' has been replaced with 'information about post-session help' for the same reason as why the dimension name was changed. Three indicators were added from scientific literature, namely information about tools for self-management, information about prevention of problems, and information about the treatment plan. Satisfaction with information provision may be achieved if the following information is provided. The patient should receive sufficient information about what activities he can and cannot do during and after the healthcare he receives. Also, if the patient experiences any problems, he should know where he can go for help. The patient should know what problems to look out for. Next to this, the patient should receive sufficient information when it is possible to take medication at home (Sixma, et al., 2009). Related to this is the information received about tools for self-management. The former two indicators give the patient the opportunity to manage his condition independently of medical assistance (May, 2010). The patient should be informed about how he can prevent any of the current problems in the future (Jackson, et al., 2001; Rowell & Polipnick, 2008). Lastly, the patient should receive information about the procedures (Sitzia & Wood, 1997), diagnoses, required complementary investigations, and the actual treatment (Moret, et al., 2008).

2.5.4 Pain control

The dimension 'pain control' initially consists of four indicators, being quick administration of pain medication, pain well controlled, everything done to help with pain, and medical tests performed without additional pain. In the original H-CAHPS structure another dimension, called 'communication about medication' was used (Arah, et al., 2006). However, since the scope of this dimension was very narrow, it has been placed in the dimension 'pain control' as an indicator, with the same name as the original dimension. Furthermore, one indicator from scientific literature has been added, being 'believe in realness of pain'. Satisfaction with pain control can be achieved by complying with the following. The patient should receive information about the medication he receives, such as name and (side-)effects. Also, medical staff should inquire if the patient uses other medication, and has any known allergies to medication (Arah, et al., 2006). Pain medication should be given as soon as possible to relieve the patient's discomfort. The pain should be under control, which could be a sign that the treatment is effective (Sixma, et al., 2009). Whenever medical tests are performed, these should not incur additional pain (Arah, et al., 2006). Medical staff should do everything possible to treat the pain complaints (Sixma, et al., 2009). This can imply that multiple treatment options are issued in order to increase the patient's physical comfort (Cheung, et al., 2009). Regarding pain, the medical staff should always show that they believe in the realness of the pain, as it is suggested that this leads to higher feelings of satisfaction (Rowell & Polipnick, 2008).

2.5.5 Physical environment

In the H-CAHPS structure, the physical environment dimension consists of four indicators, being a comfortable room temperature, clean (bath-)room, quiet room surroundings at night, and privacy (Arah, et al., 2006). The indicator 'clean (bath-)room' has been replaced with the more general indicator 'cleanliness'. Furthermore, the 'quiet room surroundings at night' indicator has been replaced by 'ambience of the facility'. Both indicators were modified because this way it covers both general hospitals and private clinics. Satisfaction with the physical environment can be established if the following occurs. The temperature in the facility's various rooms should be comfortable (Sixma, et al., 2009). The various rooms and the sanitary facilities should always be clean and hygienic. The healthcare provider should strive for a pleasant ambience in the healthcare facility, which is the general positive impression that the patient has about the appearance of the healthcare facility (Ware, et al., 1983). The last indicator is privacy. Medical staff should always control the consequences of exposing any association of patients with information (Wuyts, Scandariato, De Decker, & Joosen, 2009).

2.5.6 Accessibility

The dimension 'Accessibility' was originally not included in the H-CAHPS structure (Arah, et al., 2006). 'Nursing services' was included as dimension, but was replaced by the former dimension because it was too much oriented on general hospitals. Accessibility was added because it offers useful indicators, which are broadly mentioned in scientific literature (Goldstein, et al., 2000; Hendriks, Vrielink, Van Es, De Haes, & Smets, 2004). This dimension consists of six indicators; waiting time in the waiting room, waiting time for follow-up appointment, ease of appointment-making, location of the healthcare facility, parking facilities, and information about compensation. Satisfaction can be achieved by complying with the following. The time the patient has to wait in the waiting room before being approached by the doctor should be relatively short (Beattie, et al., 2002). Also, the time the patient has to wait for a follow-up appointment should be relatively short (Collins & O'Cathain, 2003). The appointments should be easy to make at convenient times for the patient. Furthermore, the location of the healthcare facility should be easily accessible by car or public transportation (Sixma, et al., 2009). The parking facilities at the healthcare facility should be convenient and sufficient in number (Beattie, et al., 2002). Lastly, information should be provided about treatment costs, alternative payment arrangements, and comprehensiveness of insurance coverage (Ware, et al., 1983).

3 Methods

3.1 Study characteristics and research design

The main purpose of this research is to explore the differences between perceived patient satisfaction of back patients who received treatment at general hospitals and back patients who received treatment at private clinics. Due to the exploratory nature of this study it takes a more qualitative approach. This research tries to create an in-depth understanding of back patient satisfaction, with its nuances in each context (Stake, 1994). Within qualitative research this study can be best characterized as a phenomenological study, because it tries to identify the essence of experiences about a phenomenon as described by participants (Creswell, 2009). In this study this phenomenon is patient satisfaction. Individuals who have received healthcare for their back problems develop subjective meanings based on their experiences, which are mostly divergent. Understanding them can be achieved by letting them participate in qualitative interviews. The interviews are held at one point in time, making this a cross-sectional study. The largest share of the data collection consists of analyzing these qualitative interviews. A smaller emphasis is placed on the quantitative part of this study. The purpose of the questionnaire is not to generalize from the sample to the study population, but to facilitate comparison of results among studies (Deyo, et al., 1998). The research design can be categorized as a posttest-only non-experimental design (Trochim, 2006). Patient satisfaction (dependent variable) is measured after exposure of the patient to the healthcare encounter (independent variable). To determine whether or not this research is subject to the Medical Research Involving Human Subjects Act (In Dutch: WMO), it was submitted to the Medical Review and Ethics Committee Twente (in Dutch: METC Twente). The METC has reviewed the research, including the patient information letter (Appendix II), questionnaire (Appendix III), and interview protocol (Appendix IV) and has declared that this research is not subject to the WMO. The Dutch version of the declaration can be found in Appendix V.

3.2 Sampling

As stated above, this is an exploratory study which emphasizes on qualitative interviews. This categorization is very important, because it is the foundation for the sampling method. Marshall (1996) has argued that probability sampling is neither productive nor efficient for qualitative research. This is also stated by Babbie (2007), who adds that probability sampling should only be used when statistical descriptions of large populations are needed, which is not the case. Moreover, using probability sampling for small samples can result in a high likeliness of the sampling error being high and biases will become inevitable. Non-probability sampling enables an in-depth exploration of the concept of patient satisfaction. Also, by using non-probability sampling it is attempted to create an as representative sample as possible. The general population of Dutch citizens who have back problems is described by Picavet, Schouten, & Smit (1999). Although the provided information is too general to serve as basis for the sample composition, it does provide a general sense of the prevalence of back complaints and treatment. Their findings show a one-year prevalence of back problems of 44.7% (men) and 51.4% (women). 19.2% (men) and 22.0% (women) of these people actually make use of healthcare services. The participating general hospital provides neurosurgery as treatment. The participating private clinic provides *spinal injections*, *mechanical diagnosis and therapy* (hereafter referred to as *MDT*), and *orthomanual therapy* (hereafter referred to as *OMG*). However, from de aforementioned data, no distribution of participants could be derived. Therefore the samples are composed on the basis of three guidelines, which are further discussed below:

- The concept of data saturation (Guest, Bunce, & Johnson, 2006).
- Prevalence of back complaints in general practices (NIVEL, 2011).
- Representativeness judgment (Babbie, 2007).

Social research literature does not provide solid guidelines for determining sample sizes for qualitative research. For this study the sample size is based on the concept of data saturation as proposed by Guest, et al. (2006). They state that data saturation has been achieved when no new information is observed in the interview data. Data saturation is suggested to occur after twelve interviews, provided that a stratified sample is used and the population is relatively homogeneous. The stratified samples are based on the prevalence of

back complaints in general practices (NIVEL, 2011). Study participants are selected by a representativeness judgment, based mainly on the stratification variables 'age' and 'gender'. Furthermore, the participants need to have a confirmed physical cause for their back problems, such as a *Hernia Nuclei Pulposi* (Boden, Davis, Dina, Patronas, & Wiesel, 1990), hereafter referred to as HNP; or a *spinal stenosis* (Frymoyer, et al., 1997, p. 770), hereafter referred to as stenosis. A HNP and stenosis can easily be separated from non-specific low back pain by the appearance of red flags. Red flags are conditions indicating possible underlying spinal pathology (e.g. thoracic pain, weight loss), including nerve root problems (e.g. leg pain, numbness and paraesthesia) (Koes, Van Tulder, & Thomas, 2006). The desired sample composition is stated in table 3.1.

		Age			
Gender		*18-44 years*	*45-64 years*	*65-74 years*	*75+ years*
Men	*Prevalence per 1000*	20.3	22.3	20.9	27.8
	# selected patients	1	1	1	2
Women	*Prevalence per 1000*	27.5	28.9	30.6	42.2
	# selected patients	2	2	2	3

Table 3.1: Number of selected patients on the basis of the prevalence of back complaints (NIVEL, 2011).

The samples have been composed using a multistage cluster technique (Babbie, 2007). The stratification variable 'age' consists of four strata, being '18 to 44 years', '45 to 64 years', '65 to 74 years', and '75 years and above'. Although back problems do occur with individuals younger than 18 years, they were excluded from this research because the they do not typically engage in a treatment process at the private clinic. The 'gender' stratification variable logically consists of two strata, being 'men', and 'women'. The sample of the private clinic exactly matches the proposed sample composition. For the neurosurgical unit of the general hospital however, not enough women for the '75 years and above' stratum were available. Only two women were found suitable and willing to participate. To compensate for this, one additional man was added to the 75+ years stratum. Below, table 3.2 describes the characteristics of the population sample of the private clinic (PC) and the general hospital (GH). In total, 14 patients per sample were selected. In general, qualitative samples tend to be relatively small compared to samples used in quantitative research. From a quantitative viewpoint, findings in qualitative inquiry would therefore remain tentative as long as they remain untested (Hyde, 2000). However, Kidder & Judd argue that from a qualitative viewpoint findings that appear to be true for the study participants are likely to be true for any people placed in that particular situation (1986). Moreover, the sampling method used in this study facilitates credible comparisons between both samples, which have been extracted from the same level of study (Onwuegbuzie & Leech, 2007). By reflecting upon these assumptions regarding this study, it can be said that valid comparisons can be made between back patient satisfaction with treatment at general hospitals and private clinics.

Variable	**Attributes**	**N PC**	**% PC**	**N GH**	**% GH**
Gender	Men	5	36%	6	43%
	Women	9	64%	8	57%
Age	18 - 44 years old	3	21%	3	21%
	45 - 64 years old	3	21%	3	21%
	65 - 74 years old	3	21%	3	21%
	75 years old and above	5	36%	5	36%
Education	No education	0	0%	1	8%
	Primary education	3	21%	2	17
	Secondary education	7	50%	5	42%
	Higher education	3	21%	4	33%
	Other	1	7%	0	0%
Condition	Hernia Nuclei Pulposi	6	43%	6	43%
	Spinal stenosis	7	50%	6	43%
	HNP & Spinal stenosis	0	0%	1	7%

	Other	1	7%	1	7%
Treatment received	OMG / MDT (no injection)	4	29%	0	0%
	Injection	7	50%	0	0%
	OMG / MDT & injection	3	30%	0	0%
	Surgical referral	-	-	-	-
	Surgery	0	0%	14	100%
	No surgery, namely:	-	-	-	-
	Other	-	-	-	-
Time past since last treatment	Less than 48 hours ago	-	-	-	-
	3 days to 1 week ago	5	36%	0	0%
	1 to 2 weeks ago	1	7%	4	33%
	2 to 4 weeks ago	6	43%	0	0%
	1 to 3 months ago	0	0%	2	17%
	More than 3 months ago	2	14%	6	50%
	Other	-	-	-	-
Functional status	Minimal disability 0 - 8	1	7%	3	25%
	Moderate disability 9 - 16	12	86%	5	42%
	Significant disability 17 - 24	1	7%	4	33%
Pain intensity	No pain 0 - 4 mm	1	7%	0	0%
	Mild pain 5 - 44 mm	4	29%	6	50%
	Moderate pain 45 - 74 mm	9	64%	4	33%
	Severe pain 75 - 100 mm	0	0%	2	17%
General physical health (PCS = physical component summary, indicator of physical health)	PCS - 4 SD	2	17%	0	0%
	PCS - 3 SD	4	33%	3	30%
	PCS - 2 SD	4	33%	6	60%
	PCS - 1 SD	2	17%	1	10%
	PCS + 1 SD	-	-	-	-
	PCS + 2 SD	-	-	-	-
General mental health (MCS = mental component summary, indicator of mental health)	MCS - 4 SD	-	-	-	-
	MCS - 3 SD	-	-	-	-
	MCS - 2 SD	4	33%	5	50%
	MCS - 1 SD	4	33%	0	0%
	MCS + 1 SD	3	25%	4	40%
	MCS + 2 SD	1	8%	1	10%

Table 3.2: *Respondent characteristics: Description of the population sample.*

3.3 Measurement

3.3.1 Operationalization of the modified H-CAHPS structure

This research has two measures; a short questionnaire and a qualitative interview. The questionnaire is based on the set of instruments for low back pain research as proposed by Deyo, et al. (1998) and the Dutch version of the H-CAHPS as proposed by Arah, et al. (2006). The latter also forms the basis of the interview. Prior

findings by these authors have suggested that the H-CAHPS structure is reliable and valid for use in the Dutch context. Because this framework focuses on general hospitals rather than private clinics a few dimensions and indicators have been modified, removed, or added so it could also be used in private clinics. A schematic representation of this newly formed framework together with the general criticisms on the concept of patient satisfaction can be found in Appendix I. Changes to the original H-CAHPS structure have been marked by asterisks. All the elements of the framework and the criticisms which have to be considered are supported by scientific literature and explained in more detail in respectively paragraph 2.4 and paragraph 2.3. The operationalization in research studies usually focuses on making abstract concepts more tangible and measureable. In this research however, this approach is not used. Denzin (2010) suggests that the operationalization in qualitative research can start with loose definitions of concepts instead of tangible and measurable concepts. These loose definitions can be found in Appendix VI. During the interviews participants may bring new definitions of concepts into the discussion which differ from the predetermined, loose definitions. Participants may also generate entirely new concepts which have not yet been described in scientific literature or have not been included into the framework. When this occurs, either the loose definitions will be further operationalized or new concepts will be added on a tentative basis. Both are discussed in the data analysis section.

3.3.2 Data collection

The purpose of the questionnaire is not to generalize from the sample to the study population, but to facilitate the comparison of results among studies (Deyo, et al., 1998). Also, a variety of measures of the researcher's own choice can be added to the questionnaire. Hence, the questionnaire consists of the proposed core instruments as suggested by Deyo, et al. (1998), supplemented with questions on demographic characteristics, a VAS pain score, and general patient satisfaction questions. In Table 3.3, the main elements of the questionnaire and interview are discussed.

Measuring…	***Instrument***	***English article***	***Dutch translation***
Demographic characteristics	CAHPS	(O'Malley, Zaslavsky, Elliot, Zaborski, & Cleary, 2005)	(NIVEL, 2009)
Functional status	Roland Morris Disability Questionnaire	(Roland & Fairbank, 2000), (Venegas-Rios, 2009)	(MAPI Institute, 2005)
Pain intensity	Visual Analogue Scale	(Jensen, Chen, & Brugger, 2003), (Ogon, Krismer, Söllner, Kantner-Rumplmair, & Lampe, 1996)	No official Dutch translation available
General health	12-item Short-Form Health Survey	(Jenkinson, et al., 1997)	(Van Campen, Iedema, & Wellink, 2006)
Disability related to social role	3 items of the National Health Interview Survey	(National Center for Health Statistics, 1998)	No official Dutch translation available
Overall well-being	1 item from the Maine Lumbar Spine Study	(Herkowitz, Dvorak, Bell, Nordin, & Grob, 2004)	(Jacquet, Mink van der Molen, & Hovius, 1999)
Patient satisfaction	Modified H-CAHPS structure	(Arah, et al., 2006)	(Sixma, et al., 2009)

Table 3.3: Elements of questionnaire.

When no official Dutch translation was available, the questions have been translated into Dutch by the researcher. Both supervisors have approved of the translation. With regard to the patient satisfaction questions, participants were inquired to answer these questions on a one to ten Thurstone scale. The reason for choosing the Thurstone scale instead of e.g. a five point Likert scale is that the average Dutch citizen should feel more associated with the Thurstone scale, due to its elaborate use throughout the Dutch education trajectories (National Reference Point Nederland, 2012). The data collection follows the ethical guidelines as proposed by Creswell (2009).

The purpose of the qualitative interview is to discuss the concept of patient satisfaction in-depth. The qualitative interviews are conducted between February 2013 and July 2013 by two researchers, either at the healthcare provider, or at the patient's home. The interviews are face-to-face and semi-structured by an interview protocol (Appendix IV). The choice for face-to-face interviewing was made because only then a good contact can be established by attentive listening, showing interest, understanding the patient, and respecting what the patient is saying. Also, the patient's voice and both facial and bodily expressions that accompany his or her statements provide a richer access to the patient's meanings than would an interview via e.g. telephone or video conference (Kvale, 1996). Semi-structured interviews are used, because unstructured interviews result in unique interviews that are difficult to transcribe, and structured interviews restrict the participants in their answers (Trochim, 2006). The small set of predetermined questions provides some continuity in transcribing the interviews, but leaves the interview participants free to answer as they prefer. This approach results in spontaneous answers which have not been imposed upon the interviewee by the researcher (Denzin, 2010). In this research spontaneous answers are considered important, because "*spontaneous statements are more likely to indicate what would have been said had the researcher not been present*" (Chambliss & Schutt, 2009). After the interviewee has provided an answer, a number of closed questions were asked before continuing the interview. These questions were asked because not all participants selected for an interview are equally articulate and perceptive (Creswell, 2009). This way a more complete picture of patient satisfaction is created. The interview is recorded with permission of the interviewee, and subsequently transcribed and coded (Creswell, 2009). Social research literature cautions for the fact that the patient's responses contain indirect information which has been filtered through the eyes of the participant (Creswell, 2009). This is not harmful for this study, because the patient's view is exactly what perceived patient satisfaction is about. During the interviews the aspects mentioned in paragraph 2.3 were considered.

3.3.3 Data analysis

The data analysis consists of two parts; a qualitative data analysis and a quantitative data analysis. The quantitative data analysis is composed of a description of both samples regarding demographic characteristics, functional status, pain scores, and general health. Furthermore, the average patient satisfaction ratings with standard deviations are presented. No statistical analyses were performed regarding this data, because the number of included patients is too small.

The qualitative data is analyzed following the six analysis steps provided by Creswell (2009). These steps are combined with the qualitative data analysis approach for phenomenological research as suggested by Moustakas (1994). This approach focuses on the analysis of significant statements, the generation of meaningful units, and the development of an essence description. As Creswell states: *"the ideal situation would be to blend the general steps with the specific research strategy steps."* (2009, p. 184). Step one involves the organization and preparation of the data. This implies transcribing the audio recordings and field notes made during the interviews. Step two and three are done simultaneously. The transcripts were read through and important segments of text were coded with the data analysis software of ATLAS.ti (ATLAS.ti, 2012). This creates a more tangible dataset, so a general sense of the information is achieved. In step four, a description of the data derived from the interviews was generated. The codes used for this description were formed before the initial data analysis. These codes are based on the H-CAHPS structure (Arah, et al., 2006). In addition to these codes, new codes have been added to both *hermeneutic units* (hereafter referred to as HU) for both samples. A list of all the codes used in this research can be found in Appendix VII. Step five describes the representation of the qualitative narrative. This description of results consists of two parts. Firstly, a performance description is generated, reporting how both healthcare providers perform on the various aspects of healthcare. This description is generated by the 'Codes-Primary-Documents-Table' function (ATLAS.ti, 2012). A full list of all the positive and negative remarks per dimension can be found in Appendix VIII. Secondly, a description of what back patients consider important aspects during the treatment of back problems is given. This description is based on the spontaneous responses provided by patients during the interviews and is generated by the 'Co-occurrence tool' function (ATLAS.ti, 2012). The list with spontaneous responses can be found in Appendix IX. This way an insight is achieved in what aspects of care the healthcare provider should cherish and what aspects of care the healthcare provider should improve on. Step six describes what is learned from the data analysis an what implications this may have for the healthcare providers. Also, findings needing additional research are discussed.

3.4 Validity

While conducting this research a number of validity considerations are taken into account. In the following two paragraphs the validity of the instruments used and the validity of this study are discussed. For the validity of the instruments both face and construct validity are addressed. For the validity of this study both internal and external validity are addressed. The threats that originate from the validity considerations are described and properly addressed if possible. In social research literature the concept of reliability in qualitative research is often debated. According to Stenbacka, reliability in qualitative research is irrelevant and can even be misleading: "*if a qualitative study is discussed with reliability as a criterion, the consequence is rather that the study is no good*" (2001, p. 552). Lincoln & Guba add to this by stating that: "*since there can be no validity without reliability, a demonstration of the former (being validity) is sufficient to establish the latter (being reliability)*" (1985, p. 316). However, reliability is addressed in this study by using two methods; the test-retest method (Babbie, 2007), and the inter-rater method (Trochim, 2006). The coding process has been performed twice by the primary researcher to increase the probability that interviews are coded properly. Also, the coding process is performed by an independent researcher, after which both processes were compared. Differences were discussed and addressed in the primary coding document if consensus was achieved.

3.4.1 Validity of the instruments

Validity in this research refers to the extent to which an empirical measure adequately reflects the real meaning of the concept of patient satisfaction. When addressing validity issues face validity is probably the weakest way to demonstrate validity (Trochim, 2006). Face validity is about the quality of an indicator that makes it seem like a reasonable instrument to measure a concept (Babbie, 2007), in this case patient satisfaction. For addressing face validity both thesis supervisors have studied the questionnaire and interview protocol and approved of it. Also, four persons who were not familiar with the questions have pretested the questionnaire. No negative remarks have been made. This way face validity has been properly addressed and it appears that people who are not familiar with the questions have some sort of affinity with their phrasing.

Construct validity is based on the logical relationships among variables (Babbie, 2007). Construct validity concerns a good operationalization and developing or using correct measures. In table 3.4 the ten sources of invalidity to construct validity are discussed (Trochim, 2006). A short explanation of these sources can be found in Appendix X.

Construct validity		
Source of invalidity	Controlled?	Description
Inadequate preoperational explication of constructs	Yes	The research does not use operational definitions, but loose definitions. The loose definitions are discussed with both thesis supervisors.
Mono-operation bias	Yes	Most participants experience only one program, or treatment option that is offered at the specific healthcare provider. This research tries to identify differences between these healthcare providers, who offer different types of treatment.
Mono-method bias	Yes	Multiple measures of key constructs have been implemented in the interview protocol in order to adequately represent patient satisfaction. Also, patients are free to bring other aspects into the discussion.
Interaction of different treatments	Partly	Most participants experience only one program, or treatment option. However, this is documented by the questionnaire.
Interaction of testing and treatment	N/A	The treatment is performed prior to the interviews.
Restricted generalizability across constructs	Yes	Unintended consequences of the treatment are discussed during the interviews. Also generalizing is based on the transferability principle.
Confounding constructs and	Yes	The loose definitions that are used in the interviews may be subject

level of constructs		to changes initiated by the responses of participants.
Hypothesis guessing	Yes	Clearly stating the purpose of the study leaves no room for speculation for the participants.
Evaluation apprehension	Partly	Evaluation anxiety is reduced by connecting with the participant, and ensuring confidentiality. Desirability to look good is reduced by also emphasizing the negative things that have occurred during the healthcare encounter.
Researcher expectancies	Partly	The researcher communicates as neutral as possible.

Table 3.4: *Considering the sources of construct invalidity.*

3.4.2 Validity of the study

The validity of this study is addressed by discussing internal and external validity. Internal validity in this two sample design concerns the degree to which the samples are comparable prior to the study. If they are comparable, the difference observed can be most likely attributed to the treatment. However, if the groups are not comparable to begin with, you cannot know how much of the outcome (patient satisfaction) you can attribute to the independent variable (the healthcare experience). Also, the sources of internal invalidity need to be considered (Trochim, 2006). These are stated in Table 3.5. A short explanation of the sources of internal invalidity can be found in Appendix X.

Internal validity		
Source of invalidity	Controlled?	Description
History	Yes	This is a cross-sectional study, hence the observation represents a single point in time. This makes it less probable for a historical event to occur.
Maturation	Yes	This is a cross-sectional study, hence the observation represents a single point in time. Patients are less probable to develop different understandings during that point in time.
Testing	N/A	There is no pretest, only a posttest.
Instrumentation	N/A	There is no pretest, only a posttest.
Mortality	Yes	This is a cross-sectional study, hence the observation represents a single point in time. It is very unlikely for participants to drop out during the actual observation.
Regression	N/A	There is no pretest, only a posttest.
Diffusion/imitation of treatment	Yes	Participants from both groups are not likely to know of each other's participation in this research. Communication between subjects is therefore not likely to occur.
Resentful demoralization	Yes	Participants from both groups are not likely to know of each other's participation in this research. Communication between subjects is therefore not likely to occur.
Compensatory rivalry	Yes	Participants from both groups are not likely to know of each other's participation in this research. Communication between subjects is therefore not likely to occur.

Table 3.5: *Considering the sources of internal invalidity.*

The sources of external invalidity concern the researcher who draws incorrect conclusions from the sample data to other persons, settings, and past and future situations (Creswell, 2009). The following sources of external invalidity are (partly) controlled. A short explanation of these sources can be found in Appendix X.

External validity		
Source of invalidity	Controlled?	Description
Interaction of selection and treatment	Partly	The research context and the assumptions are described thoroughly. Generalizing the results is the responsibility of the researcher wanting to make the transfer.
Interaction of setting and treatment	Partly	The research context and the assumptions are described thoroughly. Generalizing the results is the responsibility of the researcher wanting to make the transfer.
Interaction of history and treatment	Partly	The research context and the assumptions are described thoroughly. Generalizing the results is the responsibility of the researcher wanting to make the transfer.

Table 3.6: *Considering the sources of external invalidity.*

4 Results

The data on the two sub questions as described in paragraph 1.2 is presented below. Firstly, a performance analysis is given, based on the satisfaction ratings derived from the questionnaires and the interview responses. Secondly, an analysis of spontaneous responses given during the interviews is presented.

4.1 How do healthcare providers perform regarding the treatment of back problems?

The description of the eight satisfaction ratings derived from the questionnaires completed by 14 patients from both samples is stated below in table 4.1.

	Private clinic *n=14*		**General hospital** *n=14*	
Dimension	Average	Stand. Dev.	Average	Stand. Dev.
Doctor's care and communication	8.1	1.0	7.4	2.3
Ancillary staff's care and communication	8.4	0.8	7.8	1.1
Information provision	7.6	1.3	7.3	1.1
Pain control	7.5	1.6	7.5	1.7
Physical environment	8.2	0.6	6.6	2.2
Accessibility	8.1	0.9	7.8	0.8
Primary care process	7.9	1.4	7.5	1.6
Satisfaction in general	8.1	1.1	8.1	0.9
Average patient satisfaction	8.0	1.0	7.5	1.0

Table 4.1: *Comparison of patient satisfaction ratings*

No statistical analyses were performed because the included number of patients is too small. The description does nevertheless show a first insight into how both healthcare providers appear to perform. In general, the private clinic appears to perform better, especially regarding the doctor's communication and care, the ancillary staff's communication and care, and the physical environment. Smaller differences are observed regarding the information provision, accessibility, and primary care process. The pain control and satisfaction in general appear to be the same in both healthcare providers.

For establishing insight into how healthcare providers perform from a patient's point of view the HU codebooks were analyzed. This analysis is based on ATLAS.ti's Codes-Primary-Documents-Table. Looking at the sum of all codes used per HU, a similar distribution as with the spontaneous responses (paragraph 4.2) is observed. The private clinic's HU contains 807 codes, which is approximately 58 per interview. The general hospital's HU only contains 732 codes, coming down to an average of 52 codes per interview. Assuming healthcare providers harvest more positive than negative remarks not all positive remarks are presented below. Only notable results are presented. However, a full list of all the positive and negative remarks can be found in Appendix VIII. In addition to the analysis of the six dimensions, a short description of three additional questions is given in paragraph 4.3.2. These questions concern aspects of care that satisfy patients in general, satisfaction with treatment method and treatment outcome, and whether or not patients have a preference regarding treatment at a private clinic or at a general hospital.

4.1.1 Healthcare provider performance from a patient's point of view

When patients from both samples were asked to share their opinion on several aspects of their doctor, in general they gave positive remarks. Only two negative remarks were made per sample. The doctors in the private clinic are stated not to involve the patient in treatment decisions (1) and not being careful enough (1). The doctors in the general hospital are said to spend an inadequate amount of time with the patient (1) and

not help quickly enough with help requests (1). All the other aspects regarding the doctor's communication and care were rated positively by all participating patients.

With regard to the ancillary staff's care and communication the positive remarks are distributed equally for both samples. However, there is a difference in the number of negative remarks. Whereas the ancillary staff of the private clinic is stated to give unclear explanations (1) and spend an insufficient amount of time with the patient (1), the ancillary staff of the general hospital received 11 negative remarks. The most notable one is not providing the correct medication (3). As one patient stated: "*The anesthesiologist told me I could take my own medication, because quitting my medication makes me very nauseous. Then the nurse came and told me I was not allowed to take my own medication, but had to take the medication prescribed by her.*" Other negative remarks are ancillary staff not spending enough time with the patient (2), not communicating correctly (2), not listening (1), not being respectful (1), not helping quickly enough (1), and not interacting pleasantly (1).

The information dimension analysis results in a rather negative image for both samples. 29% of all information remarks made were coded negative for the private clinic, whereas 17% were coded negative for the general hospital. For the private clinic, patients were most negative about receiving information about activities that could or could not be done at home (7 negative remarks). As one patient stated: "*I need more guidelines on how to cope with a hernia. The only thing they say is I have to look after myself*". Also, patients were not informed about problems to look out for (5), and how to prevent problems (4). Patients also stated not receiving enough information in general (3): "*I would like the practitioner asking more on how I'm feeling. He should elaborate more on things you may do differently. It feels like I get more guidelines from my physiotherapist treating other symptoms than I get here regarding my hernia.*" Other negative remarks about information were not receiving information about aftercare (3), the treatment plan (2), self-management (2), practical information (2), and receiving understandable information (1). The most often mentioned negative remark concerning information provision at the general hospital is about the treatment plan. As one patient stated: "*The doctor said I had a stenosis in two different places and he would perform surgery on both. After the surgery I thought I had been treated for both. However, they told me I had to undergo surgery again, because only one stenosis was treated.*" Other negative remarks on information were not receiving information about what problems to look out for (3), activities that could or could not be done at home (2), home medication (2), not receiving information that is either sufficient (1) or understandable (1), aftercare (1), prevention (1), and practical information (1).

For pain control, both samples have about the same number of positive remarks. The most noteworthy negative remark for the private clinic is that 8 patients indicate the performed treatment and investigations incur additional pain. As one patient said: "*Last time he gave me an injection right away. And it gave me a lot of discomfort.*" Patients also stated their pain not being under control (4) and not receiving information about medication (1). The patients of the general hospital were less satisfied with the information received about medication (3). An example: "*I had to take morphine for five weeks before I got surgery. After the surgery I was sent home, but without any information regarding discontinuation of my medication. I thought I had to reduce the medication, but maybe it is not necessary.*" 2 patients stated their pain not being under control, 1 patient did not have the feeling that the medical staff performed everything to help with pain, and 1 patient said that medical tests and treatment incurred additional pain.

When analyzing the indicators from the physical environment dimensions the positive remarks appear to be the same. However, when analyzing additionally mentioned aspects of the physical environment a larger difference is observed. For the private clinic's sample, 34 positive remarks were given in addition to the 51 positive remarks based on the preset 4 indicators from the physical environment dimension. Patients amongst others state that: "*I like the fact that this facility is small-scale*" and "*When you enter the facility, you get a bit of a warm feeling"*. Patients were not only positive, but also more critical. The doors in the facility are heavy and do not open automatically (3), the facility is not orderly (3), the temperature is not pleasant (1), and the sanitary facilities are not comfortable (1). For the general hospital's sample, only 9 positive remarks were given in addition to 43 positive remarks based on the preset 4 indicators of from the physical environment dimension. Although these patients seem to be less satisfied with the physical environment, one remark was given by multiple patients and is summarized by this quote: "*I like this hospital. Whenever I have to come for an X-ray or whatever, it always feels familiar.*" Patients often expressed negative remarks concerning their privacy, and cleanliness of the wards. Patients stated: "*You do not have any privacy. You share a room with seven other people, there is no privacy*" and "*Whenever a bed was moved, you could see the dust clouds on the floor*". Other

negative remarks concerned the facility being old (4), environment in general not being pleasant (3), a negative ambience (2), sanitary facilities not comfortable (2), and the temperature not being pleasant (1).

When patients were inquired to rate the accessibility of the healthcare provider both samples gave mostly positive remarks. Patients from private clinics gave negative remarks concerning the information received about compensation (5). A clear example is given by one of the patients: "*I have not heard anything about that. Is my treatment covered by insurance?"*. One patient was negative about the time the patient had to wait for a follow-up appointment. For the general hospital's sample, four patients did not receive information about compensation. Also, patients did not have a short waiting time in the waiting room (2), for a follow-up appointment (1), and were negative about the opening hours (1).

4.1.2 General remarks, primary care process, and preference

At the end of the interviews patients were inquired what aspects of care satisfy them in general. Patients from the private clinic considered the actual treatment as positive. One patient said: "*They do not perform surgery. With therapy and by shutting down the nerve the body takes care of the problem itself. I think that's very good.*" Other aspects of care that satisfy patients in general are the short waiting times and the feeling that the patient is being heard. Patients from the general hospital are mostly satisfied in general with the communication and care of the medical staff. Multiple patients have stated: "*First of all they treat you like a human being. That is important, surgeons and nurses should not act like they are better than you.*" Other aspects that were frequently mentioned are the expertise of the doctor and the personal approach.

Regarding the primary care process patients from both samples express the same satisfaction with the treatment method. 86% of the patients indicate they are satisfied. For satisfaction with outcome a dissimilarity is observed. 71% of the general hospital's patients are satisfied with the outcome of their treatment, 21 % are dissatisfied and 7% are neither satisfied nor dissatisfied. For the private clinic, 43% of the patients are satisfied with the outcome of their treatment, 7% are dissatisfied, 21% are neither satisfied nor dissatisfied, and 29% do not yet have an opinion regarding their treatment.

Patients were lastly inquired if they have any preference regarding the type of healthcare provider where they receive treatment. From the private clinic's patients, 50% prefer treatment at a private clinic, and 50% have no preference. For the general hospital's patients, 64% have no preference, 14% prefer treatment at a general hospital, 7% prefer treatment at a private clinic, and 7% say it is situation specific.

4.2 What do back patients consider important aspects regarding their healthcare?

For exploring what back patients consider important aspects regarding their healthcare an analysis of spontaneous responses given during the interviews is conducted. This analysis is based on ATLAS.ti's co-occurrence tool. Before anything is said about these responses, first an insight is given in how articulate and perceptive patients from both samples are (paragraph 3.3.2). When analyzing how many times the code 'spontaneous' co-occurred with any other code in the HU, a considerable difference between both HU's is observed. The private clinic's HU counts 218 spontaneous responses, which roughly comes down to 16 spontaneous responses per interviewee. In the general hospital's HU, only 167 responses were coded as 'spontaneous'. This is approximately 12 spontaneous responses per interviewee. A full list of all the spontaneous responses given for both samples can be found in Appendix IX.

When analyzing the spontaneous responses most often given, the following indicators appear to be important to patients from both samples. Patients value the doctor giving clear explanations. One patient stated: "*The doctor is very clear. He pulls no punches, you really do feel that he has your best interests in mind.*" Also, the friendliness of staff members is valued in addition to the environment in which care is delivered. As one patient recapped: "*Nobody comes here just for fun. Personnel should be friendly, and there should be a relaxed atmosphere*". Moreover, patients from both samples value clear information about their treatment plan and an easy accessible location.

Some indicators are only mentioned spontaneously in one of the HU's. The following is observed in the private clinic's HU. Patients in the private clinic enjoy the doctor's personal approach. Multiple patients gave answers that look alike: "*I did not get the impression I was just another number, it was a pleasant conversation*". Next to the doctor's clear explanations which is valued by patients from both samples, clear explanations provided by the ancillary staff was also valued according to the patients from the private clinic. The parking facilities were also mentioned as an important indicator. Patients from the private clinic often compared their healthcare experience with prior healthcare experiences in general hospitals. They appreciated the short waiting times for a first appointment, and the fact that multiple healthcare sessions are scheduled on one day. One patient summarized: "*You can just pick up the phone and they schedule an MRI subsequently. You have the MRI one week later and the results half an hour after that.*"

When analyzing the codes that are only present in the general hospital's HU, the following is observed. Patients in general enjoy the doctor's way of caring and communicating. Especially the aftercare provided post-surgery is valued: "*He checks on you every day. Not just the day you got surgery, but also the days after that.*" Quick help and nursing provided by ancillary staff was also stated to be important multiple times. As one patient summarized: "*If you needed anything, you could just call and they would come immediately.*" In addition to this, patients have mentioned information as an important indicator. In particular the information about medication and information about self-management of their back problem. The last indicator often mentioned spontaneously by the patients from the general hospital is the familiarity with the healthcare provider. One of the patients explained: "*I have always liked it here. Not that I like having surgery, but if I have to, it might as well be here. It's all good.*"

5 Discussion and conclusion

This research was positioned in the apparent gap in scientific literature regarding perceived satisfaction of back patients in general hospitals and private clinics. Some authors have suggested that patients in general appear to be more satisfied with healthcare received in private clinics than with general hospitals (Boer & Croon, 2011; Casserley-Feeney, et al., 2008; Khattak, et al., 2012; Odebiyi, et al., 2009). This study is shaped by the central research question which is answered in the qualitative narrative below.

What are the differences between perceived patient satisfaction of back patients who received treatment at a general hospital and back patients who received treatment at a private clinic?

5.1 The qualitative narrative

For answering the central research question two sub questions were set up. These sub questions are answered below. In order to gain insight into how both healthcare providers perform, both the satisfaction ratings from the questionnaires and the statements from the interviews were analyzed. The analysis of patient satisfaction ratings resulted in an average patient satisfaction rating of 8.0 for the private clinic and 7.5 for the general hospital. These ratings partly comply with the conclusions of Boer & Croon (2011). Although the private clinic appears to perform better than the general hospital, the difference is not as large as the average scores suggested by Boer & Croon (2011). Because the samples involved in this study are too small to show significant differences, only a description of averages and standard deviations is provided.

The analysis of the statements gives a qualitative insight into how both healthcare providers perform. It should be kept in mind though, that this is not an objective performance analysis. The analysis is based on the subjective performance of the healthcare providers as perceived by the patients. Hence, it is very important to report the findings, because this is how back patients experience their healthcare. Both healthcare providers perform the same regarding the doctor and accessibility. For the ancillary staff, the general hospital performs less regarding the medication. Both healthcare providers do not perform well regarding information provision; the private clinic performs more poorly than the general hospital. For pain control, the private clinic patients more often state that medical tests and treatment incur additional pain and pain not being under control. The physical environment has received more positive comments in the private clinic. An important foundation of this performance analysis was that all responses, either spontaneous or imposed, are weighted the same. It may be more appropriate to ascribe more weight to the spontaneous responses, because those responses are suggested to be more important to the patient. More research on this subject of spontaneous responses and how to cope with them regarding the qualitative analysis should be performed. For now, only Chambliss & Schutt (2009) and Denzin (2010) have been found to make statements about the position of spontaneous responses in qualitative research, so more research on this subjects is more desirable. As said, this performance analysis is not objective, but filtered through the eyes of the patients. However, for both healthcare providers it is recommended to attend to the findings of this study. Improving on the factors receiving the most negative remarks can attribute to a better perceived healthcare experience. Also, aspects of care that harvested mostly positive comments should be cherished. When comparing the results of the perceived performance analysis and the average satisfaction ratings on dimension-level some differences are observed. Although the doctor's appear to perform similar, the general hospital's patients rate their doctor lower than the patients of the private clinic. Regarding information provision, both healthcare providers are rated about the same. However, the private clinic performed more poorly than the general hospital. Pain control is rated the same, although the private clinic received more negative remarks. These differences cannot be explained by data obtained during this study. Additional research needs to be conducted to discover more about the relation between satisfaction ratings and interview outcomes.

When looking at the articulateness and perceptiveness of patients it appears that patients from the private clinic seem to be more articulate and perceptive than patients from the general hospital. Spontaneous responses were more often given by the private clinic's patients. When analyzing the spontaneous responses a difference concerning what back patients think is important regarding their healthcare is observed. Although some factors such as clear explanations of the doctor and friendliness of ancillary staff are valued by patients from both samples, some differences can be distinguished. Patients from private clinics value a personal

approach and clear explanations from the ancillary staff. Also, they compare their healthcare experience with prior experiences in general hospitals, appreciating the short waiting times for a first appointment and the one-stop-shop principle. Patients from general hospitals value the doctor's way of caring and communicating and quick help provided by ancillary staff. Moreover, information about medication and self-management of the problem seems to be an important satisfaction factor, in addition to familiarity with the general hospital.

5.2 Discussion

Before discussing the findings in-depth it should be clear that reviewing this research from either a qualitative or a quantitative perspective should lead to the same conclusion: every research is unique and all research is essentially biased by each researcher's individual perceptions (Babbie, 2007; Trochim, 2006). The difference between both approaches originates from the discussion when exactly are the findings from a study valid and reliable for comparison. This research follows the approach that from a qualitative viewpoint, findings from a study that appear to be true for the people included in the study are likely to be true for any people placed in that situation (Kidder & Judd, 1986). The concept of data saturation (Guest, Bunce, & Johnson, 2006) was used, so a thick description of the concept of back patient satisfaction was likely to be realized. This detailed description of the phenomenon under study, together with the parallel sampling design used in this study facilitates credible comparisons between the two samples (Onwuegbuzie & Leech, 2007; Shenton, 2004)

Based on the findings of this study, the healthcare providers under study face a binary decision. Either they use the results of this study directly to cherish their strong points and improve their weak points, or they may label the findings from this study as tentative and call for further research in which the findings from this study will be (quantitatively) tested (Hyde, 2000). These future observations might lead to a revision of the initial conclusions of this study (Babbie, 2007). If they would choose for the first (qualitative) option, it is advisable to examine the results of this study using a theoretical lens. This may facilitate adopting guidelines from literature to the specific needs of the particular healthcare provider. If the healthcare providers choose the second (quantitative) option, it might be advisable to use the modified H-CAHPS instrument used in this research to assess their performance in larger samples.

Using the H-CAHPS as the foundation of the interviews resulted in an elaborate insight into what differences there are between perceived patient satisfaction of back patients in private clinics and general hospitals. However, is the H-CAHPS a practical tool for assessing inter-healthcare provider satisfaction? This question is raised by the hospital-based nature of the original H-CAHPS structure. Prior to the research the H-CAHPS has been modified so it could also be used in private clinics. During the interviews the modified H-CAHPS appeared to capture most of the patient experiences. Interview participants did not seem to be unfamiliar with the preset loose definitions of the constructs, suggesting that the approach used in this research may be valid for use in exploratory research regarding this subject. However, some questions in the interview appeared problematic. Especially the pain control dimension was not always understood by patients from the private clinic. The origin of this problem may be attributed to the fact that the original H-CAHPS structure focuses on general hospitals. Evaluating the pain control questions of the H-CAHPS structure confirms this. Pain control in general hospitals is primarily focused on short term post-surgery pain reduction, whereas the private clinic aims for a life without medication and reducing chronic pain, to let the patient cope with pain. Further research may be conducted in which the pain control dimension is aimed at for instance the actual treatment, rather than pain control alone. Modifying questions might give a more realistic image of the treatment in private clinics. Also, questions about compensation information were regarded as difficult for patients in the general hospital, because their care is usually covered by insurance.

For assessing the validity and reliability in this qualitative research a number of procedures were used to check the accuracy and consistency of the findings in this study. Although reliability can be labeled as irrelevant in qualitative research (Stenbacka, 2001), it is addressed in this study. For reliability the test-retest method (Babbie, 2007) and the inter-rater method (Trochim, 2006) were used for checking the consistency of the data collection. During the interviews it proved to be difficult to stay neutral and not impose any opinions upon the patient. Therefore the coding process has been performed twice (test-retest method) to acquire accurate observations. Also, the interviews have been coded by another researcher independently of the primary researcher. No major differences were found. Small differences were discussed and subsequently modified in the HU's. Furthermore, the points of criticism mentioned in paragraph 2.3 have been taken into account while

conducting this research. Because every research study regarding the subject of patient satisfaction encounters these points of criticism, there are no consequences for the transferability of the results of this study, provided that the researcher has kept the criticisms in mind.

The multidimensionality and subjective nature of patient satisfaction makes it very difficult to generalize the findings of this study to other persons, settings, or situations. Therefore, the external validity considerations are discussed. First of all, the findings of this study may only apply for the patients involved. Although both samples may be considered comparable with regard to the measured demographic characteristics, other aspects which have not been measured may have influenced the results of this study, such as a difference in treatment. Also, it appears the actual distribution of patients based on the prevalence of back complaints in general practices (NIVEL, 2011) is different from the actual distribution of patients at the general hospital's surgical unit and the private clinic. Consequently, a large patient satisfaction survey performed at the private clinic was analyzed regarding this study's stratification variable age and gender. The results of this analysis show that men and women are equally distributed in the private clinic, whereas in general practices women are overrepresented. Moreover, patients from 45-64 years appear to be most common in the private clinic, whereas in general practices patients aging 75 years and above are. Unfortunately, for the general hospital this data was not available. The second consideration addresses the influence of the actual setting of the study. Both samples are not geographically located in the same part of the Netherlands. Whereas the general hospital is situated in the west of The Netherlands, the private clinic is situated in the east of the Netherlands. Between both samples cultural differences may influence the findings. The third consideration addresses the time at which the study is conducted. A clear representation of the period in which the research is conducted is provided, so other researchers may place this study on a time continuum.

An important aspect regarding these external validity considerations is that other researchers may see the generalization process differently. Therefore the concept of transferability is used combined with the external validity considerations as presented above. The generalization process is put in the hands of the person who wishes to transfer the results of this study to a different context. That particular person is responsible for making a judgment on how sensible the transfer of results actually is (Lincoln & Guba, 1985). For now, a deeper understanding of back patient satisfaction with treatment at general hospitals and private clinics has been achieved. This in-depth understanding is based on the detailed knowledge about back patient satisfaction and its nuances to each context, derived from the qualitative interviews. Future researchers studying back patient satisfaction are hereby explicitly asked to compare their studies together with the findings of this study. This process may facilitate building a strong theoretical framework about the differences in patient satisfaction for back patients who received treatment at private clinics and general hospitals.

6 Glossary

Back patients	Can refer to patients with back pain, patients with back complaints, patients with back problems.
Doctor	Either a practitioner (private clinic) or an attending physician (general hospital).
Hermeneutic Unit	The data structure used to analyze the interviews in ATLAS.ti.
Hernia Nuclei Pulposi	An extrusion of disc material beyond the osseous confines of the vertebral body, resulting in displacement of epidural fat, nerve root, or thecal sac.
Mechanical Diagnosis and Therapy	An examination and treatment system for patients who have musculoskeletal complaints.
MRI	Magnetic Resonance Imaging.
Orthomanual Therapy	Therapy in which the spinal column is corrected with a gentle manipulating movement directly above the misaligned vertebra.
Spinal stenosis	Nondiscogenic compression of the cauda equine, provoking a stereotyped symptom-complex including neurogenic claudication.
Thurstone scale	A one to ten rating scale used to assess patient satisfaction.

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8 Appendixes

I Modified H-CAHPS structure
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VII HU Code list
VIII HU Codes-Primary-Documents-Table positive and negative remarks
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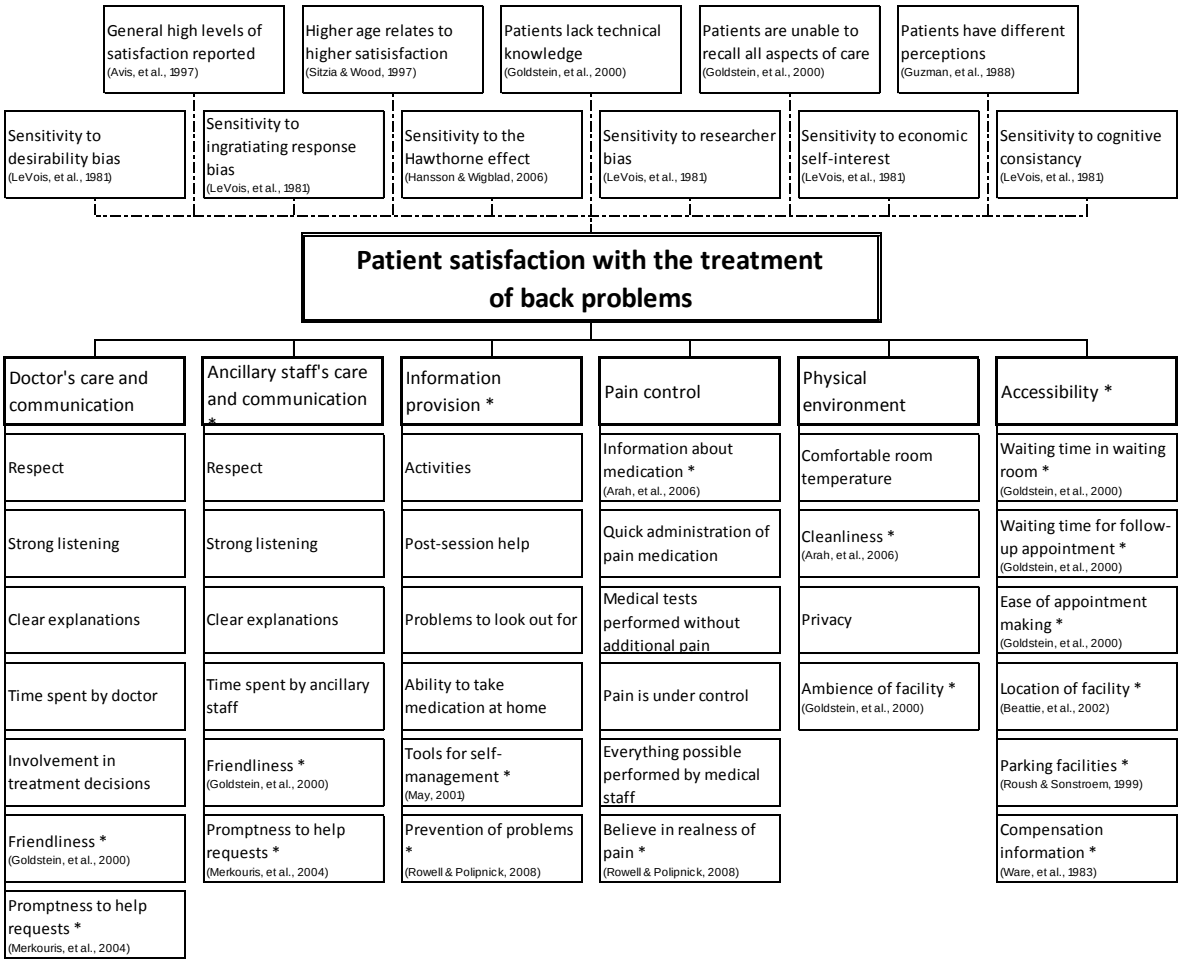
Appendix I Modified H-CAHPS structure



Appendix II Patient information letter

[City], [Date]

Subject: participation patient satisfaction research regarding treatment hernia or stenosis

Dear Sir/Madame,

First of all, thank you very much for you commitment to participate in this study. This study is set up to monitor the quality of care at the [healthcare provider]. With your aid we can reveal the strengths, but also the weaknesses of the [healthcare provider]. This study will also serve as the basis for my master thesis. The study consists of two parts; a general questionnaire and an interview. This letter concerns the first part of this study, namely the general questionnaire. Filling out the questionnaire takes about five to ten minutes. You can return the completed questionnaire in the enclosed return envelope.

The subject of this study is the satisfaction of patients with back or leg problems who have received treatment at a general hospital or a private clinic. Prior research suggests that private clinics and general hospitals score differently with regard to patient satisfaction. The most important assumption is that general hospitals and private clinics are rated differently on aspects such as the communication and care of medical staff and the accessibility of the healthcare provider. By means of a questionnaire and by interviewing patients with back or leg problems aspects of care that patients think are important are studied in addition to showing the suggested difference in patient satisfaction. Also, when a difference is demonstrated, the aspects of care that might have contributed to this are studied. The participating healthcare providers will be notified of the general results of this study, so they can improve their healthcare delivery process.

Your participation in this study is completely voluntary. You are free to withdraw from this research at any time, for any reason. Participating or withdrawing from this research will not negatively influence your current medical treatment, nor any future medical treatment at the [healthcare provider] or at any other healthcare provider. Your doctor will not be informed about your individual responses to the questions. Your doctor is solely informed in general about this research being conducted.

The provided information will be kept strictly confidential. The data is encrypted, erasing the link between the patient's personal data and the patient itself. The data will be stored securely.

If you still have questions after reading this information letter, please contact the researcher using the information below. Good luck with completing the questionnaire.

With kind regards,

[Researcher]
[e-mail address]
[phone number]

Appendix III Questionnaire

Questionnaire

Your experience with healthcare regarding your hernia or stenosis

Intended for adults who have their hernia or stenosis treated at the [healthcare provider].

Introduction

This questionnaire is about your experience with care regarding your hernia or stenosis. The [healthcare provider] would appreciate it if you would complete this questionnaire. Completing this questionnaire will take about five to ten minutes.

This questionnaire will be kept strictly confidential. Your data will be coded, ensuring that nobody knows what answers you have given. Your data will not be shared with other people. Your data will be combined with data of other patients who have also completed this questionnaire. A group analysis will be made to measure the satisfaction of patients with back problems.

Your participation in this research is voluntary. You are free to withdraw from this research at any time and for any reason. Participation or withdrawal from this research will not negatively affect your current medical treatment, nor any future medical treatment, at the [healthcare provider] or at any other healthcare provider. Your doctor will not be informed about your individual responses to the questions. Your doctor is only generally informed that the research being conducted.

If you have any questions, feel free to contact [researcher], on telephone number [telephone number].
Or you can send an email to: [e-mail address].

Instructions

- It is important that all questions are completed only by the person for who this questionnaire is intended. This questionnaire is not meant to be passed on to someone else.
- Most questions can be answered by marking the appropriate box with an X.
- Some questions have multiple answering possibilities. This will be indicated.
- Some questions are open-ended. Please write your answer in the appropriate text box.
- Some aspects of healthcare return multiple times in this questionnaire. Even though these questions may look alike, please answer all of them.
- If you want to alter an answer please do so as recommended. A written response can be properly crossed out. If you marked the wrong box, put the that box between parentheses and mark the correct box, as shown below:

Excellent	Very good	Good	Fair	Poor
☐	(☒)	☒	☐	☐

PRN: ☐☐☐ *(do not complete)*

A) Patient background characteristics

The following questions are about your personal background characteristics:

Patient name:	
Completion date:	☐☐ ☐☐ ☐☐☐☐
Age:	☐☐
Gender:	☐ Man ☐ Woman
What is your highest level of education (completed with a diploma or a sufficient certificate)?	☐ No education (primary education, not completed) ☐ Primary education (primary school, special primary school) ☐ Lower secondary vocational education (e.g. LTS, LEAO, LHNO, VMBO) ☐ Lower general secondary education (e.g. MAVO, (M)ULO, MBO-short, VMBO-t) ☐ Secondary vocational education (e.g. MBO-long, MTS, MEAO, BOL, BBL, INAS) ☐ Higher general secondary and pre-university education (e.g. HAVO, VWO, Athenaeum, Gymnasium, HBS, MMS) ☐ Professional higher education (e.g. HBO, HTS, HEAO, HBO-V, candidate certificate) ☐ Academic higher education (university) ☐ Other:
Which treatment methods did you have performed? *(Multiple answering possibilities)*	☐ Treatment without injection (OMT or MDT) ☐ Treatment with injection ☐ Surgical referral ☐ Surgery ☐ No surgery, namely: ☐ Other:
How long ago was your last treatment session?	☐ Less than 48 hours ago ☐ 3 days to 1 week ago ☐ 1 to 2 weeks ago ☐ 2 to 4 weeks ago ☐ 1 to 3 months ago ☐ More than 3 months ago ☐ Other:

B) Functional status

When your back or leg hurts, you may find it difficult to do some of the things you normally do. This list contains sentences that people have used to describe themselves when they have back or leg problems. When you read them, you may find that some stand out because they describe you <u>today</u>. When you read the list, think of yourself <u>today</u>.

When you read a sentence that describes you <u>today</u>, mark the appropriate box in front of it. If the sentence does not describe you, then leave the box blank and go on to the next one.

- ☐ I stay at home most of the time because of my back or leg problem.
- ☐ I change position frequently to try and get my back or leg comfortable.
- ☐ I walk more slowly than usual because of my back or leg problem.
- ☐ Because of my back or leg problem I am not doing any of the jobs that I usually do around the house.
- ☐ Because of my back or leg problem, I use a handrail to get upstairs.
- ☐ Because of my back or leg problem, I lie down to rest more often.
- ☐ Because of my back or leg problem, I have to hold on to something to get out of an easy chair.
- ☐ Because of my back or leg problem, I try to get other people to do things for me.
- ☐ I get dressed more slowly than usual because of my back or leg problem.
- ☐ I only stand for short periods of time because of my back or leg problem.
- ☐ Because of my back or leg problem, I try not to bend or kneel down.
- ☐ I find it difficult to get out of a chair because of my back or leg problem.
- ☐ My back is painful almost all the time.
- ☐ I find it difficult to turn over in bed because of my back or leg problem.
- ☐ My appetite is not very good because of my back or leg problem.
- ☐ I have trouble putting on my socks (or stockings) because of the pain in my back or leg.
- ☐ I only walk short distances because of my back or leg problem.
- ☐ I sleep less well on my back.
- ☐ Because of my back or leg problem, I get dressed with the help of someone else.
- ☐ I sit down for most of the day because of my back or leg problem.
- ☐ I avoid heavy jobs around the house because of my back or leg problem.
- ☐ Because of my back or leg problem, I am more irritable and bad tempered with other people than usual.
- ☐ Because of my back or leg problem, I go upstairs more slowly than usual.
- ☐ I stay in bed most of the time because of my back or leg problem.

C) Pain intensity

How severe is your pain <u>today</u>? Place a vertical mark on the line below to indicate how severe your pain is <u>today</u>.

D) General health status

This part of the survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

Please answer every question by marking the appropriate box. If you are unsure about how to answer, please give the best answer you can.

1. In general, would you say your health is:

Excellent	Very good	Good	Fair	Poor
☐	☐	☐	☐	☐

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

		Yes, limited a lot	Yes, limited a little	No, not limited at all
2.	Moderate activities, such as moving a table, pushing a vacuum cleaner, or riding a bike.	☐	☐	☐
3.	Climbing several flights of stairs.	☐	☐	☐

During the <u>past 4 weeks</u>, have you had any of the following problems with your work or other regular daily activities <u>as a result of your physical health</u>?

		Yes	*No*
4.	Accomplished less than you would like.	☐	☐
5.	Were limited in the kind of work or other activities	☐	☐

During the <u>past 4 weeks</u>, have you had any of the following problems with your work or other regular daily activities <u>as a result of any emotional problems</u> (such as feeling depressed or anxious)?

		Yes	*No*
6.	Accomplished less than you would like.	☐	☐
7.	Didn't do work or other activities as carefully as usual.	☐	☐

8. During the <u>past 4 weeks</u>, how much did pain interfere with your normal work (including both work outside the home and housework)?

Not at all	A little bit	Moderately	Quite a bit	Extremely
☐	☐	☐	☐	☐

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks:

		All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
9.	Have you felt calm and peaceful?	☐	☐	☐	☐	☐	☐
10.	Did you have a lot of energy?	☐	☐	☐	☐	☐	☐
11.	Have you felt downhearted and blue?	☐	☐	☐	☐	☐	☐

12. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives etc.)?

All of the time	Most of the time	Some of the time	A little of the time	None of the time
☐	☐	☐	☐	☐

13. If you had to spend the rest of your life with the symptoms you have right now, how would you feel about it?

Very dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Very satisfied
☐	☐	☐	☐	☐

E) Your social role

The purpose of the following questions is to determine if your back or leg problem has caused a restriction of your activities during the past 4 weeks.

		N/A	*None*	*Number of days*
14.	About how many days did your back or leg problem keep you from going to work or school?	☐	☐	☐

		None	*Number of days*
15.	About how many days did you stay in bed more than half of the day because of your back or leg problem?	☐	☐

		None	*Number of days*
16.	About how many days did you cut down on the things you usually do (not counting days missed from work/school and days in bed) for more than half of the day because of back or leg problem?	☐	☐

F) Healthcare assessment of [healthcare provider]

The following questions concern your satisfaction with several aspects of the healthcare received at the healthcare provider]. Assess your satisfaction on a scale from 1 (very poor) to 10 (excellent) by marking the box that best reflects your satisfaction.

17. How do you rate the doctor's care and communication? The doctor's care and communication concerns the doctor-patient relationship and the doctor's social skills.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

18. How do you rate the ancillary staff's care and communication? The ancillary staff's care and communication concerns the relationship between patient and the ancillary staff and the ancillary staff's social skills.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

19. How do you rate the information provision? Information provision concerns all the information received during your treatment at the [healthcare provider].

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

20. How do you rate the pain control (both treatment with and without injection)? Pain control concerns the methods used by the medical staff of the [healthcare provider] for treating your pain.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

21. How do you rate the physical environment of the healthcare facility? The physical environment concerns the building related aspects and the internal environment of the [healthcare provider].

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

22. How do you rate the accessibility of the [healthcare provider]? Accessibility concerns how easy a patient is able to receive the care needed (e.g. availability of care and easy to reach healthcare facility.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

23. How do you rate the primary care process? This concern the actual treatment of your hernia or stenosis.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

24. In general, how satisfied are you with the entire care process during the treatment of your back or leg problem at the [healthcare provider]?

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

You have completed the questionnaire. Please check if you have answered every question. Any questions or remarks can be written down in the text box below. These questions or remarks can then be discussed during the interview.

Thank you for completing this questionnaire.

You can return the completed questionnaire using the enclose return envelope.

Appendix IV Interview protocol

Interview date:					2	0	1	3	*PRN:*			

The first minutes are crucial.
Explain what you want to learn from the interviewee.
Be clear!
Show strong listening, show understanding, respect the interviewee.
Do not impose opinions upon the interviewee.
When the patient is in doubt, ask a closed question, and subsequently an open question.

- Research participation;
- Voluntary participation;
- Confidentiality;
- Research purpose;
- Results of the study;
- Interview set up;
- Audio recording;
- Does the patient want to receive the interview transcript?
- Does the patient want to receive the results of this study?
- Does the patient have any further questions?

Tear off and shred after including in PRN database

Patient name:	
E-mail address	

17. The doctor's communication and care

In the questionnaire, you rated the doctor's communication and care a/an [ ].

This concerns the doctor-patient relationship and the doctor's social skills.

* Why did you rate it this way? * For what reason did you rate in this way? * Can you elaborate on this? * What else do you think is important? * Why?

Statements concerning: Doctor's communication and care .

(Tick box if mentioned spontaneously)	
☐ The doctor is respectful ☐ The doctor demonstrates strong listening ☐ The doctor gives clear explanations ☐ The doctor spends sufficient time ☐ You are involved in treatment decisions ☐ The doctor is friendly ☐ The doctor responds quick to help requests	

18. The ancillary staff's communication and care

You rated the ancillary staff's communication and care with a/an [ ].

This concerns the relationship between patient and ancillary staff (desk employee, MRI) and the ancillary staff's social skills.

* Why did you rate it this way? * For what reason did you rate in this way? * Can you elaborate on this? * What else do you think is important? * Why?

Statements concerning: Ancillary staff's communication and care.

(Tick box if mentioned spontaneously)	
☐ The ancillary staff is respectful	
☐ The ancillary staff demonstrates strong listening	
☐ The ancillary staff gives clear explanations	
☐ The ancillary staff spends sufficient time	
☐ The ancillary staff is friendly	
☐ The ancillary staff responds quickly to help requests	

19. Information provision

In the questionnaire, you rated the information provision a/an [ ].

This concerns all information you received during your treatment at [healthcare provider].

* Why did you rate it this way? * For what reason did you rate in this way? * Can you elaborate on this? * What else do you think is important? * Why?

Statements concerning: Information provision.

(Tick box if mentioned spontaneously)	1) Do you think you have been informed sufficiently or do you think you have received too little information?
☐ You received information about activities you can or cannot perform	2) If applicable: What aspects did you receive too little information about?
☐ You received information about what to do when problems (re)occur	3) Did you understand everything you were told?
☐ You received information about problems to look out for	4) If applicable: what information did not you understand?
☐ You received information about taking medication at home	5) If applicable: Did it bother you that you did not understand some of the provided information?
☐ You received information about self-management (e.g. home exercises)	
☐ You received information about the prevention of problems	
☐ You received information about the treatment plan	

20. Pain control

You rated the pain control with a/an [ ].

Pain control is the method in which the medical staff of the [healthcare provider] has treated your pain symptoms (injection/non-injection).

* Why did you rate it this way? * For what reason did you rate in this way? * Can you elaborate on this? * What else do you think is important? * Why?

Statements concerning: Pain control.

(Tick box if mentioned spontaneously) ☐ You received information about the medication used ☐ Pain medication was quickly administered ☐ The medical tests did not incur additional pain ☐ The pain is under control ☐ Everything is performed by the medical staff for reducing your pain complaints ☐ The doctor believed in the realness of my pain	

21. Physical environment

In the questionnaire, you rated the [healthcare provider]'s physical environment a/an [ ].

The physical environment concerns the building related aspects and the internal environment of the [healthcare provider].

* Why did you rate it this way? * For what reason did you rate in this way? * Can you elaborate on this? * What else do you think is important? * Why?

Statements concerning: Physical environment.

(Tick box if mentioned spontaneously} ☐ The room temperature was comfortable ☐ The rooms and facilities were clean and hygienic ☐ You have sufficient privacy during your visit ☐ The ambience at the [healthcare provider] was pleasant	

22. Accessibility

You rated the accessibility of the [healthcare provider] a/an [ ] .

This concerns how easy it is for the patient to receive the healthcare needed, e.g. the availability of healthcare and how easy the [healthcare provider] can be reached.

* Why did you rate it this way? * For what reason did you rate in this way? * Can you elaborate on this? * What else do you think is important? * Why?

Statements concerning: Accessibility.

(Tick box if mentioned spontaneously) ☐ The waiting time in the waiting room was short ☐ The waiting time for a follow-up appointment was short ☐ The appointments were tailored to your wishes ☐ The location of the [healthcare provider] is convenient ☐ The parking facilities are convenient ☐ You received information about the payment and insurance coverage of the treatment	

23. The primary care process: the treatment

You rated the treatment received at the [healthcare provider] a/an [ ].

This concerns the treatment received at the [healthcare provider]. This does not concern prior mentioned aspects of care, but the actual treatment of your complaints.

* Why did you rate it this way? * For what reason did you rate in this way? * Can you elaborate on this? * What else do you think is important? * Why?

Statements concerning: Primary care process

(Tick box if mentioned spontaneously)	1) Why were you satisfied or dissatisfied?
☐ Are you satisfied with the treatment method? ☐ Are you satisfied with the treatment outcome?	

24. General impression about the medical care process

Your general satisfaction rating regarding the medical care process was a/an [ ].

When you look back at your care process at the [healthcare provider], what would be the most important reason to be satisfied or dissatisfied?

* Why did you rate it this way? * For what reason did you rate in this way? * Can you elaborate on this? * What else do you think is important? * Why?

What aspects of care were decisive for this rating? This can of course be either positive or negative.

* Can you elaborate on this? * What else do you think is important? * Why?	

Do you have any preference regarding the type of healthcare provider (general hospital/private clinic) regarding the treatment of your hernia or stenosis

* Can you elaborate on this? * What else do you think is important? * Why?	1) Why do you have this preference? 2) Why don't you have a preference?

Wrapping up the interview

- ✓ Mention the things learned from this interview;
- ✓ Write down the interviewee's reaction to the former;
- ✓ End the interview;
- ✓ End the audio recording;
- ✓ Inquire whether or not het interviewee has any questions;
- ✓ This provides an extra opportunity for the interviewee to discuss things he or she was worrying about during the interview;
- ✓ Thank the interviewee for participating.

- ✓ Take about ten minutes to reflect upon the interview. The intonation, facial and body language of the interviewee often provider a bigger picture of the responses given at that time. These impressions can provide a valuable context for the transcript analysis.

Appendix V METC declaration

MEDISCH ETHISCHE TOETSINGSCOMMISSIE (METC)
TWENTE

Medisch Spectrum Twente

Het Roessingh

Secretariaat METC, Medical School Twente, Instituut voor Toegepast Wetenschappelijk Onderzoek,
Postbus 50.000, 7500 KA Enschede Telefoon +31(0)53 487 30 11 Fax +31(0)53 487 2042 Email: metc@mst.nl
Mw. ir. S.E.A. Satink, ambtelijk secretaris, telefoon +31(0)53 487 20 46

[redacted]

Enschede, [redacted]

Kenmerk: [redacted]

Titel: onderzoek tevredenheid van rugpatiënten die zijn behandeld in een ziekenhuis of een privékliniek
K-nr.: [redacted]

Geachte heer [redacted],

De Medisch Ethische ToetsingCommissie Twente te Enschede, verklaart dat uw studie getiteld: "onderzoek tevredenheid van rugpatiënten die zijn behandeld in een ziekenhuis of een privékliniek" volgens de Nederlandse wet niet voldoet aan de criteria, die vereisen dat de studie door een Medisch Ethische ToetsingsCommissie beoordeeld moet worden.

Deze criteria zijn als volgt:

1) De studie moet een Medisch Wetenschappelijke doelstelling hebben EN
2) Mensen worden handelingen of gedragingen opgelegd.

Het eerste is van toepassing, maar het tweede niet omdat in uw studie tamelijk eenvoudige vragenlijst worden gebruikt. De belasting van de proefpersonen bij deze studie is gering en maakt dat geen medisch ethische beoordeling vereist is. U heeft de proefpersonen informatie brief aangepast na onze opmerkingen hierover. Proefpersonengegevens worden op een bevrediegde wijze gecodeerd.

Medisch Spectrum Twente

MEDISCH ETHISCHE TOETSINGSCOMMISSIE (METC) TWENTE

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In strikte zin, volgens de WMO, is het niet nodig dat de METC verder een oordeel velt over dit studieprotocol. De proefpersoneninformatie wordt in dit geval dan ook niet verder door de METC beoordeeld.

Hoogachtend,
Namens METC Twente

dr. J.F.F. Lekkerkerker, voorzitter

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Appendix VI Loose operationalization of indicators

Doctor's care and communication	
Indicator	Definition
Doctor's respect	The relation between the doctor and the patient, in which the doctor responds to the patient from a certain perspective and in some appropriate way (Dillon, 1992).
Strong listening	The doctor takes time to listen to the patient (Cohen, 1996), understand his concerns (Butler & Johnson, 2008), and respond to his questions (May, 2001).
Clear explanations	The doctor gives easy to understand explanations (Sixma, et al., 2009), without the excessive use of medical jargon (Jackson, et al., 2001).
Time spent by doctor	The doctor spends sufficient time with the patient (Sixma, et al., 2009).
Involvement in own treatment decisions	The patient can participate in decisions which he considers important concerning his treatment (Sixma, et al., 2009).
Friendliness	The doctor acts in a pleasant, helpful, and sympathetic manner (Gerris, et al., 1998).
Promptness to help requests	The doctor responds immediately when the patients needs assistance (Merkouris, et al., 2004).

Dimension and indicators – Doctor's care and communication.

Ancillary staff's care and communication	
Indicator	Definition
Ancillary staff's respect	The relation between the ancillary staff and the patient, in which the ancillary staff responds to the patient from a certain perspective and in some appropriate way (Dillon, 1992).
Strong listening	The ancillary staff takes time to listen to the patient (Cohen, 1996), understand his concerns (Butler & Johnson, 2008), and respond to his questions (May, 2001).
Clear explanations	The ancillary staff gives easy to understand explanations (Sixma, et al. 2009), without the excessive use of medical jargon (Jackson, et al., 2001).
Time spent by ancillary staff	The ancillary staff spends sufficient time with the patient (Sixma, et al., 2009).
Friendliness	The ancillary staff acts in a pleasant, helpful, and sympathetic manner (Gerris, et al., 1998).
Promptness to help requests	The ancillary staff responds immediately when the patients needs assistance (Merkouris, et al., 2004).

Dimension and indicators – Ancillary staff's care and communication.

Information provision	
Indicator	Definition
Activities	The patient receives sufficient information on what activities can and cannot be performed (Sixma, et al., 2009).
Post-session help	The patient receives sufficient information oh what he must do when problems reoccur, so that additional healthcare can be administered (Sixma, et al., 2009).
Problems to look out for	The patient receives sufficient information on what problems he should look out for after the healthcare session (Sixma, et al., 2009).
Ability to take medication at home	The patient receives sufficient information when it is possible to take the medication at home (Sixma, et al., 2009).
Tools for self-management	The patient receives sufficient information when it is possible to do physical exercises (May, 2001).
Prevention	The patient receives sufficient information about the cause of the back problems (Jackson, et al., 2001), and how to prevent future back problems (Rowell & Polipnick, 2008).
Treatment plan	The patient receives sufficient information on procedures (Sitzia & Wood, 1997), diagnoses, required complementary investigations, and actual treatment (Moret, et al., 2008).

Dimension and indicators – Information provision.

Pain control	
Indicator	Definition
Information about medication	The patient receives sufficient information about the medication he receives, such as name, and (side-)effects. Also, medical staff should inquire if the patient uses other medication, and has any known allergies to medication (Arah, et al., 2006).
Quick administration of pain medication	The pain medication should be given as soon as possible to relieve the patient's discomfort (Sixma, et al., 2009).
Pain well controlled	The pain has been brought under control by the medical staff (Sixma, et al., 2009).
Everything possible performed by medical staff	The medical staff does everything possible to treat the pain complaints (Sixma, et al., 2009), and multiple treatment options should be used if treatment proves non-effective (Cheung, et al., 2009).
Medical tests performed without additional pain	Medical tests performed on the patient should not incur additional discomfort (Arah, et al., 2006).
Believe in realness of pain	The medical staff shows believe in the realness of the pain experienced by the patient (Rowell & Polipnick, 2008).

Dimension and indicators – Pain control.

Physical environment	
Indicator	Definition
Comfortable room temperature	The room temperature in the healthcare facility is comfortable (Arah, et al., 2006).
Cleanliness	The rooms and sanitary facilities are clean and hygienic (Arah, et al., 2006).
Privacy	The medical staff controls the consequences of exposing any association of patients with information (Wuyts, et al., 2009).
Ambience of facility	The patients has a positive, general impression of the appearance of the healthcare facility (Ware, et al., 1983).

Dimension and indicators – Physical environment.

Accessibility	
Indicator	Definition
Waiting time in waiting room	The time the patient has to wait in the waiting room before being approached by the doctor (Beattie, et al., 2002).
Waiting time for follow-up appointment	The time the patient has to wait for a follow-up appointment (Collins & O'Cathain, 2003).
Ease of appoint-making	The appointments should be easy to make and convenient for the patient (Sixma, et al. 2009).
Location of facility	The location of the healthcare facility should be easily accessible by car or public transportation (Sixma, et al., 2009).
Parking facility	The parking facilities at the healthcare facility are convenient and sufficient in number (Beattie, et al., 2002).
Compensation information	The patient receives sufficient information about treatment costs, alternative payment arrangements, and comprehensiveness of insurance coverage (Ware, et al., 1983).

Dimension and indicators – Accessibility.

Appendix VII HU Codebook

Dutch	**English**
-Spontaan	-Spontaneous
Alg. Afspraakgemak Pos	Gen. Ease of appointment making Pos
Alg. Alles behandelopties gedaan Pos	Gen. Everything performed Pos
Alg. Beh. Deskundig Pos	Gen. Doc. Expertise Pos
Alg. Behandelingen Pos	Gen. Treatment Pos
Alg. Bejegening Dokter Pos	Gen. Doc. Care/communication Pos
Alg. Bejegening Ondersteunend Pos	Gen. Anc. Care/communication Pos
Alg. Bereidheid tot helpen Pos	Gen. Willingness to help Pos
Alg. Duidelijke uitleg Pos	Gen. Clear explanations Pos
Alg. Gehoord worden Pos	Gen. Be heard Pos
Alg. Info impact op leven Neg	Gen. Info impact on life Neg
Alg. Multidisciplinair Pos	Gen. Multidisciplinary Pos
Alg. Nazorg Neg	Gen. Aftercare Neg
Alg. Omgeving Pos	Gen. Environment Pos
Alg. Ond. Ontvangst Neg	Gen. Anc. Reception Neg
Alg. Ontvangst Pos	Gen. Reception Pos
Alg. Persoonlijke benadering Pos	Gen. Personal approach Pos
Alg. Sfeer Pos	Gen. Atmosphere Pos
Alg. Uitkomst behandeling Pos	Gen. Treatment outcome Pos
Alg. Voldoende info Neg	Gen. Sufficient info Neg
Alg. Volgens verwachting Pos	Gen. As expected Pos
Alg. Wachttijd Pos	Gen. Waiting time Pos
Beh. Betrokken Neg	Doc. Involvement Neg
Beh. Betrokken Pos	Doc. Involvement Pos
Beh. Duidelijk Pos	Doc. Clear explanations Pos
Beh. Luisteren Pos	Doc. Listening Pos
Beh. New Betrouwbaar Pos	Doc. New Trustworthy Pos
Beh. New Deskundig Pos	Doc. New Expertise Pos
Beh. New Gespecialiseerd Pos	Doc. New Specialized Pos
Beh. New Menselijk Pos	Doc. New Humane Pos
Beh. New Nazorg Pos	Doc. New Aftercare Pos
Beh. New Omgang Pos	Doc. New Relation Pos
Beh. New Oogcontact Pos	Doc. New Eye contact Pos
Beh. New Persoonlijk Pos	Doc. New Personal Pos
Beh. New Rustig Pos	Doc. New Calm pos
Beh. New Zorgvuldig Neg	Doc. New Careful Neg
Beh. New Zorgvuldig Pos	Doc. New Careful Pos
Beh. Respect Pos	Doc. Respect Pos
Beh. Snel hulp Neg	Doc. Help quickly Neg
Beh. Snel hulp Neu	Doc. Help quickly Neu
Beh. Snel hulp Nvt	Doc. Help quickly N/A
Beh. Snel hulp Pos	Doc. Help quickly Pos
Beh. Tijd Neg	Doc. Time Neg
Beh. Tijd Pos	Doc. Time Pos

Beh. Vriendelijk Pos	Doc. Friendly Pos
Fys. New Deuren Neg	Phys. New Doors Neg
Fys. New Deuren Pos	Phys. New Doors Pos
Fys. New Faciliteiten Pos	Phys. New Facilities Pos
Fys. New Gelijkvloers Pos	Phys. New One-level Pos
Fys. New Huiselijk/warm Pos	Phys. New Homely/warm Pos
Fys. New Kleinschaliger Pos	Phys. New Smaller-scale Pos
Fys. New Modern Neg	Phys. New Modern Neg
Fys. New Omgeving Neg	Phys. New Environment Neg
Fys. New Omgeving Pos	Phys. New Environment Pos
Fys. New Overzichtelijk Neg	Phys. New Orderly Neg
Fys. New Overzichtelijk Pos	Phys. New Orderly Pos
Fys. New Rustig Pos	Phys. New Quiet Pos
Fys. New Sanitair Neg	Phys. New Sanitary facilities Neg
Fys. New Sanitair Pos	Phys. New Sanitary facilities Pos
Fys. New Vertrouwd Pos	Phys. New Familiar Pos
Fys. New Verzorgd Pos	Phys. New Neat Pos
Fys. New Wachtkamer Pos	Phys. New Waiting room Pos
Fys. Privacy Neg	Phys. Privacy Neg
Fys. Privacy Neu	Phys. Privacy Neu
Fys. Privacy Pos	Phys. Privacy Pos
Fys. Schoon Neg	Phys. Clean Neg
Fys. Schoon Neu	Phys. Clean Neu
Fys. Schoon Pos	Phys. Clean Pos
Fys. Sfeer Neg	Phys. Ambience Neg
Fys. Sfeer Pos	Phys. Ambience Pos
Fys. Temperatuur Neg	Phys. Temperature Neg
Fys. Temperatuur Pos	Phys. Temperature Pos
Inf. Activiteiten Neg	Inf. Activities Neg
Inf. Activiteiten Nvt	Inf. Activities N/A
Inf. Activiteiten Pos	Inf. Activities Pos
Inf. Begrijpelijk Neg	Inf. Understandable Neg
Inf. Begrijpelijk Pos	Inf. Understandable Pos
Inf. Behandelplan Neg	Inf. Treatment plan Neg
Inf. Behandelplan Nvt	Inf. Treatment plan N/A
Inf. Behandelplan Pos	Inf. Treatment plan Pos
Inf. Nazorg Neg	Inf. Aftercare Neg
Inf. Nazorg Nvt	Inf. Aftercare N/A
Inf. Nazorg Pos	Inf. Aftercare Pos
Inf. New Concreet Neg	Inf. New Practical Neg
Inf. New Risico's Pos	Inf. New Risks Pos
Inf. Opletten Neg	Inf. Look out for Neg
Inf. Opletten Nvt	Inf. Look out for N/A
Inf. Opletten Pos	Inf. Look out for Pos
Inf. Preventie Neg	Inf. Prevention Neg
Inf. Preventie Nvt	Inf. Prevention N/A

Inf. Preventie Pos	Inf. Prevention Pos
Inf. Thuismedicatie Neg	Inf. Home medication Neg
Inf. Thuismedicatie Nvt	Inf. Home medication N/A
Inf. Thuismedicatie Pos	Inf. Home medication Pos
Inf. Voldoende Neg	Inf. Sufficient Neg
Inf. Voldoende Pos	Inf. Sufficient Pos
Inf. Zelfbehandeling Neg	Inf. Self-management Neg
Inf. Zelfbehandeling Nvt	Inf. Self-management N/A
Inf. Zelfbehandeling Pos	Inf. Self-management Pos
Ond. Duidelijk Neg	Anc. Clear explanations Neg
Ond. Duidelijk Nvt	Anc. Clear explanations N/A
Ond. Duidelijk Pos	Anc. Clear explanations Pos
Ond. Luisteren Neg	Anc. Listening Neg
Ond. Luisteren Pos	Anc. Listening Pos
Ond. New Communicatie Neg	Anc. New Communication Neg
Ond. New Medicijnen Neg	Anc. New Medication Neg
Ond. New Menselijk Pos	Anc. New Humane Pos
Ond. New Omgang Neg	Anc. New Relation Neg
Ond. New Omgang Pos	Anc. New Relation Pos
Ond. New Ontvangst Pos	Anc. New Reception Pos
Ond. New Verzorging Pos	Anc. New Care Pos
Ond. Respect Neg	Anc. Respect Neg
Ond. Respect Neu	Anc. Respect Neu
Ond. Respect Pos	Anc. Respect Pos
Ond. Snel hulp Neg	Anc. Help quickly Neg
Ond. Snel hulp Nvt	Anc. Help quickly N/A
Ond. Snel hulp Pos	Anc. Help quickly Pos
Ond. Tijd Neg	Anc. Time Neg
Ond. Tijd Pos	Anc. Time Pos
Ond. Vriendelijk Neg	Anc. Friendly Neg
Ond. Vriendelijk Neu	Anc. Friendly Neu
Ond. Vriendelijk Pos	Anc. Friendly Pos
Pijn. Alles gedaan Neg	Pain. Everything performed Neg
Pijn. Alles gedaan Nvt	Pain. Everything performed N/A
Pijn. Alles gedaan Pos	Pain. Everything performed Pos
Pijn. Controle Neg	Pain. Control Neg
Pijn. Controle Neu	Pain. Control Neu
Pijn. Controle Pos	Pain. Control Pos
Pijn. Geen pijn Neg	Pain. No pain Neg
Pijn. Geen pijn Neu	Pain. No pain Neu
Pijn. Geen pijn Nvt	Pain. No pain N/A
Pijn. Geen pijn Pos	Pain. No pain Pos
Pijn. Geloof Pos	Pain. Believe Pos
Pijn. Medicijninfo Neg	Pain. Medicine info Neg
Pijn. Medicijninfo Nvt	Pain. Medicine info N/A
Pijn. Medicijninfo Pos	Pain. Medicine info Pos

Pijn. Snel toedienen Nvt	Pain. Quick administration N/A
Pijn. Snel toedienen Pos	Pain. Quick administration Pos
Prim. Functionaliteitsverbetering Pos	Prim. Functionality improvement Pos
Prim. Pijnvermindering Neg	Prim. Pain reduction Neg
Prim. Pijnvermindering Pos	Prim. Pain reduction Pos
Prim. Tevr. Methode Neg	Prim. Sat. Method Neg
Prim. Tevr. Methode Pos	Prim. Sat. Method Pos
Prim. Tevr. Uitkomst Neg	Prim. Sat. Outcome Neg
Prim. Tevr. Uitkomst Neu	Prim. Sat. Outcome Neu
Prim. Tevr. Uitkomst Pos	Prim. Sat. Outcome Pos
Prim. Veel zelfbehandeling Neg	Prim. Much self-management Neg
Prim. Verbetering klachten belangrijk	Prim. Improvement complaints important
Toe. Afspraakgemak Nvt	Acc. Ease of appointment making N/A
Toe. Afspraakgemak Pos	Acc. Ease of appointment making Pos
Toe. Compensatieinfo Neg	Acc. Compensation info Neg
Toe. Compensatieinfo Nvt	Acc. Compensation info N/A
Toe. Compensatieinfo Pos	Acc. Compensation info Pos
Toe. Locatie Neu	Acc. Location Neu
Toe. Locatie Pos	Acc. Location Pos
Toe. New Bezoekuren Pos	Acc. New Visiting hours Pos
Toe. New One-Stop-Shop Pos	Acc. New One-Stop-Shop Pos
Toe. New Openingstijden Neg	Acc. Time opened Neg
Toe. New Telefonisch Pos	Acc. New Telephone Pos
Toe. New Tussendoor Pos	Acc. New Between appointments Pos
Toe. New Wachttijd 1e afspraak Pos	Acc. New Waiting time 1st appointment Pos
Toe. New Weekendverlof Pos	Acc. New Weekend leave Pos
Toe. Parkeergemak Neu	Acc. Parking Neu
Toe. Parkeergemak Nvt	Acc. Parking N/A
Toe. Parkeergemak Pos	Acc. Parking Pos
Toe. Vervolg kort Neg	Acc. Follow-up short Neg
Toe. Vervolg kort Neu	Acc. Follow-up short Neu
Toe. Vervolg kort Nvt	Acc. Follow-up short N/A
Toe. Vervolg kort Pos	Acc. Follow-up short Pos
Toe. Wachtkamer kort Neg	Acc. Waiting room short Neg
Toe. Wachtkamer kort Neu	Acc. Waiting room short Neu
Toe. Wachtkamer kort Pos	Acc. Waiting room short Pos
Vrk. Geen voorkeur	Pref. No preference
Vrk. Geen ziekenhuis	Pref. No hospital
Vrk. Privékliniek	Pref. Private clinic
Vrk. Situatiegebonden	Pref. Situation specific
Vrk. Ziekenhuis	Pref. General hospital

Appendix VIII HU Codes-Primary-Documents-Table positive and negative remarks

Private clinic *Doctor's care and comm.*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
14	Doc. Clear explanations Pos	0	0	0	0
13	Doc. Listening Pos	0	0	0	1
13	Doc. Respect Pos	0	0	0	1
12	Doc. Time Pos	0	0	0	2
12	Doc. Friendly Pos	0	0	0	2
11	Doc. Involvement Pos	1	0	0	2
11	Doc. Help quickly Pos	0	1	1	1
5	Doc. New Personal Pos	0	0	0	nvt
3	Doc. New Relation Pos	0	0	0	nvt
2	Doc. New Specialized Pos	0	0	0	nvt
1	Doc. New Trustworthy Pos	0	0	0	nvt
1	Doc. New Eye contact Pos	0	0	0	nvt
1	Doc. New Calm pos	0	0	0	nvt
1	Doc. New Careful Pos	1	0	0	nvt

General hospital *Doctor's care and comm.*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
14	Doc. Involvement Pos	0	0	0	0
14	Doc. Clear explanations Pos	0	0	0	0
14	Doc. Respect Pos	0	0	0	0
14	Doc. Friendly Pos	0	0	0	0
13	Doc. Time Pos	1	0	0	0
12	Doc. Listening Pos	0	0	0	2
7	Doc. Help quickly Pos	1	0	4	2
5	Doc. New Relation Pos	0	0	0	nvt
4	Doc. New Expertise Pos	0	0	0	nvt
4	Doc. New Aftercare Pos	0	0	0	nvt
2	Doc. New Trustworthy Pos	0	0	0	nvt
2	Doc. New Humane Pos	0	0	0	nvt
2	Doc. New Calm Pos	0	0	0	nvt
1	Doc. New Personal Pos	0	0	0	nvt

Private clinic *Doctor's care and comm.*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
1	Doc. Involvement Neg	11	0	0	2
1	Doc. New Careful Neg	1	0	0	nvt

General hospital *Doctor's care and comm.*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
1	Doc. Time Neg	13	0	0	0
1	Doc. Help quickly Neg	7	0	4	2

Private clinic *Anc. staff's care and comm.*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
13	Anc. Listening Pos	0	0	0	1
13	Anc. Respect Pos	0	1	0	0
13	Anc. Friendly Pos	0	0	0	1
12	Anc. Clear explanations Pos	1	0	1	0
10	Anc. Help quickly Pos	0	0	4	0
10	Anc. Time Pos	1	0	0	3
3	Anc. New Relation Pos	0	0	0	nvt
2	Anc. New Reception Pos	0	0	0	nvt

General hospital *Anc. staff's care and comm.*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
13	Anc. Listening Pos	1	0	0	0
12	Anc. Clear explanations Pos	0	0	1	1
12	Anc. Friendly Pos	0	2	0	0
11	Anc. Respect Pos	1	0	0	2
11	Anc. Help quickly Pos	1	0	1	1
11	Anc. Time Pos	2	0	0	1
4	Anc. New Care Pos	0	0	0	nvt
2	Anc. New Relation Pos	1	0	0	nvt
1	Anc. New Humane Pos	0	0	0	nvt

Private clinic *Anc. staff's care and comm.*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
1	Anc. Clear explanations Neg	12	0	1	0
1	Anc. Time Neg	10	0	0	3

General hospital *Anc. staff's care and comm.*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
3	Anc. New Medication Neg	0	0	0	nvt
2	Anc. Time Neg	11	0	0	1
2	Anc. New Communication Neg	0	0	0	nvt
1	Anc. Listening Neg	13	0	0	0
1	Anc. Respect Neg	11	0	0	2
1	Anc. Help quickly Neg	11	0	1	1
1	Anc. New Relation Neg	2	0	0	nvt

Private clinic *Information provision*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
10	Inf. Treatment plan Pos	2	0	1	1
10	Inf. Sufficient Pos	3	0	0	1
9	Inf. Understandable Pos	1	0	0	4
9	Inf. Aftercare Pos	3	0	1	1
8	Inf. Self-management Pos	2	0	4	0
7	Inf. Look out for Pos	5	0	1	1
6	Inf. Activities Pos	7	0	1	0
6	Inf. Prevention Pos	4	0	2	2
5	Inf. Home medication Pos	0	0	9	0
1	Inf. New Risks Pos	0	0	0	nvt

General hospital *Information provision*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
11	Inf. Sufficient Pos	1	0	0	2
11	Inf. Self-management Pos	0	0	2	1
10	Inf. Activities Pos	2	0	0	2
10	Inf. Understandable Pos	1	0	0	3
10	Inf. Aftercare Pos	1	0	1	2
9	Inf. Prevention Pos	1	0	1	3
8	Inf. Treatment plan Pos	5	0	0	1
7	Inf. Look out for Pos	3	0	1	3
4	Inf. New Risks Pos	0	0	0	nvt
4	Inf. Home medication Pos	2	0	7	1

Private clinic *Information provision*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
7	Inf. Activities Neg	6	0	1	0
5	Inf. Look out for Neg	7	0	1	1
4	Inf. Prevention Neg	6	0	2	2
3	Inf. Sufficient Neg	10	0	0	1
3	Inf. Aftercare Neg	9	0	1	1
2	Inf. Treatment plan Neg	10	0	1	1
2	Inf. Self-management Neg	8	0	4	0
2	Inf. New Practical Neg	0	0	0	nvt
1	Inf. Understandable Neg	9	0	0	4

General hospital *Information provision*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
5	Inf. Treatment plan Neg	8	0	0	1
3	Inf. Look out for Neg	7	0	1	3
2	Inf. Activities Neg	10	0	0	2
2	Inf. Home medication Neg	4	0	7	1
1	Inf. Sufficient Neg	11	0	0	2
1	Inf. Understandable Neg	10	0	0	3
1	Inf. Aftercare Neg	10	0	1	2
1	Inf. Prevention Neg	9	0	1	3
1	Inf. New Practical Neg	0	0	0	nvt

Private clinic *Pain control*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
14	Pain. Believe Pos	0	0	0	0
10	Pain. Quick administration Pos	0	0	1	3
8	Pain. Everything performed Pos	0	0	3	3
6	Pain. Medicine info Pos	1	0	7	0
5	Pain. Control Pos	4	2	0	3
4	Pain. No pain Pos	8	1	0	1

General hospital *Pain control*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
12	Pain. Believe Pos	0	0	0	2
10	Pain. Control Pos	2	1	0	1
9	Pain. Everything performed Pos	1	0	1	3
8	Pain. No pain Pos	1	1	2	2
7	Pain. Quick administration Pos	0	0	3	4
6	Pain. Medicine info Pos	3	0	3	2

Private clinic *Pain control*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
8	Pain. No pain Neg	4	1	0	1
4	Pain. Control Neg	5	2	0	3
1	Pain. Medicine info Neg	6	0	7	0

General hospital *Pain control*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
3	Pain. Medicine info Neg	6	0	3	2
2	Pain. Control Neg	10	1	0	1
1	Pain. Everything performed Neg	9	0	1	3
1	Pain. No pain Neg	8	1	2	2

Private clinic *Physical environment*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
13	Phys. Clean Pos	0	1	0	0
13	Phys. Ambience Pos	0	0	0	1
13	Phys. Temperature Pos	1	0	0	0
12	Phys. Privacy Pos	0	2	0	0
6	Phys. New Environment Pos	0	0	0	nvt
5	Phys. New Tidy Pos	0	0	0	nvt
4	Phys. New Homely/warm Pos	0	0	0	nvt
4	Phys. New Smaller-scale Pos	0	0	0	nvt
4	Phys. New Waiting room Pos	0	0	0	nvt
3	Phys. New Facilities Pos	0	0	0	nvt
3	Phys. New One-level Pos	0	0	0	nvt
2	Phys. New Quiet Pos	0	0	0	nvt
2	Phys. New Sanitary facilities Pos	1	0	0	nvt
1	Phys. New Doors Pos	3	0	0	nvt

General hospital *Physical environment*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
13	Phys. Temperature Pos	1	0	0	0
12	Phys. Ambience Pos	2	0	0	0
10	Phys. Clean Pos	4	0	0	0
8	Phys. Privacy Pos	6	0	0	0
4	Phys. New Familiar Pos	4	0	0	nvt
2	Phys. New Environment Pos	3	0	0	nvt
2	Phys. New Orderly Pos	0	0	0	nvt
1	Phys. New Homely/warm Pos	0	0	0	nvt

Private clinic *Physical environment*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
3	Phys. New Doors Neg	1	0	0	nvt
3	Phys. New Orderly Neg	0	0	0	nvt
1	Phys. Temperature Neg	13	0	0	0
1	Phys. New Sanitary facilities Neg	2	0	0	nvt

General hospital *Physical environment*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
6	Phys. Privacy Neg	8	0	0	0
4	Phys. Clean Neg	10	0	0	0
4	Phys. New Modern Neg	0	0	0	nvt
3	Phys. New Environment Neg	2	0	0	
2	Phys. Ambience Neg	12	0	0	nvt
2	Phys. New Sanitary facilities Neg	0	0	0	0
1	Phys. Temperature Neg	13	0	0	nvt

Private clinic *Accessibility*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
13	Acc. Location Pos	0	1	0	0
13	Acc. Parking Pos	0	1	0	0
13	Acc. Follow-up short Pos	1	0	0	0
12	Acc. Ease of appointment making Pos	0	0	1	1
9	Acc. New Waiting time 1st appointment Pos	0	0	0	nvt
8	Acc. Compensation info Pos	5	0	0	1
8	Acc. New One-Stop-Shop Pos	0	0	0	nvt
7	Acc. Waiting room short Pos	0	5	0	2
3	Acc. New Telephone Pos	0	0	0	nvt
2	Acc. New Between appointments Pos	0	0	0	nvt

General hospital *Accessibility*		**Negative**	**Neutral**	**N/A**	**Missing**
Q	**Positive**				
14	Acc. Ease of appointment making Pos	0	0	0	0
13	Acc. Location Pos	0	0	0	1
11	Acc. Follow-up short Pos	1	1	1	0
10	Acc. Parking Pos	0	0	2	2
10	Acc. Waiting room short Pos	2	2	0	0
3	Acc. Compensation info Pos	4	0	5	2
1	Acc. New Visiting hours Pos	0	0	0	nvt
1	Acc. New One-Stop-Shop Pos	0	0	0	nvt
1	Acc. New Telephone Pos	0	0	0	nvt
1	Acc. New Between appointments Pos	0	0	0	nvt
1	Acc. New Waiting time 1st appointment Pos	0	0	0	nvt
1	Acc. New Weekend leave Pos	0	0	0	nvt

Private clinic *Accessibility*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
5	Acc. Compensation info Neg	8	0	0	1
1	Acc. Follow-up short Neg	13	0	0	0

General hospital *Accessibility*		**Positive**	**Neutral**	**N/A**	**Missing**
Q	**Negative**				
4	Acc. Compensation info Neg	3	0	5	2
2	Acc. Waiting room short Neg	10	2	0	0
1	Acc. Follow-up short Neg	11	1	1	0
1	Acc. Time opened Neg	0	0	0	nvt

Appendix IX HU Co-occurrence list of spontaneous responses

PRIVATE CLINIC: CO-OCCURRENCE TOOL		
Dutch	**English**	**#**
Beh. Duidelijk	Doc. Clear explanations	8
Toe. New Wachttijd 1e afspraak	Acc. New Waiting time 1st appoint.	8
Fys. New Omgeving	Phys. New Smaller-scale	6
Ond. Duidelijk	Anc. Clear explanations	6
Ond. Vriendelijk	Anc. Friendly	6
Toe. Locatie	Acc. Location	6
Toe. New One-Stop-Shop	Acc. New One-Stop-Shop	6
Toe. Parkeergemak	Acc. Parking	5
Beh. New Persoonlijk	Doc. New Personal	4
Beh. Vriendelijk	Doc. Friendly	4
Fys. New Huiselijk/warm	Phys. New Doors	4
Fys. New Verzorgd	Phys. New Tidy	4
Fys. New Wachtkamer	Phys. New Waiting room	4
Alg. Behandelingen	Gen. Treatment	3
Alg. Gehoord worden	Gen. Be heard	3
Alg. Wachttijd	Gen. Waiting time	3
Beh. Luisteren	Doc. Listening	3
Beh. New Omgang	Doc. New Relation	3
Beh. Snel hulp	Doc. Help quickly	3
Fys. New Deuren	Phys. New Doors	3
Fys. New Faciliteiten	Phys. New Facilities	3
Fys. New Gelijkvloers	Phys. New One-level	3
Fys. New Overzichtelijk	Phys. New Orderly	3
Inf. Behandelplan	Inf. Treatment plan	3
Ond. New Omgang	Anc. New Relation	3
Ond. Snel hulp	Anc. Help quickly	3
Toe. Compensatieinfo	Acc. Compensation info	3
Toe. New Telefonisch	Acc. New Telephone	3
Toe. Vervolg kort	Acc. Follow-up short	3
Alg. Bejegening Dokter	Gen. Doc. Care/communication	2
Alg. Bejegening Ondersteunend	Gen. Anc. Care/communication	2
Alg. Persoonlijke benadering	Gen. Personal approach	2
Beh. New Gespecialiseerd	Doc. New Specialized	2
Beh. New Zorgvuldig	Doc. New Careful	2
Beh. Tijd	Doc. Time	2
Fys. New Kleinschaliger	Phys. New Homely/warm	2
Fys. New Sanitair	Phys. New Sanitary facilities	2
Inf. New Concreet	Inf. New Practical	2
Inf. Voldoende	Inf. Sufficient	2
Ond. New Ontvangst	Anc. New Reception	2
Ond. Tijd	Anc. Time	2
Pijn. Snel toedienen	Pain. Quick administration	2
Toe. New Tussendoor	Acc. New Between appointments	2
Vrk. Geen voorkeur	Pref. No preference	2
Alg. Afspraakgemak	Gen. Ease of appointment making	1

Alg. Alles behandelopties gedaan	Gen. Everything performed	1
Alg. Bereidheid tot helpen	Gen. Willingness to help	1
Alg. Duidelijke uitleg	Gen. Clear explanations	1
Alg. Info impact op leven	Gen. Info impact on life	1
Alg. Multidisciplinair	Gen. Multidisciplinary	1
Alg. Omgeving	Gen. Environment	1
Alg. Ontvangst	Gen. Reception	1
Alg. Voldoende info	Gen. Sufficient info	1
Alg. Volgens verwachting	Gen. As expected	1
Beh. New Betrouwbaar	Doc. New Trustworthy	1
Beh. New Oogcontact	Doc. New Eye contact	1
Beh. New Rustig	Doc. New Calm	1
Beh. Respect	Doc. Respect	1
Fys. New Rustig	Phys. New Quiet	1
Fys. Privacy	Phys. Privacy	1
Fys. Schoon	Phys. Clean	1
Fys. Sfeer	Phys. Ambience	1
Inf. Activiteiten	Inf. Activities	1
Inf. Nazorg	Inf. Aftercare	1
Inf. New Risico's	Inf. New Risks	1
Inf. Opletten	Inf. Look out for	1
Inf. Preventie	Inf. Prevention	1
Inf. Thuismedicatie	Inf. Home medication	1
Ond. Luisteren	Anc. Listening	1
Ond. Respect	Anc. Respect	1
Pijn. Alles gedaan	Pain. Everything performed	1
Pijn. Geen pijn	Pain. No pain	1
Pijn. Medicijninfo	Pain. Medicine info	1
Toe. Afspraakgemak	Acc. Ease of appointment making	1

GENERAL HOSPITAL: CO-OCCURRENCE TOOL		
Dutch	**English**	**#**
Toe. Locatie	Acc. Location	9
Ond. Vriendelijk	Anc. Friendly	8
Beh. Duidelijk	Doc. Clear explanations	7
Fys. New Omgeving	Phys. New Environment	5
Inf. Zelfbehandeling	Inf. Self-management	5
Ond. Snel hulp	Anc. Help quickly	5
Pijn. Medicijninfo	Pain. Medicine info	5
Alg. Bejegening Ondersteunend	Gen. Anc. Care/communication	4
Beh. New Nazorg	Doc. New Aftercare	4
Beh. New Omgang	Doc. New Relation	4
Fys. New Vertrouwd	Phys. New Familiar	4
Inf. Behandelplan	Inf. Treatment plan	4
Ond. New Verzorging	Anc. New Care	4
Alg. Bejegening Dokter	Gen. Doc. Care/communication	3
Beh. Betrokken	Doc. Involvement	3
Beh. New Deskundig	Doc. New Expertise	3
Beh. Vriendelijk	Doc. Friendly	3
Fys. New Faciliteiten	Phys. New Facilities	3
Inf. New Risico's	Inf. New Risks	3
Ond. New Medicijnen	Anc. New Medication	3
Pijn. Alles gedaan	Pain. Everything performed	3
Pijn. Snel toedienen	Pain. Quick administration	3
Alg. Beh. Deskundig	Gen. Doc. Expertise	2
Alg. Persoonlijke benadering	Gen. Personal approach	2
Beh. New Betrouwbaar	Doc. New Trustworthy	2
Beh. New Menselijk	Doc. New Humane	2
Beh. Tijd	Doc. Time	2
Fys. New Modern	Phys. New Modern	2
Fys. New Sanitair	Phys. New Sanitary facilities	2
Fys. Schoon	Phys. Clean	2
Inf. Begrijpelijk	Inf. Understandable	2
Inf. Preventie	Inf. Prevention	2
Inf. Voldoende	Inf. Sufficient	2
Ond. New Communicatie	Anc. New Communication	2
Ond. New Omgang	Anc. New Relation	2
Ond. Respect	Anc. Respect	2
Toe. Parkeergemak	Acc. Parking	2
Alg. Bereidheid tot helpen	Gen. Willingness to help	1
Alg. Duidelijke uitleg	Gen. Clear explanations	1
Alg. Gehoord worden	Gen. Be heard	1
Alg. Ond. Ontvangst	Gen. Anc. Reception	1
Alg. Sfeer	Gen. Atmosphere	1
Alg. Wachttijd	Gen. Waiting time	1
Beh. Luisteren	Doc. Listening	1
Beh. New Persoonlijk	Doc. New Personal	1
Beh. New Rustig	Doc. New Calm	1

Fys. New Huiselijk/warm	Phys. New Homely/warm	1
Fys. New Overzichtelijk	Phys. New Orderly	1
Fys. Privacy	Phys. Privacy	1
Inf. Activiteiten	Inf. Activities	1
Inf. Nazorg	Inf. Aftercare	1
Inf. New Concreet	Inf. New Practical	1
Inf. Opletten	Inf. Look out for	1
Inf. Thuismedicatie	Inf. Home medication	1
Ond. New Menselijk	Anc. New Humane	1
Ond. Tijd	Anc. Time	1
Pijn. Controle	Pain. Control	1
Pijn. Geloof	Pain. Believe	1
Toe. Afspraakgemak	Acc. Ease of appointment making	1
Toe. New Bezoekuren	Acc. New Visiting hours	1
Toe. New Openingstijden	Acc. Time opened	1
Toe. New Telefonisch	Acc. New Telephone	1
Toe. New Tussendoor	Acc. New Between appointments	1
Toe. New Wachttijd 1e afspraak	Acc. New Waiting time 1st appoint.	1
Toe. New Weekendverlof	Acc. New Weekend leave	1
Toe. Wachtkamer kort	Acc. Waiting room short	1

Appendix X Validity considerations

Construct validity	
Source of invalidity	Description
Inadequate preoperational explication of constructs	Concerns the operationalization of constructs. Constructs are not defined properly.
Mono-operation bias	Concerns the independent variable. By only using a single version of a program or treatment, you do not capture the full extent of the concept.
Mono-method bias	Concerns the measures or observations. By only using a single version of a measure or only one observation, you cannot provide evidence that the concept is measured adequately.
Interaction of different treatments	In addition to the program or treatment provided by a researcher, participants may also be involved in other simultaneous programs or may receive other treatments. Results may not be fully attributed to the used program or treatment.
Interaction of testing and treatment	The testing or the measurement itself may cause participating groups to become more sensitive or receptive to the program or treatment.
Restricted generalizability across constructs	Failing to recognize unintended consequences, such as negative side effects of a program or treatment.
Confounding constructs and level of constructs	The label used is not a good description for what is implemented in the study. Concerns the operationalization.
Hypothesis guessing	Study participants will try to find out what the real purpose of a study is and are likely to base their behavior on what they think the study is about.
Evaluation apprehension	Study participants may perform differently than they actually could due to anxiety (performing worse) or a desire to look good (performing better).
Researcher expectancies	The researcher can bias the results of the study, both consciously or unconsciously, by communicating the desired outcome of a study for instance.

Sources of construct validity.

External validity	
Source of invalidity	Description
Interaction of selection and treatment	The observed outcome may only be valid for the type of people who were participating in the study.
Interaction of setting and treatment	The observed outcome may only be valid for the setting in which the study was conducted.
Interaction of history and treatment	The observed outcome may only be valid for the point in time at which it was conducted.

Sources of external validity.

Internal validity	
Source of invalidity	Description
History	The observed outcome may be attributed to some historical events that occurred.
Maturation	The observed outcome may be attributed to typically transpiring events in life over a period of time.
Testing	The observed outcome may be attributed to the actual testing (pretest).
Instrumentation	The observed outcome may be attributed to a change in the test instrument between pretest and posttest.
Mortality	The observed outcome may be attributed to participants dropping out of the study.
Regression	The pretest average for the groups in the study will appear to improve, even if no treatment is given (statistical phenomenon).
Diffusion/imitation of treatment	Groups may interact about treatment received, thereby scoring differently.
Compensatory rivalry	Groups may know about each other's treatment and may develop competitive attitudes, thereby affecting the actual outcome.
Resentful demoralization	The observed outcome may be attributed to participants from one group may by demoralized by the treatment received in another group.
Compensatory equalization of treatment	If groups receive different treatments and are aware of this, they may put pressure on the researcher in order to become reassigned to the other group.

Sources of internal validity.