Patient preferences for a hospital across borders

Evaluation of hospital- and patient characteristics influencing the preference for a hospital in potential Dutch patients living close to the German border in case of stroke or AMI using a Discrete-Choice Experiment

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Summary

Introduction: Patients with stroke or acute myocardial infarction (AMI) need immediate treatment to increase their chances of survival and successful rehabilitation. Short routes to the hospital are required to receive the treatment as fast as possible. In rural areas like the Dutch-German border area, the closest located hospital is not necessarily in the country of residence, but in the neighboring country. Therefore, Acute Zorg Euregio supports co-operations between Dutch and German healthcare facilities, so that Dutch patients with AMI or stroke can be treated in the closest hospital in Germany. However, whether the potential Dutch patients are willing to go to the closest German hospital instead of a Dutch hospital further away is not known and should be investigated.

Method: The preferences for a hospital from potential Dutch patients are measured by using a discrete choice experiment (DCE). The instrument consisted of 16 choice sets, divided over two questionnaires with respectively 8 choice sets. The choice sets contained five attributes: language the doctor and nurses speak, travel time, access to the hospital, continuity of care, and reputation with regard to the quality of care. The data is analyzed with Cox-regression to identify the attributes importance in the preference for a hospital. Moreover, the respondent's characteristics and the respondent's perception of the German hospital were measured with separate questions of the questionnaire. These were used for subgroup analyses of the results. The respondents were recruited by randomly contacting people at farmers markets, sport centers and community centers in Dinkelland and Oost—Achterhoek.

Results: The DCE showed that respondents valued travel time (relative importance (RI)=42.8%) as the most important attribute for their preference for a hospital. The hospitals reputation on the quality of care (RI=24.3%), the language doctors and nurses speak (RI=21.3%) and continuity of care (RI=11.6%) were of less influence for the preference for a hospital. Access to the hospital had no statistically significant influence on the preference for a hospital. Subgroup analyses showed that most subgroups valued travel time to the hospital as the most important attribute for their preference for a hospital.

Discussion: Potential Dutch patients prefer going to the German hospital close-by instead of the Dutch hospital further away in case of stroke or AMI. Furthermore, patients value an excellent reputation on the quality of care as slightly more important for their preference for a hospital compared to a hospital in which doctors and nurses speak Dutch. Patients' characteristics and patients' perceptions of the German hospital have no influence on the preference for a hospital with a shorter travel time. As potential Dutch patients prefer going to the German hospitals close-by instead of Dutch hospital further away in case of stroke or AMI, Acute Zorg Euregio should continue supporting the co-operations between Dutch and German healthcare providers.

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1. Introduction

Acute healthcare situations require immediate interventions by healthcare professionals (1). Especially in life-threatening situations such as stroke or acute myocardial infarction (AMI) patients need urgent treatment (2). That means that medical care within minutes to hours is needed (1). In the case of a stroke, interventions are most effective within 4.5 hours after appearance of the first symptoms (3,4). Although new stroke procedures give the opportunity to treat stroke within the first 24 hours after appearance of the first symptoms (5). Also in cardiologic emergencies like AMI, studies (6,7) show that the treatment's effectiveness is strongly dependent on response time. Brodie et al. (7) have shown that treating the AMI within two hours, leads to the highest chances of successful rehabilitation. Therefore, the faster the patients are delivered to a suitable hospital, that is a hospital which is properly equipped for their condition, the faster the patient can be treated. An earlier start of the appropriate treatment raises the chances of successful rehabilitation after AMI or a stroke.

Short routes to hospitals raise the chances of receiving adequate treatment on time. However, in the rural areas of the Dutch-German border adequate healthcare resources are relatively scarce and the closest healthcare facility is not always located within the country of residence, but in the neighboring country (8). To allow the residents from the border region to still get the fastest treatment, Acute Zorg Euregio (Acute Care Euregio) supports co-operations between German and Dutch healthcare facilities (9). These co-operations include the collaboration of the Euregio clinic in Nordhorn, Germany, with referrers in the municipality Dinkelland, the Netherlands, for patients with a suspected stroke (9). Next to that, from the 1st of April 2019, Dutch patients from the Oost—Achterhoek region can be referred to the St. Agnes Hospital in Bocholt. In this way, the Dutch patients with a ST-Elevation Myocardial Infarction (STEMI), a serious type of heart attack, are offered the fastest accessible treatment here (9).

Thus, Dutch patients from the region Dinkelland and Oost—Achterhoek with stroke or AMI should be referred to the closest hospital in terms of medical benefits, which is located in Germany and not in the Netherlands. However, evaluations of the collaboration between the hospital in Nordhorn, Germany and the GPs referring the patients from Dinkelland, the Netherlands (9) showed that Dutch patients living close to the German border with a suspected stroke are rarely referred to the closest hospital in the neighboring country Germany. In most cases, the referrers still sent Dutch stroke patients to a Dutch hospital that is further away (9). In 2016, when the collaboration with the Euregio clinic Nordhorn was evaluated for the first time, only 2 out of 32 patients with a suspected stroke were transferred to the hospital in Nordhorn (10). The discrepancy between these numbers, the possible and actual patients referred to a German hospital, raised the question in Acute Zorg Euregio whether patients might prefer the longer travel time

to be treated in a hospital within the Netherlands. However, patients suffering from AMI and living in the region Oost—Achterhoek are regularly referred to the St. Agnes hospital in Bocholt, Germany, even before the official start of the collaboration with SKB Winterswijk, the Netherlands. This suggests that there might be a difference in the preference for a hospital between potential Dutch patients from Dinkelland and Oost—Achterhoek.

Patient preferences for a hospital influence the physicians referral decision for a hospital (11). One hypothesis is that the physicians refer patients to Dutch hospitals because they assume this is what patients would prefer. Patient preferences for a hospital are analyzed in different studies (12–15). It was found that hospital characteristics like closest proximity, greater size of the hospital, short waiting times, patients' perception of high quality of care and the perception of good service positively influenced the decision for a hospital (12–15). Also, parking space and the number of beds, as an indicator for the size of the hospital, was found to positively influence the decision for a hospital (12). However, the previous studies only take patients decision for a hospital within one country into account. The influence of these factors on the preference for a hospital might therefore be different in a cross-border situation. There might also be additional factors that influence the patient's preference for a hospital in a cross-border situation. Wilson et al. (16) state that about a third of the patients that received care in another European country perceived barriers like a different language and cultural differences, such as differences in the families involvement or in the hierarchical structure in hospitals when seeking healthcare abroad (16). However, the study of Wilson et al. (16) focused on planned medical treatments, which does not give insight in the extent to which patients trade these factors against the need for urgent treatment, like in AMI or stroke. No studies could be found that focus on patient preference for a hospital in acute healthcare situations in which a hospital across the border is closer than a hospital in the own country.

The preferences a patient has for a hospital are based on different external and internal factors (17). The external factors on the one hand are rational information and facts about the hospital. The internal factors on the other hand are factors such as the feelings and the patient's perception of the hospital. The perception of residents from the region Oost—Achterhoek and Dinkelland of the German hospital are not known. However, their perception can influence their preference for the German hospital close-by or the Dutch hospital further away.

In summary it can be said that at the moment, most patients with a suspected stroke are still referred to a Dutch hospital further away than to a German hospital close-by (10). However, from the perspective of optimizing health outcomes, it would be better if more patients with suspected stroke or AMI from the region Dinkelland and Oost—Achterhoek would be referred to a German hospital close-by. Although referral to a hospital is primarily a physician's decision, more knowledge about the influence of

hospital- and patient characteristics on the preferences of potential Dutch patients for a hospital is needed to inform referrers about these preferences. Moreover, this information is valuable for Acute Zorg Euregios evaluation of the collaborations. In the context of this study, the hospital preferences of potential Dutch patients are investigated. Potential Dutch patients are residents from the region Dinkelland and Oost—Achterhoek that have not yet had a stroke or AMI. Additionally, insight in the perception of residents from the region Oost—Achterhoek and Dinkelland of the German hospital needs to be gained. The research question of this study is:

What hospital- and patient characteristics influence the preferences of potential Dutch patients from the regions Oost—Achterhoek and Dinkelland to go to a German hospital that is closer to home than a Dutch hospital in case of stroke or AMI?

In order to answer the main question, sub-questions were framed and need to be answered first. These are:

1. *How do the hospital characteristics (1) language of the doctors and nurses, (2) travel time, (3) access to the hospital, (4) continuity of care, and (5) reputation on the quality of care influence the preference for a hospital of potential Dutch patients in case of stroke or AMI?*
2. *How do the patient characteristics (1) age, (2) gender, (3) socio-economic status, (4) German language skills, and (5) residence influence the preference for a hospital of potential Dutch patients in case of stroke or AMI?*
3. *What perception do potential Dutch patients have of the closest German hospital regarding (1) distance, (2) accessibility of the hospital, (3) language skills of doctors and nurses, (4) continuity of care, and (5) quality of care?*
4. *To what extent does the perception of the closest German hospital influence the preference for a hospital of potential Dutch patients in case of stroke or AMI?*

2. Theoretical framework

2.1 Cross border collaborations

2.1.1 Existing collaborations

The Dutch organization Acute Zorg Euregio initiated the cross-border arrangement between the hospitals in Nordhorn, Germany, and GPs in Dinkelland, the Netherlands, in June 2015 (9). The collaboration between the hospitals in Bocholt, Germany, and Winterswijk, the Netherlands, officially started in 2019. However, some Dutch patients were referred to the hospital in Bocholt even before the official start. Such cross-border arrangements are common in European border regions, where two cities are located close to each other. One example of a cross-border arrangement is the collaboration between Saarland in Germany and Lorraine in France (18). French patients with an AMI can benefit from this collaboration, as they are brought to the German hospital which is closer than the French hospital. Thus, the time until the start of the treatment can be shortened. Another example that shows that such arrangements between healthcare providers across the border can have a medical benefit for patients is the collaboration between the hospitals in Aachen, Germany, and Maastricht, the Netherlands. In 2005, around 2,900 patients were transferred across the border from one hospital into another to receive the best possible treatment (19). Nevertheless, evaluations of these examples (18,19) primarily address the medical benefit of cross-border arrangements. What patients think about crossing the border for care and what they prefer, care in the country of residence or abroad, is not considered.

2.2 Decision making

2.2.1 How do people make decisions?

Patients make medical related decisions just like every other decision (17). That means that the decision is not only based on external factors, like facts and information but also on internal factors like experiences, beliefs and preferences (figure 1). Preference is defined as the difference in perceived utility of multiple options (20). The utility of the different options is measured by the satisfaction that can be gained by consuming the options. Other internal factors are the perceptions potential patients have of the hospital. This means that how people think and feel about the treatment in a hospital, influences their preference for a hospital. However, policy assumes that quality is the most important factor in the patient's decision for a provider and that patients have the relevant information to make an informed decision (21). Quality of care is a concept and cannot be measured without being operationalized first. Therefore, for patients to be able to choose a provider with the best quality, quality indicators need to be developed and the information on the different hospital performances need to be shared with the patients (13,21). However, Dixon et al. (21) showed in their study that patients rarely make use of available

information on a hospitals performance regarding the quality of care. Patients mostly rely on their own experiences, experiences from family and friends and the GPs advice when deciding for a hospital (21).

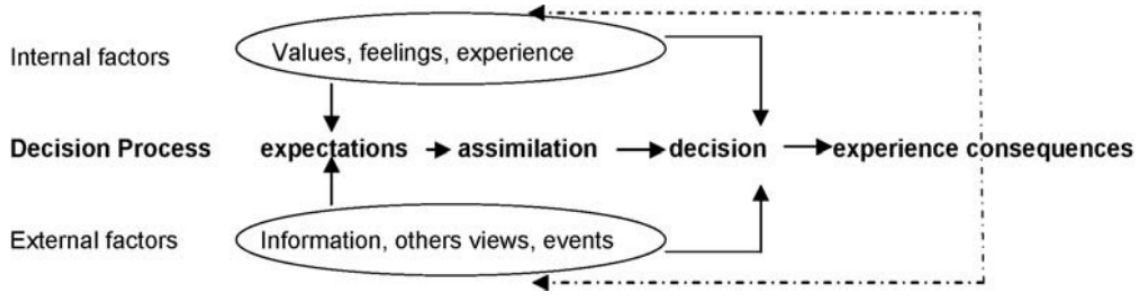

Figure 1: External and internal factors influence the decision process (17)

2.3 Patient's choice for a hospital

2.3.1 Hospital characteristics influencing patient's choice for a hospital

The patient's preference for a hospital is reliant on different hospital characteristics. A study by Victoor et al. (13) showed that generally the nearest hospital is preferred over a hospital further away or even abroad. Other factors which positively influence the preference for a provider include short waiting lists, constant information provision, and a good perceived quality of care (12,13). Research from Smith et al. (12) on how patients choose their hospital for elective treatments confirms the findings of Victoor et al. (13). Smith et al. (12) indicate that the patient's preference for a hospital is mostly affected by the closeness to their home or workplace for both elective and emergency treatments. However, trade-offs are made regarding the patient's perception of the treatment efficiency or waiting time for example. Further, Smith et al. (12) add that the number of parking spaces and the number of beds influences the preference for a hospital positively. All these characteristics, however, were identified by analyzing patients' preferences for a hospital within one country. It can be assumed that the hospital characteristics influence the preference for a hospital differently and that additional characteristics influence the preference for a hospital in cross-border situations.

2.3.2 What makes people cross the border for healthcare?

In a review on French-German healthcare collaborations the main reasons for people to cross the border for elective healthcare treatments are shorter waiting times, closer proximity, technical equipment, the perception of the professional's qualification and the patient-centeredness (18). In the French-German collaboration it seems like proximity is the most important factor for a hospital (18), even if that means the patient has to cross a border. Whether this is also the case in the Dutch-German collaboration will be examined in this study. Additionally, Funk states in her dissertation about patient mobility (22) that factors such as cost savings and an unsatisfying quality of treatment in the home country make people cross the

border for healthcare. But also familiarity to the neighboring country is a reason for people to cross the border for healthcare (22). This is supported by a study regarding the cross-border care between Denmark and Germany, where Danish cancer patients become less reluctant to cross the border for elective care when they live closer to the border (23).

However, in the previously mentioned studies (18,22,23), the focus lies on elective treatments and out-patient patients. The influence of different factors for a choice of a hospital is therefore examined when a fast treatment is not so much of influence for the decision for a hospital. In the case of the Dutch-German border where the focus lies on AMI and stroke, it would be interesting to see whether patients make different trade-offs and value judgements when a fast treatment is required.

2.3.3 Perceived issues when crossing the border for healthcare

Groene et al. (24) examined four categories of issues patients perceived who crossed the border for healthcare. The first one is information and communication issues. Groene et al. (24) state that cross-border patients have a high communication and information need and that these are their main priorities. However, the study results showed that good communication is not always ensured which can cause problems in cross-border care. The second issue category are administrative issues that arise from cross-border care (24). Bureaucratic problems in cross-border care can therefore even lead to delays in the care pathway. Clinical procedures are the third issue perceived by cross-border patients. These include potential safety issue regarding medication problems which might lead to problems when discharged and transferred to the home country. Moreover, continuity of care after discharge can be problematic due to a lack of communication or misunderstanding between patient and provider (24). The last issue that was found by Groene et al. (24) is physical structure and hotel service of the hospitals abroad. Cross border patients often have higher demands regarding privacy and often expect the hospital to have different hotel services and extras like shops where needed items can be bought (24). A study by Legido-Quigley et al. on cross-border patient mobility (23) concludes that patients generally prefer a treatment in a language they understand, near to their homes, where they are near to their family and the procedure is familiar. Moreover, patients prefer pathways that assure continuity of care and pathways where appropriate aftercare is ensured (23).Additionally, Wilson et al. (16) describe that perceived barriers to use healthcare services abroad are language and cultural barriers and awareness of the possibility to use medical services abroad (16). A review by Busse et al. (19) supports this by stating that in non-acute healthcare situations, language and culture are of influence when going abroad for medical care.

2.3.4 Patient characteristics

Patient characteristics such as age and social status affected the decision whether to visit the closest hospital or not in elective treatments (14). Therefore, younger patients and patients with a lower social status were more likely to travel further for care (14). Moreover, patients do not always take action themselves to make an informed decision between different healthcare providers (13). This means that these patients rely on the professional to make that decision for them. The patients that look more actively for a healthcare provider are often highly educated patients, younger patients, and patients with a higher income (13). Different studies (22,23) state that the familiarity the patient feels to the country abroad is of influence for the decision to seek healthcare abroad. When patients can speak the language or have friends, family or a job in the neighboring country, patients feel more familiar with the neighboring country. It is explained that the people in border regions using healthcare services do not so much perceive the neighboring country as a foreign place but as a part of their home county (22).

3. Method

3.1 Study design

To answer the research question a discrete choice experiment (DCE) was used. This is a quantitative method which can assess the potential Dutch patients' preferences for hospital in acute care situations. The advantage of using a quantitative method for this research is that data from a large number of people can be gathered and transformed into statistics. These statistics can be used to conduct statistical analyses to evaluate the influence of different hospital and patient characteristics on the decision for a hospital.

DCE is a survey design that simulates a person's decision in real life. It consists of several hypothetical scenarios which are described by a set of attributes that characterize the service that is about to be examined, in this case the hospitals. The attributes consist of different levels which describe the range over which attributes can vary between the different scenarios (25). DCE is a method that is used to test how respondents choose between distinct alternatives and how they trade between different attributes of a service to make a choice (12). The big advantage of a DCE is that it takes into account that people judge different attributes at the same time and make a choice based on the consideration of these different attributes (12). This resembles a real-life situation, in which people do not consider every attribute individually to make a decision. They rather weight up the different attributes to find an option that has the highest utility for them. This is mimicked by giving the respondents different scenarios between which they have to choose (26). To conduct a DCE four steps will be taken: 1) identification of attributes and levels; 2) create a questionnaire with hypothetical scenarios; 3) obtain data from respondents; 4) analyze data to identify the preferences stated by the respondents.

Furthermore, the perceptions patients have of a hospital can influence their preference for a hospital. Therefore, the patient's perception of the German hospital is measured with the questionnaire. This is done by integrating five questions into the questionnaire regarding the perception of: the nearest hospital, the accessibility of the German hospital, the language skills of professionals working at the German hospital, the continuity of care and quality of care in the German hospital. The questions and answer categories can be found in the questionnaire in appendix I.

3.2 Study population

To be included in this study, respondents must live in the region Dinkelland or Oost—Achterhoek, the Netherlands, in either Winterswijk, Aalten, Denekamp, Lattrop or Tilligte. Residents from these villages are the ones that would have the most benefit timewise, when visiting the German hospital instead of the Dutch hospital in case of stroke or AMI. The study is focused on patients in an acute situation, like stroke or AMI. However, it would be unethical to hinder the fast treatment by letting people in acute situations

fill out a questionnaire. Therefore, it was chosen not to focus on actual patients in acute situations, but to use a public sample of potential Dutch patients from the region Oost—Achterhoek and Dinkelland and mimic the emergency by mentioning that a fast treatment is required.

An exclusion criterion was that the respondents should not yet have had a stroke or AMI as their previous experiences during a stroke or AMI might influence the preference for a hospital. People were therefore asked in the questionnaire whether they have had a stroke or AMI in the past and data from these people was excluded.

The respondents were recruited by convenience sampling. This was done by randomly contacting people that visited the farmers market, community centers, sport clubs and elderly clubs in Winterswijk, Aalten, Tilligte, Denekamp and Lattrop and asking them if they are willing to take part in the study. Their e-mail addresses were gathered by the researcher, and an online questionnaire was sent to them by e-mail. Six women without e-mail addresses filled in a printed version of the questionnaire.

3.3 Attributes and Levels

The first step in conducting a DCE questionnaire was the identification of attributes and levels for cross-border emergency care. These were identified by literature research (16,19,22–24) and consultation of different healthcare professionals. The consulted professionals were a general practitioner from the region Dinkelland, a policy advisor from Acute Zorg Euregio and a chairman from a patient organization for cardiovascular diseases. Five attributes were defined for cross-border emergency care (table 1): language, travel time, access to the hospital, continuity of care, and reputation on the quality of care.

The hospital characteristic language relates to the language skills of the doctors and nurses. This characteristic is special for the cross-border situation as patient and caregiver have a different native language. Communication issues were mentioned in other studies (23,24) as a barrier to use healthcare abroad. Therefore, the degree to which patient and doctor can understand each other and communicate with each other can be of influence for the choice of a hospital and is therefore included in this study.

Travel time is related to the duration of the travel from potential Dutch patients. Travel time is shown to be one of the most important factors when choosing a hospital (12–15). The closer the hospital, the higher the chances that people will visit that hospital. Moreover, in the emergency situation of stroke and AMI, a fast treatment is important. However, it is questionable whether people still choose the closest hospital and therefore the shortest travel time, when that hospital is across the border.

Access to the hospital refers to the possibility for family and friends to reach the hospital to visit the patient. Interviews with the policy advisor showed that this is important to people when choosing a hospital. The accessibility in this study is based on the possibility to park at the hospital and the possibility

to reach the hospital by public transportation. The hypothesis behind this attribute is that people prefer a hospital that can easily be reached by family and friends, so it is easy to visit the patient.

Continuity of care relates to the continuity of the treatment. That means that the acute treatment and the aftercare take place in the same hospital. Victoor et al. (27) found in their literature review six studies which show that having one healthcare provider who is responsible for the whole treatment process is preferred over multiple providers. However, in acute situations when the Dutch patients are treated in Germany they are transferred back to the Netherlands for aftercare after the acute treatment.

The hospital's reputation on the quality of care is related to other people's rating of the quality of care. The chairman of the patient organization and the literature (28) state that a positive hospital reputation leads people to travel greater distances for a hospital. Research showed that people were even willing to choose a hospital with a good reputation over shorter travel times (28). These were findings for elective treatments, and the influence of the reputation should therefore be investigated for the preference for a hospital in emergency situations.

Table 1: Attributes and levels included in the study.

Attribute	Level
Language	Doctors and nurses cannot speak Dutch
	Doctors and nurses can speak Dutch
	One doctor/nurse can speak Dutch
Travel time/proximity	10 minutes travel to hospital
	25 minutes travel to hospital
	35 minutes travel to hospital
Access to the hospital	Cheap parking lots & arrival with public transportation possible
	Cheap parking lots & arrival with public transportation not possible
	Expensive parking lots & arrival with public transportation possible
	Expensive parking lots & arrival with public transportation not possible
Continuity of care	Acute treatment and aftercare in the same hospital
	Acute treatment and aftercare in different hospitals
Hospital reputation based on the quality of care	Other people rating the quality of the hospital as: excellent
	Other people rating the quality of the hospital as: good
	Other people rating the quality of the hospital as: sufficient

More attributes were identified in the literature. These are: location of the hospital, waiting times, regular information provision, greater size of the hospital, good hotel service, and service. However, they are not included in this study for various reasons such as too much overlap with other attributes. A table with all attributes and reasoning to include or exclude them in the study can be found in appendix II.

3.4 Survey design

The second step in conducting a DCE questionnaire was creating a questionnaire with hypothetical scenarios. The online questionnaire starts by asking questions about the potential Dutch patients' demographics, such as age, gender, residence, education and German language skills, and whether they had a stroke or AMI in the past. If so, the survey ends there for the respondents. After that, questions to identify the respondents' preferences are asked. Therefore, hypothetical scenarios were created. When

the different attributes and levels are combined 216 scenarios can be produced (5 attributes with 2-4 levels 3x3x4x2x3 =216). A full factorial survey with all 216 scenarios would not be feasible due to time restrictions in this study. It was therefore chosen to use a fractional factorial design, which is a sample from the full factorial design (25). With the fractional factorial design, the number of scenarios was reduced to 32. Using the software R 32 scenarios were created and assigned to 16 choice sets. To reduce the burden for the respondents, the 16 choice sets were divided into two online questionnaires with respectively 8 choice sets. The respondents were then randomly assigned to one of the two online questionnaires.

An example of a choice set is presented in figure 2.

Imagine you're feeling extremely sick and your referrer suspects a serious illness. It is an emergency for which you need immediate treatment in a hospital. Which hospital do you prefer?	
Hospital 1	***Hospital 2***
Doctors and nurses cannot speak Dutch	One doctor/nurse can speak Dutch
10 minutes travel to hospital	25 minutes travel to hospital
Cheap parking lots & arrival with public transportation possible	Expensive parking lots & arrival with public transportation not possible
Acute treatment and aftercare in different hospitals	Acute treatment and aftercare in the same hospital
Other people rating the quality of the hospital as: sufficient	Other people rating the quality of the hospital as: excellent

Figure 2: Example of choice set in the DCE questionnaire.

Before the respondent has to choose between one of the two options, a short introduction in the situation is given. It is stated that the respondents should imagine themselves in a situation in which they feel extremely sick and that requires an immediate treatment. Based on that information, the respondents have to choose their preferred hospital.

The last part of the questionnaire consists of questions regarding the respondent's perception of the German hospital.

3.5 Study sample

The third step when conducting a DCE questionnaire is the selection of a study sample. The rule of thumb was used to calculate the size of the study population (29):

$$N > 500c \div (t \times a)$$

N is the number of respondents, c is the maximum numbers of attributes that are included in a choice scenario (5 attributes), t is the number of choice sets (16 choice sets) and a is the number of alternatives between which the respondents have to choose (2 scenarios per choice set). Based on this calculation, at least 79 respondents would be needed to be able to predict preferences.

3.6 Analysis

The DCE data is analyzed by using regression models. Most commonly are probit and logit models (26). As the variables analyzed in this study are alternative specific, meaning that they have a different value for different choice questions, a conditional logit model is used by using Cox-regression in SPSS. The DCE is based on the random utility maximization theory (30). It assumes that people choose one option over another if the utility of that option is higher than the utility of the other options (31). Due to this assumption, it is possible to use statistical techniques to examine preferences and the relationship between them (32).

$$maxU = v + \varepsilon = \alpha + \sum \beta X + \varepsilon$$

v is information that is generated with the questionnaire (observable), ε is a random component (unobservable), α is the intercept based on so called alternative specific constants, β is the coefficient indicating the utility per levels of the attribute and X is the attribute. Alternative specific constants include unobservable error terms for each alternative (30). The utility equation for the choice of a hospital in the cross-border emergency can be described as:

$$U = \alpha + \beta language + \beta travel\ time + \beta access\ of\ the\ hospital + \beta continuity\ of\ care + \beta reputation + \varepsilon$$

Cox-regression is used to analyze the effect of the attribute on the individual's preference. The dependent variable is the respondent's choice for a hospital and is coded with 1 for scenario 1 and 2 for scenario 2. The independent variables are the levels of the different attributes and are coded using dummy coding. Thereby the first levels like for example 'Doctors and nurses cannot speak Dutch' are used as the baseline. The utility coefficient β and its significance are calculated per level. The independent variable travel time is treated as a continuous variable and the coefficient β is calculated for a 1-unit change (1 unit=1 minute). Thereby a significance level of $p<0.05$ was chosen. With the logistic model, no direct conclusion of the parameter sizes can be drawn, however, it can indicate whether the attribute has a positive or a negative effect on the total utility and whether that effect is statistically significant (33).

To analyze the influence of patient characteristics on the preference for a hospital, subgroup analyses in the Cox-regression are performed (26). A study by Varkevisser et al. (14) showed that younger

patients and patients with a lower socio-economic status were more likely not to go to the closest hospital. Subgroups are therefore based on gender and education level. In addition, subgroup analysis will be performed on region (Dinkelland vs. Oost-Achterhoek) as the policy advisor indicated that people from the region Oost—Achterhoek are more often referred to a German hospital than people from the region Dinkelland. Furthermore, as a common language with the caregiver is important to patients, subgroup analysis based on the patients German language skills is executed (18,24). Lastly, subgroups are created based on the respondents age.

To gain insight in the perception respondents have of the German hospital and analyze whether the perception influences the preference for a hospital, the data generated with the perception questions are analyzed with descriptive data and subgroup analyses in Cox-regression. Thus, it is investigated whether respondents with a different perception of a hospital have a different preference for a hospital.

The data is analyzed by using the program IBM SPSS Statistics 25.

3.7 Ethical considerations

To ensure that the ethical requirements of this study are met, some points have to be discussed. One point that has to be considered is that privacy standards were met. The collected data about the respondents was only used for this study and the data was linked to a number, which had no connection to the individual. That means that the data was not linked to a name, an email address or anything else by which the respondent's identity could have been identified. Moreover, the participation in the study was voluntarily. To make sure the participants agree to the use of their data, they are asked for consent.

4. Results

From 24th April 2019 until 23rd May 2019, 99 respondents filled in the questionnaire. 16 respondents were excluded, of which 13 respondents did not complete the questionnaire, one had a stroke or AMI in the past and two respondents did not live in the regions that were examined in this study. This results in 83 completed questionnaires, 39 questionnaires from the first questionnaire, containing the first 8 choice sets and 44 questionnaires from the second questionnaire, containing the last 8 choice sets. Of the respondents, 61 (73.5%) were female and 54 (65.1%) were residents from villages in the region Dinkelland. The mean age of the respondents was 52.6 (standard deviation 18.1) years, with a range of 18-85 years. A summary of the socio-demographic details is given in table 2.

Table 2: Demographics of the respondents

Characteristic	**Number (N=83)**	**%**
Age		
18-54	44	53
>=55	39	47
Mean (+Std. deviation)	52,6 (18,1)	
Range	18-85	
Gender		
Woman	61	73,5
Man	22	26,5
Residence		
Oost—Achterhoek	29	34,9
Dinkelland	54	65,1
German language skills		
Good	41	49,4
Medium	32	38,6
Bad	10	12
Educational level		
High (HBO, WO) (*)	23	27,7
Medium (MBO, HAVO, VWO) (+)	49	59,0
Low (VMBO, LHNO, LBO) (+)	11	13,3

(*) university/college degree; (+) no university/college degree

4.1 Hospital characteristics

Table 3 shows the results of the Cox-regression. Overall, from the estimated β-coefficient and statistical significance it can be concluded that respondents preferred a hospital in which doctors or nurses can speak Dutch, the travel time to the hospital is short, the acute care and after care take place in the same hospital and the hospital reputation on the quality of care is excellent.

Table3: Respondents' (n=83) preferences for hospital characteristics

Attribute level	Coefficient β	Significance	Attribute importance (%)
Language			21,3
Doctors speak no Dutch (*)	,000		
Doctors speak Dutch	1,035	,000	
1 Doctor speaks Dutch	,619	,000	
Travel time			42,8
Travel time (+)	-,083	,000	
Access			not sign.
Cheap parking & public transportation (*)	,000		
Cheap parking & no public transportation	-,189	,273	
Expensive parking & public transportation	,422	,061	
Expensive parking & no public transportation	-,096	,578	
Continuity			11,6
Acute care & after care in the same hospital (*)	,000		
Acute care & after care in different hospitals	-,563	,000	
Reputation			24,3
Quality of care: excellent (*)	,000		
Quality of care: good	-,282	,074	
Quality of care: sufficient	-1,180	,000	

(*) reference category in dummy coding; (+) continuous variable: indicating utility change per unit change (1 unit=1 minute)

The ranges between the different β-coefficients of the levels indicate the absolute change in utility that could be gained by changing this level. The attribute that influences the preference for a hospital the most is the attribute with the largest range between the β-coefficient for the highest and lowest level (=baseline level). Although travel time has the smallest β-coefficient range with -0.083, it must be noted that this attribute is measured in minutes. A change in the travel time of 1 minute would not be as crucial as making a marginal change in the levels of the other attributes. However, the change in utility resulting from a 15-minute change or more, outweighs the change in utility of the other levels (β= -0.083*15=-1.245). A change in travel time to the hospital from 10 to 35 minutes even leads to a utility change of β= -0.83-2.905=2.075. The negative value of this coefficient shows that respondents preferred a hospital with a shorter travel time to the hospital.

When the reputation on the quality of care is changed from excellent to sufficient, this leads to an absolute change of the estimated utility of -1.18, with the negative value indicating that a better reputation on the quality of care was preferred. The attribute importance (24.3%) indicates that this is the second most important attribute in the respondent's preference for a hospital. Also, the language doctors and nurses speak influenced the respondent's preference for a hospital. When doctors and nurses can speak Dutch, that leads to an estimated utility change of 1.035 compared to the baseline level (doctors and nurses cannot speak Dutch). The positive value indicates that a hospital in which doctors and nurses speak

Dutch is preferred over a hospital in which the personnel cannot speak Dutch. However, the attribute importance of 21.3% shows that the attribute language is only half as important for the preference for a hospital as travel time. Moreover, the respondents preferred a treatment at a hospital in which the whole treatment process takes place in one hospital instead of multiple hospitals. The levels of the attribute access to the hospital are not statistically significant at the alpha <0.05.

Next to these absolute ranges between the β-coefficient, the relative importance of the different levels compared to the most important level (travel time 35 minutes) is given in figure 3. The wider the ranges between the levels, the greater the impact of the levels on the preference for a hospital.

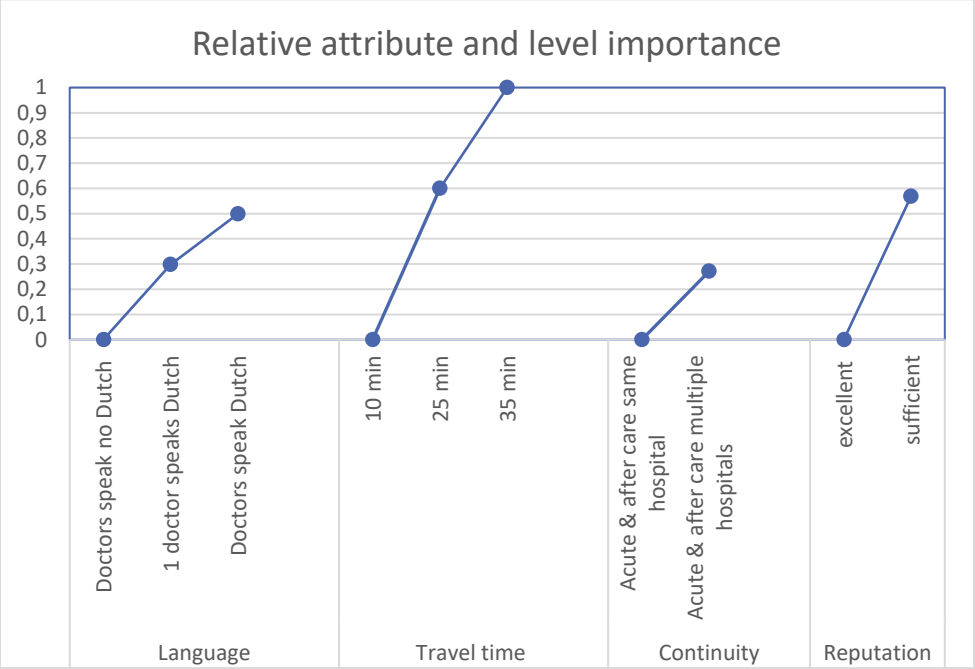

Figure 3: Relative importance of the attribute levels compared to the most important level (travel time 35 minutes)

Additionally, the share of preferences is calculated (examples given in table 4&5). The share of preference assumes that respondents not always choose the option yielding the highest utility and therefore estimates the probability of a respondent choosing the one or the other option.

Table 4: Example 1: Share of preferences for two hypothetical hospitals

Hospital 1	**Utility**	**Hospital 2**	**Utility**
Doctors and nurses speak Dutch	1,035	One doctor/nurse can speak Dutch	0,619
35 minutes travel to hospital	-2,905	10 minutes travel to hospital	-0,83
Acute treatment and aftercare in the same hospital	0	Acute treatment and aftercare in different hospitals	-0,563
Other people rating the quality of the hospital as: excellent	0	Other people rating the quality of the hospital as: good	-0,282
Total utility	-1,869		-1,056
Share of preference	30,7%		69,3%

Example 1 and 2 show the estimated probability of respondents choosing the one or the other hospital. 70% prefer hospital 2 where one doctor or nurse can speak Dutch, the travel time to the hospital is 10 minutes, acute treatment and aftercare in different hospitals and a good reputation in the quality of care (table 4). When the attribute language is changed from 'one doctor/nurse can speak Dutch' to 'doctors and nurses cannot speak Dutch' and all other attributes stay the same, 55% prefer hospital 2 (table 5).

Table 5: Example 2: Share of preferences for two hypothetical hospitals

Hospital 1	**Utility**	**Hospital 2**	**Utility**
Doctors and nurses speak Dutch	1,035	Doctors and nurses cannot speak Dutch	0
35 minutes travel to hospital	-2,905	10 minutes travel to hospital	-0,83
Acute treatment and aftercare in the same hospital	0	Acute treatment and aftercare in different hospitals	-0,563
Other people rating the quality of the hospital as: excellent	0	Other people rating the quality of the hospital as: good	-0,282
Total utility	-1,869		-1,675
Share of preference	45,2%		54,8%

4.2 Patient characteristics

Figure 4 shows the attribute importance per subgroup. For all subgroups, a short travel time was the most important characteristic influencing the preference for a hospital. Differences in the subgroups' preferences for a hospital were found in the importance of the language the doctor and nurses speak and the reputation on the quality of care. The subgroups of: female respondents (N=61), respondents from Dinkelland (N=54), respondents with a university or college degree (N=23), and the subgroup of respondents from 18-54 years old (N=44) valued an excellent reputation on the quality of care as more important for the preference for a hospital than the language the doctors and nurses speak. The subgroups of: male respondents (N=22), respondents from Oost—Achterhoek (N=29), respondents without a university or college degree (N=60), and respondents of 55 years and older (N=39) found the language the doctors and nurses speak more important for their preference for a hospital than the hospitals reputation. The subgroup of respondents that stated to have good German language skills (N=41) valued an excellent reputation of the hospital (β=-1.52) as almost two times higher than the language the doctors and nurses speak (β=0.828). Furthermore, they valued an excellent reputation on the quality of care of the hospital as almost two times more important compared to potential Dutch patients with medium or bad German language skills (N=42). The subgroup that stated to have medium or bad German language skills valued the language the doctor and nurses speak as more important for their preference for a hospital than an excellent reputation. For the subgroups: woman, Dinkelland, Oost—Achterhoek, university/college degree, >=55, the attribute access was significantly of influence for the preference for a hospital. An overview of absolute results of the subgroup analysis based on the respondent's characteristics can be found in Appendix III.

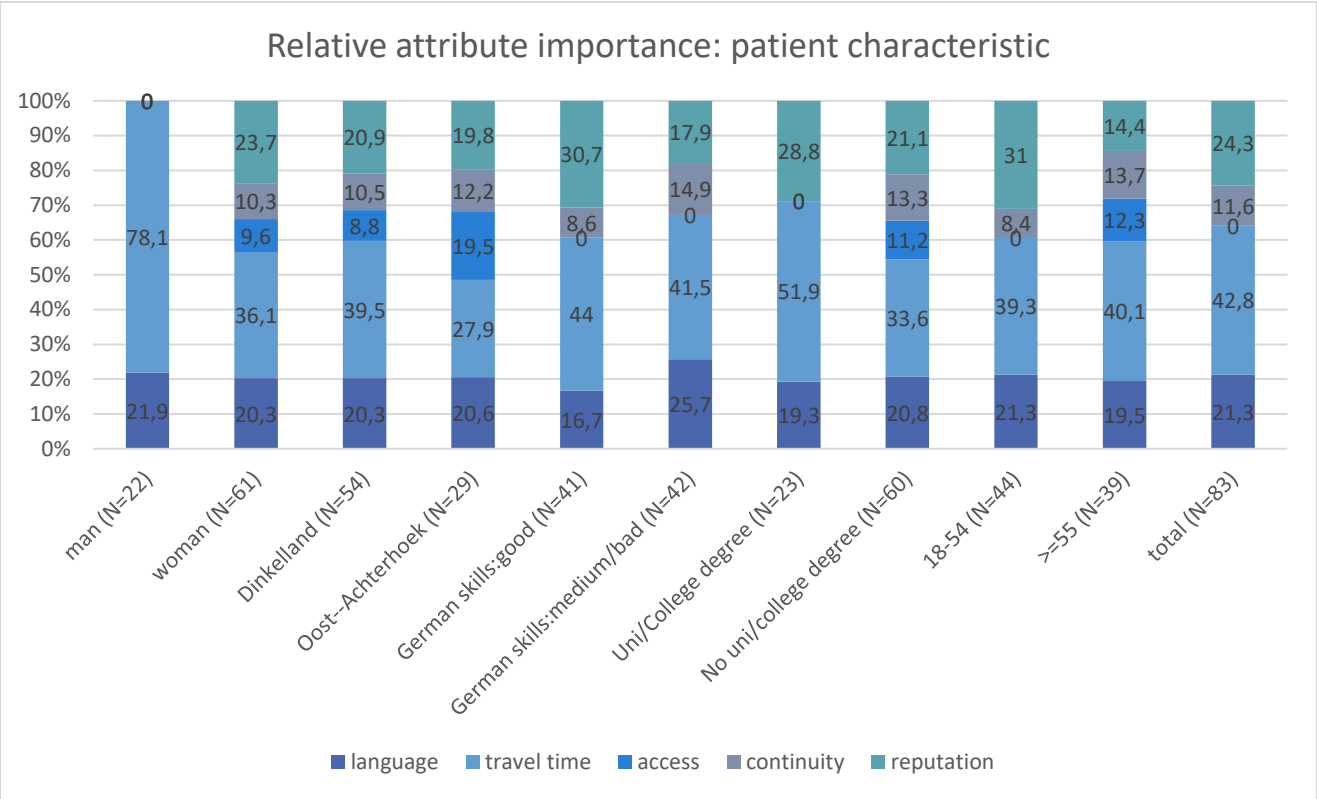

Figure 4: Relative attribute importance per subgroup of the patient characteristics

4.3 Perception

49 respondents (59%) thought that in case of an emergency the German hospital is the closest hospital. However, only 10,3% of the respondents from Oost—Achterhoek thought that the German hospital is closest to home. In Dinkelland, 85,2% thought that the German hospital is closer than the Dutch hospital, in case of emergency. Moreover, 51 respondents (61.4%) thought that in the German hospital one doctor or nurse can speak Dutch, and 13 respondents (15.7%) thought that no one at the German hospital can speak Dutch. 55 respondents (66.3%) believed that only the acute care takes place in a German hospital and the aftercare takes place in a Dutch hospital, when transferred to a German hospital. Most respondents (N=65; 78.3%) thought that the quality of care in a German hospital is good, 10 respondents (12%) thought it is excellent and 1 respondent (1.2%) thought the quality of care in a German hospital is insufficient.

The subgroups for this analysis were formed based on the respondents' perceptions of the German hospital. Figure 5 shows the relative attribute importance per subgroup. All subgroups value a short travel time to the hospital as the characteristic influencing the preference for a hospital the most, except for the subgroup that rates the care in the German hospital as excellent (N=10). This group valued an excellent reputation of the quality of care as the most important attribute influencing the preference for a hospital.

For the subgroup that rated the quality of care in the German hospital as sufficient (N=7) only the attribute travel time was statistically significant. Again, differences in the subgroup's preference for a hospital were found in the importance of the language the doctor and nurses speak and the reputation on the quality of care. In contrast to the analysis with all respondents, the subgroup of people thinking that the German hospital is closest (N=49) in case of an emergency significantly preferred a hospital with cheap parking and public transportation over a hospital with cheap parking but no public transportation. The group of people thinking that a Dutch hospital is closest (N=34) had a significant preference for a hospital with expensive parking spaces and no public transportation. An overview of results of the subgroup analyses based on the respondent's perception can be found in Appendix III.

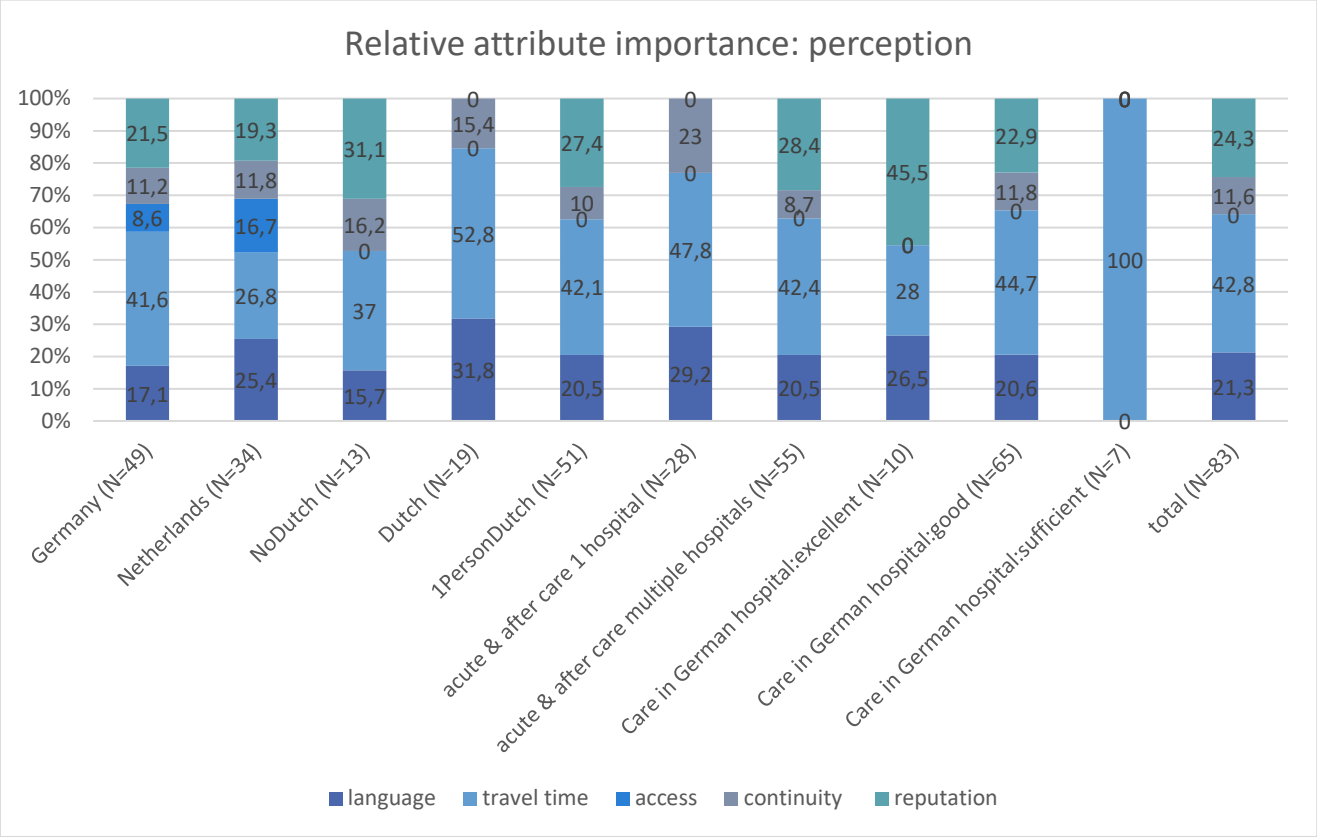

Figure 5: Relative attribute importance per subgroup of the patients' perceptions

5. Discussion

The preference for a hospital of potential Dutch patients from Dinkelland or Oost—Achterhoek in emergency situations is mostly influenced by the travel time to the hospital. A shorter travel time is preferred, independently of the patient's characteristics or the patient's perception of the German hospital. Hospital characteristics like the language the doctors and nurses speak, the continuity of care, and the hospitals reputation on quality of care were found to be less important for the preference for a hospital.

5.1 Hospital characteristic

Previous studies have found that for both elective and emergency patients the preference for a hospital is mostly affected by the travel time to the hospital (12,13). Similar results were found in this study, indicating that potential Dutch patients from Dinkelland or Oost—Achterhoek in emergencies value a short travel time higher than a treatment in their home country. Moreover, the findings in this study indicate that an excellent reputation on the quality of care is even more important for the preference for a hospital than being treated in the home country. This was expected, as a study by Pilny et al. (28) showed that for elective treatments a hospitals good reputation on quality leads people to travel greater distances and accept longer waiting times. Additionally, Funk (18) mentioned that patients often cross the border for healthcare when they perceive the quality of care as higher in the hospitals abroad. However, a fast treatment is preferred over a treatment with an excellent reputation in an emergency.

A treatment where acute and after care take place in the same hospital was preferred over a treatment where the acute and after care take place in different hospitals. This finding is in accordance to what was stated by Legido-Quigley et al. (23) who indicate that patients prefer a care pathway that assures continuity of care for elective treatment as well as for emergency situations. A reason for this might be that hospitalization leads to stress for the patients (34). When the patient then has to change the hospital for after care, this might lead to even more stress and is therefore undesired.

It was expected to find a preference for a hospital with a good accessibility (cheap parking and public transportation), so that friends and family would be able to visit the patient. However, the access to the hospital was not found to influence the preference for a hospital significantly. This finding might be due to the emergency that is simulated in this study by which access to the hospital becomes less important to the potential Dutch patients.

5.2 Patient characteristics

All subgroups valued travel time to the hospital as the most important attribute influencing their preference for a hospital. This finding is contradicting the results of a study from Varkevisser et al. (14) indicating that young people and people with a higher socio-economic status travel further for healthcare

and are more likely to not visit the closest hospital. A difference between the study from Varkevisser et al. (14) and this study is that they did not focus on emergency care but on elective treatments. With elective treatments a fast treatment is less important as the patients are not in a life-threatening situation. Thus, the patients can take more time to travel to a hospital. In emergencies, a fast start of the treatment is very important, which might lead to a different result in this study than in the study of Varkevisser et al. (14).

As expected, the potential Dutch patients that judged their own German language skills as good, valued Dutch speaking doctors and nurses as less important than potential Dutch patients stating they have medium or bad German language skills. Thus, when the patients themselves can speak the language of the caregivers, the caregivers' abilities to speak the patient's language become less important for the preference for a hospital. The potential Dutch patient with good German language skills would be able to communicate with the doctors and nurses even if the doctors and nurses cannot speak Dutch. In contrast, the potential Dutch patients that have medium or bad German language skills would have difficulties communicating with the doctors and nurses that cannot speak Dutch. Not being able to easily communicate with one's caregivers might lead to stress for the patients and therefore patients with medium or bad German language skills value Dutch speaking doctors and nurses as more important.

It was expected to find a difference in the patient preference for a hospital between potential Dutch patients from Dinkelland and Oost—Achterhoek, as more patients from Oost—Achterhoek are referred to the German hospital than patients from Dinkelland. However, the relative attribute importance showed similar results for both subgroups, meaning that the respondents' preferences for a hospital are influenced by the same attributes in both groups. The discrepancy in patients that are referred to the German hospital between Dinkelland and Oost—Achterhoek can therefore not be explained by differences in patient preferences for a hospital. One reason for the discrepancy might be that referrers in Oost—Achterhoek are more open towards referring patients to Germany than referrers in Dinkelland. Whether this is the case or what other possible reasons there are for referrers to send patients to Germany or the Netherlands should be investigated in further research.

Contradicting the analysis with all respondents, in the subgroup analyses, the attribute access to the hospital becomes of influence for some groups. What is unexpected with this attribute is that for some subgroups an access to the hospital with expensive parking spaces and public transportation is preferred over an access with cheap parking spaces and public transportation. No explanation for this could be found in the existing literature. However, it might be that the attribute was interpreted incorrectly by the respondents. It might be difficult for respondents to interpret the attribute as there are two ways of accessing the hospital, namely by car and by public transportation, combined in one attribute. This might have led to the unexpected result.

In general, the different groups in the subgroup analyses were all relatively small and thus the amount of data that is included in these analyses is limited. The results of the subgroup analyses should therefore be interpreted with caution.

5.3 Perception

The perception question showed that more than half of the respondents know that in case of an emergency, the German hospital is the closest. However, there is a huge discrepancy in the perception of the closest hospital between Oost—Achterhoek and Dinkelland. Respondents from Dinkelland in general knew that the German hospital is the closest. Respondents from Oost—Achterhoek however perceived the Dutch hospital to be closer, in case of emergency. A reason for this might be that in Oost—Achterhoek, in contrast to Dinkelland, the hospital SKB is located. This hospital is the closest for people from Oost—Achterhoek, however, the SKB cannot be visited in case of an AMI. Thus, patients from Oost—Achterhoek with an AMI have to go to MST in Enschede or St. Agnes Hospital in Bocholt for an appropriate treatment. It might be, that potential Dutch patients from Oost—Achterhoek think they can visit the SKB in case of AMI, so they perceive the Dutch hospital to be the closest in case of AMI.

As with the subgroup analyses of the patient characteristics, the subgroups in the analyses based on the different perceptions of the German hospital are rather small and results should therefore be treated with caution. For example, according to the findings of this study, the subgroup of respondents that rate the quality of care as sufficient based their preference for a hospital only on the attribute travel time. However, this group consisted of seven respondents only and therefore the validity of these results is questionable. What is noticeable, is that the subgroup of respondents that rate the quality of care in the German hospital as excellent valued an excellent reputation on the quality of care as the most important attribute. Nevertheless, this subgroup also consisted of only 13 respondents and the results of this analysis should be interpreted with caution.

For all other subgroups, travel time is the most important attribute in their preference for a hospital. Thus, the different perceptions of the German hospital do not influence the preference for a hospital with a short travel time.

5.4 Strength and limitations

In general, discrete choice experiment is stated to be a valid and reliable method to measure preferences (35). However, studies show that the data generated from DCE and its validity is strongly dependent on the choice of attributes and levels used (36). The outcomes are stated to be reliable when the true range of alternative levels are reflected in the DCE (36). To make sure that the attributes used in this study are of influence for potential Dutch patients, literature was reviewed, and a general practitioner from the border region, a chairman from a patient organization for cardiovascular diseases, and a policy

advisor from Acute Zorg Euregio were consulted. By interviewing these experts, the choice for attributes important for this study were validated, as they mentioned the same attributes to be of influence for a patient's preference for a hospital than what was found in the literature.

Even though literature and experts were consulted to find attributes that are of influence for the preference for a hospital, it might be that not all attributes which are of influence were included in the scenarios presented to the respondents. Most of the attributes included in the discrete choice experiment turned out to be of influence for the preference for a hospital. However, there might be more attributes that influence the respondent's preference. Further research should investigate whether other attributes might also influence the preference for a hospital.

Another limitation of this study is that the response rate is not equally distributed. Almost three times more women than men, and about two times more residents from Dinkelland than from Oost—Achterhoek filled in the questionnaire. According to Centraal Bureau voor de Statistiek (37) (Central Office for Statistics) there live as many men as women in Dinkelland and Oost—Achterhoek. Moreover, there live more people in the region Oost—Achterhoek than in the region Dinkelland (38). The study population is therefore not a realistic representation of the whole population living in the studied regions. When projecting the results to the larger population, this should be noted. Related to this is the limitation that more respondents from every subgroup would be needed in general as the subgroups were too small to give valid results on the subgroup analyses. If the research is repeated with a larger group of respondents, it might be possible to show differences in preferences for a hospital between the different subgroups.

5.5 Conclusion and recommendations

The aim of this research was to investigate whether potential Dutch patients of the German border region prefer to visit a German hospital that is closer to their homes than a Dutch hospital in case of stroke or AMI. Next to that, it was examined whether the preference for a hospital is different for patients with distinct characteristics and perceptions of the German hospital. The results of this study show that potential Dutch patients are willing to go to a German hospital close-by instead of a Dutch hospital further away in case of an emergency. Acute Zorg Euregio should therefore keep supporting the co-operation between Dutch and German healthcare facilities. After all, by means of the co-operations the distance to a hospital offering an appropriate treatment for AMI and stroke in Dinkelland and Oost—Achterhoek is reduced and potential Dutch patients value a short travel time as most important for their preference for a hospital. Next to that, Acute Zorg Euregio should share the results of this study with referrers in Dinkelland and Oost—Achterhoek. By doing so, the referrers are informed about the patient preferences for a hospital. Eventually, one argument to not refer Dutch patients to the German hospital was that referrers think that patients do not want to go to the German hospital. However, the results of this

research show the opposite. The results of this study can be taken into account when referrers have to refer patients with suspected stroke or AMI in the future. Moreover, Acute Zorg Euregio should do further research regarding the reasons referrers, like GPs, sent their patients to the Dutch hospital further away, instead of the Dutch hospital closer by. This could be done by interviews with referrers from Dinkelland and Oost—Achterhoek. This way the perceived barriers of GPs to refer a Dutch patient to a German hospital can be identified. Acute Zorg Euregio would then have the possibility to work on a solution to overcome these perceived barriers.

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Appendix I

Questionnaire 1:

Mijn naam is [redacted] en ik ben student Gezondheidswetenschappen aan de Universiteit Twente. In coöperatie met Bureau Acute Zorg Euregio doe ik onderzoek naar de voorkeuren voor een ziekenhuis bij mensen die vlakbij de Duitse grens wonen. Het doel van dit onderzoek is om te achterhalen welke kenmerken van een ziekenhuis de voorkeur voor het ene ziekenhuis boven het andere ziekenhuis beïnvloeden.
Het kost u slechts 15 minuten om deze vragenlijst in te vullen en uw reactie is anoniem. Uw antwoorden worden vertrouwelijk behandeld en worden alleen gebruikt voor dit onderzoek. Aan het begin wordt u gevraagd om toestemming te geven dat ik uw antwoorden mag verwerken in mijn onderzoek. Mocht uw mening daarover veranderen, dan mag u op elk moment stoppen met de vragenlijst. Aan het eind van de vragenlijst vindt u een link/flyer met verdere informatie over het onderwerp.
In deze vragenlijst wordt u 8 keer gevraagd te kiezen uit twee ziekenhuizen. U wordt gevraagd om u in te beelden dat het om een spoedgeval gaat. Een spoedgeval vereist dat de behandeling zo snel mogelijk plaatsvindt. U kiest dan per vraag het ziekenhuis dat bij spoed uw voorkeur heeft.

Als u vragen heeft over de vragenlijst, wilt u dan een e-mail sturen naar [redacted]
Ik stel uw deelname aan mijn onderzoek zeer op prijs.

- ○ Ik geef toestemming dat mijn antwoorden gebruikt mogen worden voor dit onderzoek

Waar woont u?

- ○ Lattrop
- ○ Tilligte
- ○ Denekamp
- ○ Winterswijk
- ○ Aalten
- ○ Anders, namelijk: _____

Wat is uw leeftijd?

_____

Wat is uw geslacht?

- ○ man
- ○ vrouw
- ○ anders

Wat is uw hoogste afgeronde opleiding?

- ○ WO
- ○ HBO
- ○ MBO
- ○ VWO
- ○ HAVO
- ○ VMBO
- ○ anders _____

Hoe zou u uw Duitse taalvaardigheden (Duits spreken, begrijpen en lezen) inschatten?

- ○ goed
- ○ matig
- ○ slecht
- ○ geen

Heeft u ooit een hartinfarct (hartaanval) of beroerte gehad?

- ○ ja
- ○ nee

Stelt u zich voor dat u zich erg slecht voelt en dat uw arts een acute aandoening, bijvoorbeeld een beroerte of hartinfarct, vermoedt. Het is een noodgeval waarvoor u onmiddellijk een behandeling in een ziekenhuis nodig hebt. Welk ziekenhuis heeft uw voorkeur?

Info: Met acute zorg (ook wel spoedzorg genoemd), wordt de behandeling bedoeld die een patiënt in een acute situatie krijgt. Met nazorg worden alle behandelingen in het ziekenhuis na de acute fase bedoeld.

Ziekenhuis 1	Ziekenhuis 2
Artsen en verpleegkundigen spreken geen Nederlands	Artsen en verpleegkundigen spreken Nederlands
25 minuten reistijd naar het ziekenhuis	35 minuten reistijd naar het ziekenhuis
Goedkope parkeerterreinen & met openbaar vervoer bereikbaar	Goedkope parkeerterreinen & niet met openbaar vervoer bereikbaar
Acute zorg en nazorg vinden in één ziekenhuis plaats	Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats
Anderen beoordelen de kwaliteit van het ziekenhuis als: uitmuntend	Anderen beoordelen de kwaliteit van het ziekenhuis als: goed
○	○

Stelt u zich voor dat u zich erg slecht voelt en dat uw arts een acute aandoening, bijvoorbeeld een beroerte of hartinfarct, vermoedt. Het is een noodgeval waarvoor u onmiddellijk een behandeling in een ziekenhuis nodig hebt. Welk ziekenhuis heeft uw voorkeur?

Ziekenhuis 1	Ziekenhuis 2
Eén arts/verpleegkundige spreekt Nederlands	Artsen en verpleegkundigen spreken geen Nederlands
10 minuten reistijd naar het ziekenhuis	25 minuten reistijd naar het ziekenhuis
Goedkope parkeerterreinen & niet met openbaar vervoer bereikbaar	Dure parkeerterreinen & met openbaar vervoer bereikbaar
Acute zorg en nazorg vinden in één ziekenhuis plaats	Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats
Anderen beoordelen de kwaliteit van het ziekenhuis als: uitmuntend	Anderen beoordelen de kwaliteit van het ziekenhuis als: goed
○	○

Stelt u zich voor dat u zich erg slecht voelt en dat uw arts een acute aandoening, bijvoorbeeld een beroerte of hartinfarct, vermoedt. Het is een noodgeval waarvoor u onmiddellijk een behandeling in een ziekenhuis nodig hebt. Welk ziekenhuis heeft uw voorkeur?

Ziekenhuis 1	Ziekenhuis 2
Artsen en verpleegkundigen spreken Nederlands	Eén arts/verpleegkundige spreekt Nederlands
35 minuten reistijd naar het ziekenhuis	10 minuten reistijd naar het ziekenhuis
Dure parkeerterreinen & niet met openbaar vervoer bereikbaar	Goedkope parkeerterreinen & met openbaar vervoer bereikbaar
Acute zorg en nazorg vinden in één ziekenhuis plaats	Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats
Anderen beoordelen de kwaliteit van het ziekenhuis als: uitmuntend	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: goed
○	○

Stelt u zich voor dat u zich erg slecht voelt en dat uw arts een acute aandoening, bijvoorbeeld een beroerte of hartinfarct, vermoedt. Het is een noodgeval waarvoor u onmiddellijk een behandeling in een ziekenhuis nodig hebt. Welk ziekenhuis heeft uw voorkeur?

Ziekenhuis 1	Ziekenhuis 2
Artsen en verpleegkundigen spreken geen Nederlands	Artsen en verpleegkundigen spreken Nederlands
35 minuten reistijd naar het ziekenhuis	10 minuten reistijd naar het ziekenhuis
Goedkope parkeerterreinen & met openbaar vervoer bereikbaar	Goedkope parkeerterreinen & niet met openbaar vervoer bereikbaar
Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats	Acute zorg en nazorg vinden in één ziekenhuis plaats
Anderen beoordelen de kwaliteit van het ziekenhuis als: uitmuntend	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: goed
○	○

Stelt u zich voor dat u zich erg slecht voelt en dat uw arts een acute aandoening, bijvoorbeeld een beroerte of hartinfarct, vermoedt. Het is een noodgeval waarvoor u onmiddellijk een behandeling in een ziekenhuis nodig hebt. Welk ziekenhuis heeft uw voorkeur?

Ziekenhuis 1	Ziekenhuis 2
Artsen en verpleegkundigen spreken Nederlands	Eén arts/verpleegkundige spreekt Nederlands
25 minuten reistijd naar het ziekenhuis	35 minuten reistijd naar het ziekenhuis
Dure parkeerterreinen & met openbaar vervoer bereikbaar	Dure parkeerterreinen & niet met openbaar vervoer bereikbaar
Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats	Acute zorg en nazorg vinden in één ziekenhuis plaats
Anderen beoordelen de kwaliteit van het ziekenhuis als: uitmuntend	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: goed
○	○

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Artsen en verpleegkundigen spreken Nederlands	Eén arts/verpleegkundige spreekt Nederlands
35 minuten reistijd naar het ziekenhuis	10 minuten reistijd naar het ziekenhuis
Goedkope parkeerterreinen & met openbaar vervoer bereikbaar	Goedkope parkeerterreinen & niet met openbaar vervoer bereikbaar
Acute zorg en nazorg vinden in één ziekenhuis plaats	Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats
Anderen beoordelen de kwaliteit van het ziekenhuis als: goed	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: voldoende
○	○

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Ziekenhuis 1	Ziekenhuis 2
Artsen en verpleegkundigen spreken geen Nederlands	Artsen en verpleegkundigen spreken Nederlands
10 minuten reistijd naar het ziekenhuis	25 minuten reistijd naar het ziekenhuis
Dure parkeerterreinen & met openbaar vervoer bereikbaar	Dure parkeerterreinen & niet met openbaar vervoer bereikbaar
Acute zorg en nazorg vinden in één ziekenhuis plaats	Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats
Anderen beoordelen de kwaliteit van het ziekenhuis als: goed	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: voldoende
○	○

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Ziekenhuis 1	Ziekenhuis 2
Eén arts/verpleegkundige spreekt Nederlands	Artsen en verpleegkundigen spreken geen Nederlands
35 minuten reistijd naar het ziekenhuis	10 minuten reistijd naar het ziekenhuis
Dure parkeerterreinen & met openbaar vervoer bereikbaar	Dure parkeerterreinen & niet met openbaar vervoer bereikbaar
Acute zorg en nazorg vinden in één ziekenhuis plaats	Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats
Anderen beoordelen de kwaliteit van het ziekenhuis als: goed	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: voldoende
○	○

Waar denkt u dat bij een spoedgeval voor u het snelst te bereiken ziekenhuis ligt?

- ○ Duitsland
- ○ Nederland

Ik denk dat artsen en verpleegkundigen in het snelst te bereiken Duitse ziekenhuis...

- ○ geen Nederlands kunnen spreken
- ○ Nederlands kunnen spreken
- ○ één arts/verpleegkundige Nederlands kan spreken

Denkt u dat als u voor een spoedgeval naar het snelst te bereiken Duitse ziekenhuis zou gaan, u de nazorg ook in dat ziekenhuis moet ontvangen?

- ○ Ja, de acute zorg (spoedzorg) en nazorg vinden in het Duitse ziekenhuis plaats
- ○ Nee, de acute zorg (spoedzorg) vindt in het Duitse ziekenhuis plaats. De nazorg vindt in een Nederlands ziekenhuis plaats.

Ik denk dat het snelst te bereiken Duitse ziekenhuis...

- ○ Goedkope parkeerterreinen heeft & met openbaar vervoer bereikbaar is
- ○ Goedkope parkeerterreinen heeft & niet met openbaar vervoer bereikbaar is
- ○ Dure parkeerterreinen heeft & met openbaar vervoer bereikbaar is
- ○ Dure parkeerterreinen heeft & niet met openbaar vervoer bereikbaar is

Ik denk dat de kwaliteit van zorg in het snelst te bereiken Duitse ziekenhuis...

- ○ uitmuntend is
- ○ goed is
- ○ voldoende is
- ○ onvoldoende is

Heeft u verder nog opmerkingen?

_____

Questionnaire 2:

Mijn naam is [redacted] en ik ben student Gezondheidswetenschappen aan de Universiteit Twente. In coöperatie met Bureau Acute Zorg Euregio doe ik onderzoek naar de voorkeuren voor een ziekenhuis bij mensen die vlakbij de Duitse grens wonen. Het doel van dit onderzoek is om te achterhalen welke kenmerken van een ziekenhuis de voorkeur voor het ene ziekenhuis boven het andere ziekenhuis beïnvloeden.
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Wat is uw hoogste afgeronde opleiding?

- ○ WO
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Heeft u ooit een hartinfarct (hartaanval) of beroerte gehad?

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- ○ nee

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Ziekenhuis 1	Ziekenhuis 2
Eén arts/verpleegkundige spreekt Nederlands	Artsen en verpleegkundigen spreken geen Nederlands
25 minuten reistijd naar het ziekenhuis	35 minuten reistijd naar het ziekenhuis
Goedkope parkeerterreinen & met openbaar vervoer bereikbaar	Goedkope parkeerterreinen & niet met openbaar vervoer bereikbaar
Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats	Acute zorg en nazorg vinden in één ziekenhuis plaats
Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: goed	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: voldoende
○	○

Stelt u zich voor dat u zich erg slecht voelt en dat uw arts een acute aandoening, bijvoorbeeld een beroerte of hartinfarct, vermoedt. Het is een noodgeval waarvoor u onmiddellijk een behandeling in een ziekenhuis nodig hebt. Welk ziekenhuis heeft uw voorkeur?

Ziekenhuis 1	Ziekenhuis 2
Artsen en verpleegkundigen spreken Nederlands	Eén arts/verpleegkundige spreekt Nederlands
25 minuten reistijd naar het ziekenhuis	35 minuten reistijd naar het ziekenhuis
Goedkope parkeerterreinen & niet met openbaar vervoer bereikbaar	Dure parkeerterreinen & met openbaar vervoer bereikbaar
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Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: goed	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: voldoende
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Stelt u zich voor dat u zich erg slecht voelt en dat uw arts een acute aandoening, bijvoorbeeld een beroerte of hartinfarct, vermoedt. Het is een noodgeval waarvoor u onmiddellijk een behandeling in een ziekenhuis nodig hebt. Welk ziekenhuis heeft uw voorkeur?

Ziekenhuis 1	Ziekenhuis 2
Artsen en verpleegkundigen spreken geen Nederlands	Artsen en verpleegkundigen spreken Nederlands
10 minuten reistijd naar het ziekenhuis	25 minuten reistijd naar het ziekenhuis
Dure parkeerterreinen & niet met openbaar vervoer bereikbaar	Goedkope parkeerterreinen & met openbaar vervoer bereikbaar
Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats	Acute zorg en nazorg vindt in één ziekenhuis plaats
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Ziekenhuis 1	Ziekenhuis 2
Artsen en verpleegkundigen spreken Nederlands	Eén arts/verpleegkundige spreekt Nederlands
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Acute zorg en nazorg vinden in één ziekenhuis plaats	Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats
Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: voldoende	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: uitmuntend
○	○

Stelt u zich voor dat u zich erg slecht voelt en dat uw arts een acute aandoening, bijvoorbeeld een beroerte of hartinfarct, vermoedt. Het is een noodgeval waarvoor u onmiddellijk een behandeling in een ziekenhuis nodig hebt. Welk ziekenhuis heeft uw voorkeur?

Ziekenhuis 1	Ziekenhuis 2
Eén arts/verpleegkundige spreekt Nederlands	Artsen en verpleegkundigen spreken Nederlands
25 minuten reistijd naar het ziekenhuis	35 minuten reistijd naar het ziekenhuis
Dure parkeerterreinen & met openbaar vervoer bereikbaar	Dure parkeerterreinen & niet met openbaar vervoer bereikbaar
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Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: voldoende	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: uitmuntend
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Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: voldoende	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: uitmuntend
○	○

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Acute zorg en nazorg vinden in verschillende ziekenhuizen plaats	Acute zorg en nazorg vinden in één ziekenhuis plaats
Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: voldoende	Anderen beoordelen de kwaliteit van de zorg in het ziekenhuis als: uitmuntend
○	○

Waar denkt u dat bij een spoedgeval voor u het snelst te bereiken ziekenhuis ligt?

○ Duitsland

○ Nederland

Ik denk dat artsen en verpleegkundigen in het snelst te bereiken Duitse ziekenhuis...

- ○ geen Nederlands kunnen spreken
- ○ Nederlands kunnen spreken
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Denkt u dat als u voor een spoedgeval naar het snelst te bereiken Duitse ziekenhuis zou gaan, u de nazorg ook in dat ziekenhuis moet ontvangen?

- ○ Ja, de acute zorg (spoedzorg) en nazorg vinden in het Duitse ziekenhuis plaats
- ○ Nee, de acute zorg (spoedzorg) vindt in het Duitse ziekenhuis plaats. De nazorg vindt in een Nederlands ziekenhuis plaats.

Ik denk dat het snelst te bereiken Duitse ziekenhuis...

- ○ Goedkope parkeerterreinen heeft & met openbaar vervoer bereikbaar is
- ○ Goedkope parkeerterreinen heeft & niet met openbaar vervoer bereikbaar is
- ○ Dure parkeerterreinen heeft & met openbaar vervoer bereikbaar is
- ○ Dure parkeerterreinen heeft & niet met openbaar vervoer bereikbaar is

Ik denk dat de kwaliteit van zorg in het snelst te bereiken Duitse ziekenhuis...

- ○ uitmuntend is
- ○ goed is
- ○ voldoende is
- ○ onvoldoende is

Heeft u verder nog opmerkingen?

_____

Appendix II

Attribute	Level	Include or not include?
Language	Doctors and nurses are not able to speak Dutch Doctors and nurses have a sufficient level of Dutch language skills One doctor/nurse with sufficient Dutch language skills as a contact person for the patient	Is mentioned in articles (23,24), came up in consultations of professionals, special for the situation as hospitals in Germany and the Netherlands are compared.
Travel time/proximity	10 minutes travel to hospital 15 minutes travel to hospital 25 minutes travel to hospital 35 minutes travel to hospital	Travel time is shown to be one of the most important factors when choosing a hospital (12). The closer the hospital, the higher the chances that people will visit that hospital. However, it is questionable whether people still chose the closest hospital when that hospital is across a border. Also other factors (e.g. reputation) seem to influence the importance of this factor, at least in elective treatment (28).
Access of the hospital	Cheap parking lots & bus connection Cheap parking lots & no bus connection Expensive parking lots & bus connection Expensive parking lots & no bus connection	How easy is it for the family and for friends to visit the patient → consultation of professionals
Continuity of care/aftercare	One caregiver (for treatment and aftercare) Multiple caregivers (different caregiver for treatment and aftercare; treatment in Germany and aftercare in the Netherlands)	In other studies (27) mentioned; having one doctor is preferred, however, when people get care in Germany the aftercare is done in the Netherlands. At least in the case Dinkelland-Nordhorn. In the case of AMI, there are multiple caregivers included anyways.
Location	Germany The Netherlands	Do people prefer a hospital in the Netherlands over a hospital in Germany? Is location of the hospital more important than other attributes or is the location not that important and people rate proximity or language higher?

		BUT: location is related to a lot of other attributes as for example proximity or the language the doctor speaks; Moreover, there are a lot of factors included in the factor "location", one would therefore find out whether they would prefer the Dutch or the German hospital but it would not become clear what underlying factors would influence the decision for a German or a Dutch hospital.
Quality of care	High quality, a lot of extra's Standard quality, no extra's Low quality, below the usual standards	The quality of care in the German and the Dutch hospitals is about the same. The policy advisor from Acute Zorg Euregio stated that the collaboration between the Dutch and the German hospital would not have been possible if the German hospitals did not fulfil the Dutch quality standards. However, it would be interesting to see whether the perception of quality of care from others influences the decision for a hospital.
Reputation (of the quality of care)	Other people's rating of the quality of the hospital: High Moderate poor	A positive reputation of a hospital leads people to travel greater distances for a hospital. Research show that people were even willing to choose a hospital with a good reputation over shorter travel time (28). These were findings for elective treatments. It would be interesting to see whether the reputation of a hospital is also of influence in this study (when one hospital is in the Netherlands and the other one in Germany) Interesting to see, as reputation seems to be more important than distance to some extent, whether that plays a role in the emergency situation as well. And also, whether potential Dutch patients have a positive or negative picture when thinking about care in Germany.
Waiting lists		This attribute is included in other studies (12,13), however they focused on elective treatment where the waiting times can differ extremely.

		Some hospitals have waiting times of a few days, a few weeks or even months. In consultation with the policy advisor from Acute Zorg Euregio came up that this attribute is not fitting for this study as the waiting times in acute situations/emergency situations differ strongly per day and daytime and cannot be predicted beforehand.
Information provision	Continuously giving relevant information about the treatment Rarely information about the treatment No information is provided	Victoor et al. (13) found that the regular provision of relevant information positively influences the decision for a hospital. However, not all attributes can be included in the study. Heelter et al (31) advise in a study that not more that 5-6 attributes should be included in a study. Otherwise the choices between which a respondent has to choose become too complex. It was concluded that this factor is not so much of influence for the cross-border situation in this study and can therefore be left out.
Size of the hospital	<100 hospital beds (small hospital) 100-500 hospital beds (medium hospital) >500 hospital beds (large hospital)	A review (13) of different studies showed that there are variations in the findings whether the size of a hospital matters for the patients choice. Some studies (39) argue that patients prefer larger hospitals, as the variety of services they offer often is greater. Other studies (13) however state that patients prefer low-volume hospitals or that the size of the hospital does not matter at all. In consultation with the policy advisor was this factor excluded from this study. Also, in regard that the different hospitals are of about the same size.
Hotel service	One-person bedroom Multiple-persons bedroom	Good service is a factor that positively influences the decision for a hospital. However, this is a perception of the respondent and has a lot of overlap with attribute reputation/quality of care.

Perception of the professional's qualification		Same as with hotel service, a good perception of the professional's qualification is positive for a decision of a hospital, but there is too much overlap with reputation.
Culture		There could be no literature found about the cultural differences between healthcare in Germany and the Netherlands. Moreover, studies (18,23) showed that there is a familiarity between residence that live close to a border. This is probably the same for residence from the German-Dutch border in this study. This leads to the conclusion that the culture between the German and Dutch residence similar.

Appendix III

Subgroup analysis based on patient characteristics:

Man (N=22)

	B	Sig.
Language		,042
Language(1)	,595	,036
Language(2)	,588	,039
Travel time	-,085	,000
Access		,915
Access(1)	,009	,979
Access(2)	-,308	,517
Access(3)	-,152	,681
Continuity	-,378	,107
Reputation		,019
Reputation(1)	,293	,385
Reputation(2)	-,518	,104

Woman (N=61)

	B	Sig.
Language		,000
Language(1)	1,181	,000
Language(2)	,671	,000
Traveltime	-,084	,000
Access		,001
Access(1)	-,301	,141
Access(2)	,560	,035
Access(3)	-,145	,473
Continuity	-,593	,000
Reputation		,000
Reputation(1)	-,484	,009
Reputation(2)	-1,379	,000

Dinkelland (N=54)

	B	Sig.
Language		,000
Language(1)	1,196	,000
Language(2)	,585	,003
Traveltime	-,093	,000

Access		,007
Access(1)	-,515	,025
Access(2)	,151	,588
Access(3)	-,290	,201
Continuity	-,618	,000
Reputation		,000
Reputation(1)	-,421	,032
Reputation(2)	-1,224	,000

Oost—Achterhoek (N=29)

	B	Sig.
Language		,000
Language(1)	1,094	,000
Language(2)	,830	,001
Traveltime	-,059	,000
Access		,098
Access(1)	,420	,170
Access(2)	1,033	,026
Access(3)	,148	,622
Continuity	-,649	,010
Reputation		,000
Reputation(1)	,377	,240
Reputation(2)	-1,052	,004

German: good (N=41)

	B	Sig.
Language		,001
Language(1)	,828	,000
Language(2)	,506	,015
Traveltime	-,087	,000
Access		,015
Access(1)	-,456	,070
Access(2)	,475	,152
Access(3)	-,047	,849
Continuity	-,423	,007
Reputation		,000
Reputation(1)	-,570	,016
Reputation(2)	-1,520	,000

German: mediocre (N=32)

	B	Sig.
Language		,000
Language(1)	1,396	,000
Language(2)	,863	,001
Traveltime	-,083	,000
Access		,162
Access(1)	,041	,882
Access(2)	,653	,065
Access(3)	,134	,660
Continuity	-,678	,000
Reputation		,001
Reputation(1)	-,181	,449
Reputation(2)	-,924	,001

German: bad (N=10)

	B	Sig.
Language		,886
Language(1)	,217	,989
Language(2)	9,060	,677
Traveltime	-,304	,720
Access		,970
Access(1)	-5,157	,839
Access(2)	-13,177	,801
Access(3)	-11,227	,710
Continuity	-5,678	,615
Reputation		,894
Reputation(1)	7,044	,795
Reputation(2)	-5,297	,794

German: Medium/bad (N=42)

	B	Sig.
Language		,000
Language(1)	1,313	,000

Language(2)	,772	,000
Traveltime	-,085	,000
Access		,142
Access(1)	,075	,763
Access(2)	,433	,173
Access(3)	-,097	,701
Continuity	-,764	,000
Reputation		,000
Reputation(1)	-,025	,909
Reputation(2)	-,919	,000

College/Uni degree (N=23)

	B	Sig.
Language		,012
Language(1)	1,078	,003
Language(2)	,473	,143
Traveltime	-,116	,000
Access		,277
Access(1)	-,244	,516
Access(2)	,425	,418
Access(3)	-,238	,531
Continuity	-,216	,355
Reputation		,000
Reputation(1)	-,741	,037
Reputation(2)	-1,611	,000

No college/uni degree (N=60)

	B	Sig.
Language		,000
Language(1)	1,098	,000
Language(2)	,702	,000
Traveltime	-,071	,000
Access		,011
Access(1)	-,155	,439
Access(2)	,519	,047
Access(3)	-,041	,837
Continuity	-,700	,000
Reputation		,000
Reputation(1)	-,082	,650
Reputation(2)	-1,113	,000

Age (18-54) (N=44)

	B	Sig.
Language		,000
Language(1)	1,082	,000
Language(2)	,599	,004
Traveltime	-,080	,000
Access		,190
Access(1)	-,049	,833
Access(2)	,149	,639
Access(3)	-,290	,221
Continuity	-,425	,006
Reputation		,000
Reputation(1)	-,702	,002
Reputation(2)	-1,574	,000

Age (=>55) (N=39)

	B	Sig.
Language		,000
Language(1)	1,119	,000
Language(2)	,689	,002
Traveltime	-,092	,000
Access		,010
Access(1)	-,318	,241
Access(2)	,708	,040
Access(3)	,113	,678
Continuity	-,788	,000
Reputation		,000
Reputation(1)	,215	,353
Reputation(2)	-,826	,002

Subgroup analysis based on patient's perception:

Duitsland:

	B	Sig.
Language		,000
Language(1)	,973	,000
Language(2)	,437	,031
Traveltime	-,095	,000
Access		,002
Access(1)	-,488	,042
Access(2)	,232	,438
Access(3)	-,365	,124
Continuity	-,642	,000
Reputation		,000
Reputation(1)	-,512	,016
Reputation(2)	-1,225	,000

Nederland:

	B	Sig.
Language		,000
Language(1)	1,330	,000
Language(2)	,924	,000
Traveltime	-,056	,000
Access		,128
Access(1)	,308	,278
Access(2)	,875	,025
Access(3)	,216	,427
Continuity	-,613	,004
Reputation		,000
Reputation(1)	,403	,143
Reputation(2)	-1,012	,001

No Dutch:

	B	Sig.
Language		,071
Language(1)	,964	,022
Language(2)	,585	,151
Traveltime	-,091	,000
Access		,203
Access(1)	,155	,752
Access(2)	,707	,275
Access(3)	-,334	,467
Continuity	-,995	,007
Reputation		,000
Reputation(1)	-,007	,986
Reputation(2)	-1,908	,000

Dutch:

	B	Sig.
Language		,001
Language(1)	1,281	,000
Language(2)	,545	,075
Traveltime	-,085	,000
Access		,351
Access(1)	-,522	,186
Access(2)	,070	,883
Access(3)	-,218	,573
Continuity	-,622	,013
Reputation		,018
Reputation(1)	,502	,128
Reputation(2)	-,312	,379

1 person Dutch:

	B	Sig.
Language		,000
Language(1)	1,037	,000
Language(2)	,673	,000
Traveltime	-,085	,000
Access		,047
Access(1)	-,160	,461
Access(2)	,533	,068
Access(3)	-,001	,996
Continuity	-,503	,001
Reputation		,000

Reputation(1)	-,615	,003
Reputation(2)	-1,385	,000

1 hospital

	B	Sig.
Language		,001
Language(1)	,905	,000
Language(2)	,603	,011
Traveltime	-,059	,000
Access		,172
Access(1)	-,299	,290
Access(2)	,369	,297
Access(3)	-,011	,970
Continuity	-,709	,000
Reputation		,006
Reputation(1)	,287	,239
Reputation(2)	-,444	,102

Multiple hospital:

	B	Sig.
Language		,000
Language(1)	1,243	,000
Language(2)	,661	,001
Traveltime	-,103	,000
Access		,020
Access(1)	-,104	,649
Access(2)	,569	,073
Access(3)	-,126	,560
Continuity	-,527	,001
Reputation		,000
Reputation(1)	-,691	,002
Reputation(2)	-1,721	,000

Excellent:

	B	Sig.
Language		,079
Language(1)	,992	,024
Language(2)	,604	,187
Traveltime	-,042	,022
Access		,937
Access(1)	,096	,833
Access(2)	,310	,617
Access(3)	,039	,943
Continuity	-,397	,161
Reputation		,004
Reputation(1)	-1,010	,016
Reputation(2)	-1,707	,001

Good:

	B	Sig.
Language		,000
Language(1)	1,050	,000
Language(2)	,647	,000
Traveltime	-,091	,000
Access		,017
Access(1)	-,183	,368
Access(2)	,471	,073
Access(3)	-,044	,826
Continuity	-,599	,000
Reputation		,000
Reputation(1)	-,150	,407
Reputation(2)	-1,161	,000

Sufficient:

	B	Sig.
Language		,284
Language(1)	,792	,165
Language(2)	,614	,259
Traveltime	-,102	,003
Access		,323
Access(1)	-,367	,583
Access(2)	-,549	,578
Access(3)	-1,048	,116
Continuity	-,587	,227
Reputation		,373
Reputation(1)	-,492	,506
Reputation(2)	-1,003	,187