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When healthcare facilities move away; a qualitative study on personal experiences in Noard-East Fryslân.

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Abstract

Regional healthcare is a continuously relevant topic and has been a popular subject of discussion in the Netherlands for the past decades. Though the importance of healthcare is assured, its availability is not always a given. When we study healthcare availability, we can see rural regions struggling with this. Healthcare is a costly sector, and as such requires a constant and substantial inflow of patients to exist. This study aims to measure the experiences of rural inhabitants in their interactions with regional healthcare. To aid in the measuring of these experiences, the following research question is proposed: What are the experiences of inhabitants of Noard-East Fryslân when healthcare facilities move further away? The role of health literacy, and perceived accessibility is discussed in this context. For this research, the case of regional hospital De Sionsberg, located in the north-eastern part of Dutch province Fryslân is studied. The hospital, which was declared bankrupt in 2014, reopened its doors with limited services to offer, being dependent on services from colleague hospitals in Leeuwarden (Fryslân), Drachten (Fryslân) and Groningen (Groningen). Nine local inhabitants of the municipality of Noard-East Fryslân were approached through accessibility and snowball sampling. They were interviewed in this qualitative study and asked about their experiences with this new medical centre. Collected data was analysed through directed deductive coding. Both the importance of health literacy, as well as the implications of this loss of medical facilities for said health literacy are discussed in this context. Results show resilient and proud sentiments, though shortcomings are recognised by the inhabitants. The lack of facilities such as an Emergency Room and rooms equipped for complex surgeries is commonly highlighted. Improvements could be made according to the rural inhabitants, for whom travel distances are often long. This study tried to answer the question: “What are the experiences of inhabitants of Noard-East Fryslân when healthcare facilities move further away?”. Important themes that were identified include: personal experiences, place attachment, accessibility, and health literacy. The importance and need of regional healthcare are recognized, shortcomings were shared, and many inhabitants would like to see further improvements in this sector. Though a realistic and content general view of the health facilities was voiced. As a recommendation for future research comparisons could be made between this case and regions in the Netherlands where healthcare facilities have entirely disappeared. For a broader, general view on the population, a quantitative study could give further insights.

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Introduction

Background

Accessibility to healthcare is a crucial need and human right in a civilized society. This need is of equal importance for rural areas as for urban regions. Unfortunately, rural areas often pull the short straw when reorganization takes place in the health sector and facilities are centralised as a result (Van den Berg et al., 2019). The healthcare sector is costly and should always aim to adhere to the highest possible standards to provide adequate healthcare. Particularly individuals with reduced mobility should be studied in these situations, as they are commonly the ones most likely to be negatively affected by decline in regional health-services. Healthcare has been a hot topic under great pressure for many years in the Netherlands, as greatly felt by policymakers and healthcare workers (CBS, 2022). Governmental budget cuts and consistent staff shortages greatly limit possibilities for a socio-economically healthy system on both a national and regional level. These constraints are not limited to problems regarding physical health but can be identified in mental health domain as well. Decisions on restructuring of the health sector by policymakers and administrators are commonly made based on economic calculations and focus on attaining financial efficiency (Muennig & Bounthavong, 2016). The provision of hospitals is costly and requires adequate support base. When regions experience an ageing population, which requires more medical care, or a decline in population, problems may arise in the health sector. Many rural regional hospitals face dilemmas due to shortcomings in finances as well as manpower (Altena, 2023; Boer, 2021). Oftentimes followed by the disappearance of crucial health services such as 24/7 emergency rooms (Nicolai, 2020) and operating rooms. These constraints may have large impacts on local inhabitants and their ability to remain in good health. The intricacy and multi-dimensionality of healthcare is further explored in research by Oates & Jensen (2000). Healthcare is a cooperative matter, not provided by a single institution but made up of a vast network containing many specialists, institutions, or other professional groups.

Research Problem

As regional healthcare is put under pressure by budgetary cuts and an increasingly demanding population in the Netherlands, research on this topic is more relevant than ever. With a large share of its population living in rural areas, Fryslân is an interesting region to study. Patient-healthcare service interactions often take place on the interpersonal level. The role of cultural identity and place attachment (Jorgenson & Geropanta, 2021) can be interesting to study in this context. Due to a strong cultural sentiment in the province and the usage of a nationally acknowledged language (Frysk) cultural identity is commonly identified among this population. As such, conducting this research can help in improving the understanding of geographical barriers in this context as well as the impact of cultural identity on these interactions. This raises the following question: How do inhabitants of Noard-East Fryslân perceive this reduction in healthcare facilities, using the concept of health literacy. This study tries to identify in what ways inhabitants of Noard-East Fryslân, a largely rural municipality in the northern Netherlands, experience the decline of healthcare services in their local community. The case of regional hospital De Sionsberg in Dokkum is used to study these experiences.

Hospital "De Sionsberg"

As described in "*De Sionsberg - Monument van geloof, hoop en liefde*" (Wijnsma, 2006) Regional hospital "De Sionsberg" was founded in 1956, funded entirely through the funding of individuals and local religious communities. In 50 years of time de Sionsberg has grown out

to a household name in the province. An overarching medical care group foundation was founded in 2006, Pasana Care B.V. At this moment in time, Pasana Care oversaw many medical facilities in the region such as De Sionsberg (Dokkum), De Waadwente (Dokkum), Talma Hûs (Feanwâlden), De Skûle (Mitselwier), Spiker (Ternaard), Dongeraheem (Dokkum), Talma Hoeve (Feanwâlden) and De Stelp (Amelân). After several attempts at regaining financial stability, including a fusion with colleague hospital Nij Smellinghe (Elsen, 2012), Pasana went bankrupt in 2014. The bankruptcy of regional hospital De Sionsberg caused distress and concern among local inhabitants, though proposals regarding the hospital's revival were met with negative response from health insurer 'De Friesland' - which had been the hospital's main subsidizer. Local action group 'Red de Sionsberg' (translated: Save the Sionsberg) was the main instigator of continuous initiatives advocating for the revitalizing of the hospital. (RTV-NOF, 2012,2012,2014,2016). The possibility for an emergency room service remains an important discussion topic to this day. The importance of possibly lifesaving emergency care is high, though requires permanent presence of medical staff – day and night. This raises the question whether a regional healthcare facility in a peripheral region such as Noard-East Fryslân can justify the upkeep of a dedicated emergency room.

The new Sionsberg

In January of 2015, De Sionsberg was restarted in a partnership between the independent treatment centers Cardiologie Centra Nederland (CCN), DC Klinieken, and a 3rd party addition of ZuidOost Zorg Drachten. ZuidOost Zorg left the cooperation in 2016. (ZuidOostZorg, 2016). In this new medical centre several important specialisms are provided, though essential hospital care such as an advanced emergency room or Intensive Care unit are still missing. The centre fulfils an outpatient clinical function for the largest part and provides mainly primary- and (in the case of cardiology-) secondary care. This means diagnostic consultations and 'low complexity' surgical interventions can take place, though for advanced surgical interventions patients will still have to be redirected toward MCL, Nij Smellinghe or UMCG. As this is limiting, it can also be seen as characteristic of De Sionsberg's cooperative nature, as many services are provided through collaborations with other regional healthcare providers. Cleverly iterated by the stylization of its name (see appendix A). 'Ons' is the Dutch translation of the pronoun 'us'. De Sionsberg wants to reiterate the importance of cooperation and the feeling of community which was strongly shown by local inhabitants both at its founding as well as when its future was put under pressure. The latest addition to its care offer is a care pension for rehabilitating patients. (In-Dokkum, 2021) Care is short-term and provided by external practitioners, such as physiotherapists, dietitians and pharmacists that are connected to nearby regional institutions and organizations. Due to vast usage and positive experiences, this pension was expanded from 16, to 30 beds in 2023.

Contextual Factors

It could be of importance to consider the municipality's growing share of touristic activity (FSP, 2020). Peripheral regions such as Noard-East Fryslân and its surroundings are popular destinations for cultural and nature-oriented tourist activity (Provincie Fryslân, 2019). The Wadden region and its islands are popular holiday destinations and for many holiday areas and accommodations the Sionsberg is the closest hospital facility, with less than 20 minutes travel time. Holidaymakers can suffer all sorts of injuries that require acute emergency care (Ezza et al., 2019) and alternatives such as UMCG in the neighbouring province of Groningen or Nij Smellinghe in Drachten would result in at least double the travel time. When looking at

the geographic distribution of medical centres within the province, De Sionsberg takes a crucial spot for the peripheral areas in Fryslân. (See Appendix B)

Theoretical Framework and Conceptual Model

Regional healthcare is a broadly studied topic. Centralisation is a commonly applied tool when regional healthcare services experience financial difficulties or staff shortages. This process might however have negative consequences for rural inhabitants and should be studied. Healthcare is a two-way street where two factors are key. Outward facilitating from hospitals and governments, as well as an educational role toward the population, on the one hand and the respective health literacy of individuals to understand and act upon knowledge and available facilities on the other. Access to nearby specialists is instrumental to avoiding misinformation and providing adequate and fit advice to the public. It should be noted that financial constraints have direct effects on the regional hospitals' offer in medical care, however, can also cause secondary effects between the patient and the hospital staff. Strong (2017) identified financial crises to be related to a negative effect on the quality of social interaction between patients and staff on the interpersonal level. This is problematic as these social interactions are of importance to feelings of safety and competence a hospital should aim to provide.

Modern healthcare and its advanced techniques require an enormous database of patient information and a constant cross-sector flow of information. Specialised expertise is utilized to provide the best possible health resources to in- and outpatients. The need for efficient regional information networks is growing though this comes with costs and should be smoothly operatable (Bruun-Rasmussen et al., 1999). The growing importance of the digital dimension as an environment in our healthcare system is undeniable and should be studied. The usage of a virtual network can play a role in the improved exchange of information between health facilitators and patients. (Erku et al., 2023) Additionally, it can influence patients' health literacy due to a more easily accessible database of medical information. Simultaneously, this access to medical knowledge can hamper health literacy through the means of medical misinformation or pseudo-sciences (Yeung et al., 2022; Teplinsky et al., 2022; Skafle et al., 2022). It is therefore crucial that medical information is always fact-checked and requires official approval before it can function as a proper database for individuals to consult.

What should also be considered in this context is the digital literacy of individuals. The digital dimension opens a lot of possibilities but in return requires the patient to possess the required know-how on operating in digital environments. This competence also relates to the individual's ability to distinguish between proper information and misinformation. Verkerke (2017) argues that a digital network can positively impact regional healthcare networks. This is particularly important for outpatients, who are living independently in their respective residential areas. Verkerke focuses on elderly and psychiatric patients, this group of people is increasingly living independently, in need of residential care. In the Netherlands, this causes an increase in workload for GP's and home care nurses. This situation can benefit from an optimized inter-professional communication and collaboration network.

Levin-Zamir et al. (2017) make an important contribution in stating that community and culture play a large role in health literacy. Individual cultural differences and environmental factors come to prevalence when studying healthcare optimization. These contextual factors should be taken into consideration. Cultural values and feelings of belonging influence

interactions with healthcare services. Particularly in this part of the Netherlands, Fryslân, cultural sentiments are felt strongly, and should thus be taken into consideration when discussing social topics such as healthcare. As studied by García-Izquierdo & Montalt (2022), cultural traits such as a mother tongue can play a role in the patient-professional interaction.

To further understand the factors that affect regional healthcare experiences in Noard-East Fryslân, the following conceptual model is proposed. (see fig. 1)

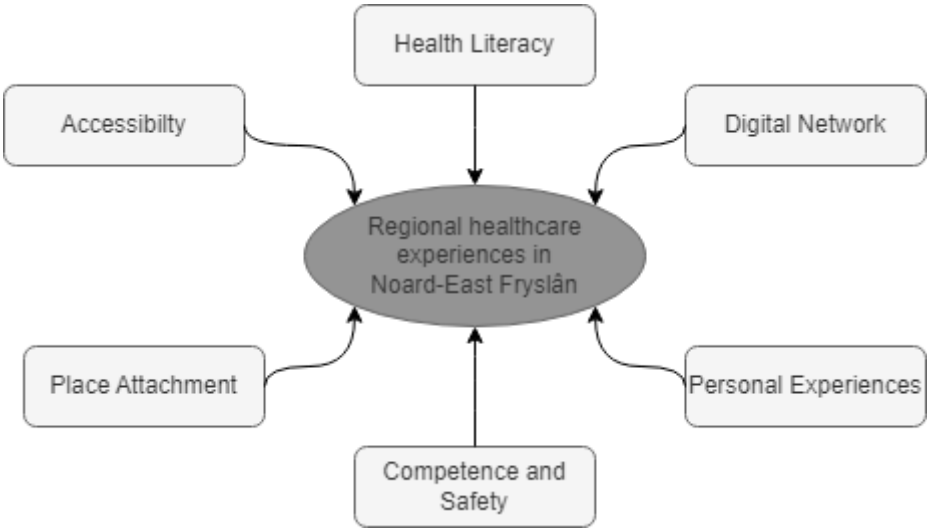


Figure 1: Conceptual Model

Regional healthcare is influenced by several important factors. Health literacy, as defined by Nutbeam (2000) identifies three ‘types’ of health literacy. The first type, functional, deals with the basic skills required to function in daily situations. The second, interactive, focuses on slightly more complex topics where both basic skills as well as communicative skills are required. And the appliance to different circumstances of said skills. The third and final type, critical, revolves around cognitive skills which are used to analyse and use information to control health over longer periods in life. All aspects of HL can be applied to different processes within the regional healthcare system. When looking into the inter-personal relationship between patient and hospital staff, interactive literacy plays a large role.

In the modern healthcare environment, digital networks play a role on both the personal level as well as the regional information networks between hospitals. The digital information network and its functional purposes within regional healthcare should be studied in the context of digital- and media literacy. Lack of individual digital literacy can obstruct the functionality of a regional digital network (Hailemariam et al., 2023; Madanian et al., 2023).

Additionally, upbringing and personal experiences can play a role in these experiences. (John, 1992) Parents can have impactful roles in children’s attitude toward healthcare. (Shishkova & Pervichko, 2020). Within the environments of healthcare facilities, possessing over relevant knowledge can aid people in navigating these processes. This knowledge might be gathered through personal study on the topic, or from having had personal experiences and interactions in the past.

Familiarity and feelings of safety can positively influence these interactions and as a result affect the experiences of patients with healthcare services. Feelings of safety are of high importance in healthcare, patients must feel safe and in competent hands, which is largely dependent on the expert knowledge of hospital staff as well as personal preferences of patients. (Mollon, 2014) Similarly, familiarity might give patients a feeling of safety, while

possibly also speaking to individuals on a higher, overarching, community level. Particularly in the interaction between patient and professional a familiar language, such as Frysk, can aid in a positive experience (García-Izquierdo & Montalt (2022)

Perceptions of place attachment to physical and cultural environments and values that are tied into cultural characteristics of individuals might influence a person's interactions with healthcare facilities. Place attachment, and the meaningful bonds with environments this encompasses (Jorgensen & Geropanta, 2021) and the emotional bond between person and place can be viewed in the context of healthcare (Rudzinski et al., 2023) The moving away of healthcare facilities directly relates to a change of physical environment. Navigating within our own environments can relate to positive experiences, while unfamiliar contexts can cause discomfort or anxiety.

Accessibility of healthcare can be viewed from two perspectives. Personal mobility, from the internal perspective, relates to an individual's ability to move around and interact with said healthcare services. Externally, infrastructure and transport services can aid in improving the accessibility of individuals. Particularly in rural areas, where travel distances are commonly longer, the concept of accessibility is of high importance and can be identified as a problem in the experiences with healthcare. (Franco et al., 2021)

Methodology

Design

For this research, primary data was collected through the conducting of semi-structured in-depth interviews with individuals currently living in the municipality of Noard-East Fryslân. A total of 9 individuals were interviewed in a semi-structured manner. Interviews were conducted in the time-period between week 42 and week 46 of 2023. In combination with a literature review, the collected information about these individuals' experiences is analysed.

Participant recruitment and sampling

Individuals who are living in Noard-East Fryslân were asked questions regarding their experiences with regional healthcare services in their area, in this instance De Sionsberg and other institutions or hospitals related to De Sionsberg. The author of this research, and conductor of the interviews, has personally lived in this municipality and thus used his personal social network to reach an initial group of possible participants (accessibility sampling) (Clifford et al., 2010). Participants were asked to consider subsequent participants in their own social networks, thus creating a 'snowball effect'. (Robinson, 2014) The criteria for participation in this research were being an adult (18+ years of age) living in Noard-East Fryslân and having had experience(s) with regional healthcare provided by medical centre De Sionsberg. Selection of interviewees for this research was done through a combination of accessibility- and snowball sampling. Participants were not selected on traits such as health condition or identified gender, but at convenience or reference by participants.

Data Collection

The interviews were held at a location in accordance with the interviewee's preferences. Some interviews were conducted in person at participants' homes if they preferred this location. Others have been done via internet or via a phone call. Interviews were led by an interview guide (See Appendix C) constructed by the author, though participants were invited and stimulated to also autonomously tell their personal experiences and bring up subjects

they deemed relevant. The interview guide has been constructed in accordance with the topics discussed in the conceptual model. In this manner, participants were invited to talk about each relevant topic. All interviews have been audio-recorded and subsequently transcribed. All interviewees were made aware of this and have agreed to the recording of these conversations for research purposes.

Data Analysis

Obtained data was analysed with a deductive coding tree based on concepts introduced in the proposed conceptual framework. (See Appendix D) Using a directed coding approach, established theories and previous academic findings were used as guidance for initial codes. (Hsieh & Shannon, 2005) These codes were applied to identify relevant viewpoints of interviewees. One inductive code was found – wait times, which will be discussed in the results section. The coding of interviews was done using the software '*ATLAS.ti*'.

Ethical Considerations

Three out of nine interviews were conducted entirely in Frysk, the commonly spoken native tongue in this province. The author and conductor of the interviews is fluent in this language and chose to let interviewees speak in their personally preferred language. Interviewees should be given the freedom of speaking in their own native language as this will allow them to speak more freely and at ease. Subsequent ethical considerations include the anonymity of participants, as well as the transparency in usage of the collected data.

To ensure informed consent, all necessary information for participation in the research was provided prior to the conducting of the interviews. A consent form (See Appendix E) has been handed out and no interviews have taken place without written consent from both parties involved (interviewer and interviewee). Transparency: before, as well as after the interviews, participants were invited to ask any questions they have concerning the purpose and process of the research. Contact information of the researcher was provided to each participant. Additionally, all participants were made aware of their freedom to drop out of the research at any time, without obligation to provide a reason for this.

Anonymity: Individuals that are interviewed are anonymised and their names are not mentioned in the research. All interview recordings and their transcriptions are stored on an external hard drive for the duration of the research. Collected data is used solely for the purpose of this study. When the research is completed, this data will be deleted.

Positionality: Participants in this study were not Due to the person-to-person style of the used sampling strategy, the author recognizes the informal positionality with some of the participants.

Data Quality

The author tried to obtain a varied age distribution in their sample group (See Appendix F)**.** This was done to avoid a strong age-bias in the sample group because of convenience sampling, when participants are assembled through personal social networks. The author recognises that the usage of convenience and snowball sampling might have a negative impact on the quality of the collected data.

Results

Participant Characteristics

The interviews showed that five of the interviewees have had experiences as a patient with specialised healthcare in the past 10 years (2013-2023). Four individuals have not personally required any specialised healthcare but do have experiences with this as the close relative of a patient. In two cases this was a partner, in two other cases the interviewee was a child of a patient. Further characteristics can be found in Table 1. Themes include: Available expertise, familiarity, personal experiences, place attachment, personal mobility, infrastructure, digital networks

	Age	*Place of Residence*	*Native language*	*Recruitment*
Participant 1	27	Dokkum	Frysk	Personal network
Participant 2	60	Hiaure	Frysk	Reference
Participant 3	62	Dokkum	Dutch	Personal network
Participant 4	72	Hiaure	Frysk	Reference
Participant 5	67	Dokkum	Frysk	Reference
Participant 6	23	Dokkum	Frysk	Personal network
Participant 7	93	Dokkum	Frysk	Personal network
Participant 8	47	Holwerd	Frysk	Reference
Participant 9	50	Holwerd	Dutch	Reference

Table 1: Participant characteristics

The interviews for this study were structured according to a topic list, and thematically analysed. As such, the results from these interviews will be discussed according to these interview topics. Additional topics in this section are alternative service-seeking and wait times.

Available expertise

Several interviewees mentioned the absence of certain specialised care as troublesome for their personal experience and perceptions of sufficiently available healthcare. One person mentioned the availability of gynaecology as an important and crucial specialism for their personal experience in De Sionsberg.

"For example the Gynaecologist, which is is still available here in Dokkum, that is very pleasant to know. I have not had to go there yet, but to know it is very closebey is very nice."

- Interviewee, 27

The absence of an Emergency Room (ER) was mentioned by all interviewees as a problem with their accessibility to healthcare. Though not a fully operational ER is present, De Sionsberg makes use of a rather unique emergency care system. All emergency care is provided by specialized nurses. (Sionsberg, 2022) This is different from the traditional ER in which care is provided by doctors. Unfortunately, both these services are not available on a 24/7 basis, but only during dedicated hours. This was mentioned by all interviewees as a limiting factor and high-priority deficit in the healthcare services currently provided. Minor surgical interventions can be performed, though for high-complexity care, which is often required for emergency cases, people would still need to travel to MCL or Nij Smellinghe. One

interviewee, however, made an interesting statement regarding the positive aspects of centralised healthcare services in larger hospitals such as Leeuwarden or Drachten.

"I think that it is good that the basic services are still here, and that specialised care is provided somewhere else. The idea behind that is that most specialised medical professionals don't work in a tiny hospital like Sionsberg. So, in this sense a bigger hospital, in which more consultation and contact between professionals exists, can be an advantage."

- Interviewee, 60

Personal experiences and place attachment

Aside from gynaecology, the importance of birthing possibilities in De Sionsberg was highlighted by four of the interviewees. One interviewee stated this as a concern for their future, knowing they would not have the possibility of a home-birth due to the distance to the nearest hospital. Three other people mentioned this in relation to their memories of their own children, as well as other family members, having been born in De Sionsberg. These people linked these happy events and historical moments in their lives to the hospital and were saddened that this would no longer be possible. This was an interesting point as it indicates a secondary function of the hospital, strongly connected to place attachment.

"With the births of the children, it all happened there. That's quite a shame for the people. I remember vividly when our youngest daughter was born in the middle of the night – we could drive there in 10 minutes. Those were all very fun and happy events, it was beautiful for everyone."

- Interviewee, 72

These answers highlight the importance of personal experiences and history in the context of healthcare. The feelings of safety and familiarity that are built over time can aid in fulfilling a secondary function of hospitals. Not only does the hospital function as a healthcare facility, but the hospital as a location can also become intertwined with certain experiences and gain emotional value to individuals. The possibility of giving birth and subsequent maternity care in a nearby and familiar environment appears to be a relevant and important topic for many women.

Familiarity

Generally, familiarity with the environment when interacting with healthcare facilities was seen as a positive factor, though could also lead to uncomfortable situations when meeting familiar faces as medical staff in hospitals. In this sense, when visiting the hospital for personal – and possibly embarrassing – problems, familiarity can attribute to a negative experience.

Personal Mobility and Infrastructure

All participants described themselves as mobile, including the oldest person in the sample group, whom is 93 years of age. This person can still independently drive her car and lives less than a 100m from the De Sionsberg. Due to these reasons, the participant deems themselves mobile. This participant does have difficulty with walking and requires a walking cane. This interviewee, as well as another interviewee, aged 72, stated to avoid driving long distances due to traffic being too busy in the larger and more urban areas. This however did not lead them to entirely dismiss traveling to farther locations such as MCL, Nij Smellinghe or Groningen. As a solution for their mobility problem, they would ask friends or family to either

drive them or accompany them on the journey. Similarly, the 2 individuals who did not have access to personal transport such as a car did not experience this to be a major hurdle in their access to healthcare. Lack of public transport options were often mentioned as a problem for reaching medical care, though. Healthcare facilities are perceived as easily accessible with personal transport modes such as cars or bicycles, transport services for less-mobile inhabitants of Noard-East Fryslân are available, though could be improved upon. Taxi service "Jobinder" was mentioned by an interviewee, this is a widely used service in region, positive user experiences were measured (Significant Synergy, 2021) though mostly negative reviews can be found online where issues such as a perceived lack of available chauffeurs and unfriendly customer service are commonly stated shortcomings.

Digital network

The question whether digital alternatives for traditional consults with GPs or specialists could be a realistic alternative in the future received mixed responses. Certain participants stated to be open for this and were sometimes already making use of such services. Others were more sceptical toward the effectivity of a digital conversation with a professional and preferred an in-person meeting. Scepsis toward digital consult is not surprising and has been identified in previous studies. The availability and usage of digital medical files for personal information was generally perceived as positive. Seven interviewees made use of this information, and all saw this as a positive addition to their experience of healthcare, further improvement of the service was suggested. Three of the participants stated to commonly use a (mobile-) phone to have consults with healthcare professionals. The use of telecommunication for healthcare consults can have divergent effects on the quality of healthcare. Haimi (2023) describes how telemedicine can help to reach patients which would normally be obstructed by geographical barriers. The COVID-19 pandemic stimulated the application of telecommunication in the healthcare sector. Contrarily, limitations in its capability to serve vulnerable groups such as homeless people or individuals with limited language skills are also identified. This can potentially exacerbate health inequities. The usage of regional information networks between De Sionsberg and other hospitals was positively experienced because of the close cooperation between these different parties in the current construction in which the new restarted Sionsberg operates. Many of the participants indicated to have made use of a digital medical file, such as MijnMCL or MijnUMCG. Experiences were mostly positive. Shortcomings that were mentioned included issues with accessing the data for one participant and a lack of information about the patient's disease itself, as shown in the quote below.

"Following my surgery in MCL and UMCG, I made use of the digital patient file both times. The file only shows practical information about visits and medication. I could not find substantive information about my condition and its trajectory. This would be a useful addition for me."

- *Interviewee, 62*

Alternative service-seeking

The absence of healthcare facilities in the regional centre did not appear to lead to individuals reaching out to alternatives such as private clinics or online databases. Websites such as '*thuisarts.nl*' were named by three participants as a source of medical information. Digital databases such as this did however never function as a complete replacement for the traditional consult, the advice given by a GP or specialist was regarded as leading, with additional personal research functioning as auxiliary reference work. One participant stated to

entirely avoid ‘desk-research’ concerning medical problems, they believed it did not add substantial informative knowledge and opened the door to misinformation, which is in line with previous findings (Yeung et al., 2022; Teplinsky et al., 2022; Skafle et al., 2022). It should be noted that in the present-day Sionsberg medical centre, cooperation exists between both the public as well as private sector**.** Thus, private services may exist within the region, though are not experienced as such by the participants.

Frisian Language

Seven participants identified the Frysian language as a positive and comforting factor in their experience with healthcare providers, though this was not of crucial importance for any of their experiences with healthcare professionals. Only one interviewee was not a native Frisian and spoke Frysk as a second language. The interactions and culture in Dokkum and Drachten were being experienced significantly more Frisian than Leeuwarden. One participant stated they felt like doctors would not speak Frysk even though they were able to because it would make them less professional.

“Mostly, it just feels weird to speak Dutch in a consult with someone who can also speak Frysk. If you’re both Frisian. Sometimes I feel like doctors feel ‘above’ speaking Frysk. As if they feel like it makes them look dumber.”

- Interviewee, 27

However, two participants also specifically stated that the language was not important to them and reiterated the importance of thoughtful personal contact and empathy from medical professionals.

“Well yes, I do like when a doctor speaks Frysk. But if they don’t that’s also fine. And what I always think; it’s really dependant on how a person acts. If they speak English it’s mostly how do they treat you – the language is important, but at the same time it’s not. A Frisian doctor can also be harsh and unfriendly, <u>how</u> does one use the language?”

- Interviewee, 67

Place attachment and Personal Experiences

When relating this to participants’ attachment to the region they are living in, there was not a clear general feeling. Apart from 2 participants, all interviewees stated to feel connected to their environment in some way, either the physical or cultural environment. Four individuals specifically stated feeling a positive connection to their neighbourhood or the population of Noard-East Fryslân in general. Though they attached strong value to the culture of the Frisian people – they did not voice any negative experiences or feelings toward healthcare providers when these were not Frisian. Personal upbringing can play a role in individuals’ interactions with healthcare in later life. All participants in this research stated that they had not been to the doctor or other specialistic care often as a child. A common reason given for this was the “Frisian mentality” of parents. Visiting a GP or specialist was only done when strictly necessary.

"My parents were also not fond of the doctors, it would have to be something serious, otherwise you wouldn't just go there. That's just kind of 'part of us'."

- Interviewee, 72

"We [Frisians] are quite prone to be rather harsh on ourselves. That's just in us, but that's just how you've been brought up."

- Interviewee, 67

In addition to upbringing, personal experiences with healthcare plays a role in the experiences of individuals. One participant is studying in the field of sports science and physiotherapy, another older interviewee has had extensive professional experience in the field of informal care in their life. These personal experiences greatly aided these people in their ability to understand medical information as well as the ability to act upon this knowledge when taking care of themselves or others.

Health Literacy

Many of the participants indicated a strong competence in the different levels of health literacy. For one interviewee, extensive knowledge in the field of sports sciences and physiotherapy positively influenced their ability to remain in good personal health over longer periods of time. Similarly, experience in the field of informal care greatly benefits another participant in functional, as well as the interactive literacy. Three participants made comments about the importance of being assertive and always asking questions when interacting with healthcare professionals.

"But it also has to do with how talkative you are. There's also a lot of people that aren't talkative and they don't let the doctors know their thoughts or concerns"

"*Also beforehand, before you have the consult with your doctor, you should read up on the subjects. Write it all down. And it's like that with everything. If you want to learn something, you should think about it and write everything down. And people always find that really interesting, if you have actively prepared. If you can ask good questions, they are eager to enlighten and explain."*

- Interviewee, 72

In particular this interviewee displays a strong and critical interest in receiving proper and informed medical advice. In this example, the interviewee displays important characteristics of interactive literacy and a general sense of personal responsibility toward personal health. As studied in earlier works an important factor in interactive health literacy is a critical and curious mindset. Healthcare is a two-way street and requires effort from both the healthcare provider and receiver. The interviews gave limited insights into the extent of functional literacy among participants, the participants did however show numerous positive aspects of interactive and critical literacy.

Wait times

Wait times were mentioned by four participants. This topic was not included in the model and subsequent interview guide, though showed to be an important factor in participants' experiences with healthcare. Shorter wait times at De Sionsberg could be explained by the

designated consult hours with specialists from the hospitals in Leeuwarden, Drachten and Groningen. And as such are more of a consequence than a cause in this situation.

Summarizing: The lack of an ER as well as high-complexity surgical possibilities were the most distinctly mentioned and highly valued missing facilities in De Sionsberg. The availability of consults with specialists, which is currently a service of De Sionsberg was highly valued and positively experienced, though drawbacks of this were highlighted. The questions regarding digital consultation alternatives were met with mixed opinions. When healthcare facilities were unavailable in the regional medical centre, this rarely led to individuals reaching out to alternative facilities as a replacement such as online databases or private clinics.

Discussion

Reflection

This research tried to answer the question: How do inhabitants of Noard-East Fryslân perceive a reduction in healthcare facilities when these move farther away? Important themes that were discussed in this study included place attachment, feelings of safety within healthcare facilities, personal experiences and upbringing, and personal mobility. The role of cultural norms and values, as well as the use of mother tongue in the context of healthcare services appeared to be a relevant factor for the participants in this sample, this is in line with the findings of Levin-Zamir et al. (2017) and García-Izquierdo & Montalt (2022) Participants in this research have shown clear characteristics of interactive and critical health literacy as defined by Nutbeam (2000), though little can be concluded about functional health literacy skills. Familiarity within healthcare facilities attributed, as predicted by the theories of Mollon (2014), to a positive experience in most cases, however, could also cause discomfort.

Conceptual model

Results appear to be in line with the proposed conceptual model, all concepts were mentioned by interviewees as relevant factors. One inductive code was found – wait times – this could be implemented in an adjusted model under the concept of accessibility.

Strengths and Limitations

The topic of mobility showed a very strong direction in responses, all individuals who were interviewed in this research perceived themselves as mobile. This could be a limitation in the study and might be a result of sample bias. Though this might also relate to the usage of self-perception for the topic of mobility, leading individuals to rate themselves inaccurately. A strength in this study was the ability to use Frysk in the interviews. As stated before, the ability for participants to converse in their mother tongue can have positive effects on the quality of answers provided by interviewees.

Recommendations

To gain a more broad and generalizable view of the population, it would be useful to conduct further research on a broader sample size on this topic. Additionally, this study made use of personally perceived mobility, in future studies, perhaps an external judgment of mobility could be employed. It could be interesting to compare the case of De Sionsberg to other regions in the Netherlands where no restart was made and healthcare facilities have entirely moved away, such as in Harlingen (Fryslân) or Delfzijl (Groningen). Lastly, future research could be

done on the role of cultural norms and values as a tool or hurdle in the context of healthcare services.

Conclusion

This study tried to identify the experiences of inhabitants of Noard-East Fryslân. With a decline in healthcare facilities, this municipality has become more dependent on further lying facilities. The medical centre Sionsberg makes use of collaborative networking with smaller and larger medical parties. Consultation with specialists is possible in the medical centre, as well as low-complexity surgical interventions. Participants are appreciative of the facilities that have been brought back and value the existence of De Sionsberg as both a functional medical facility, as well as that of a cultural landmark and beacon of personal- and communal history. Personal mobility plays a large role in the ability to deal with the decline in healthcare facilities. They did not experience the further travel distance to hospitals as a significant hurdle denying them access to healthcare. The available services are appreciated though shortcomings are recognized.

References

Altena, S., (2023) *Personeelstekort zorgsector in Groningen, Drenthe en Friesland groeit dit jaar naar Bijna 6000 Mensen. Veel Moet Anders, maar wat werkt en wat niet?*, Dagblad van het Noorden, Available at: https://dvhn.nl/groningen/Op-weg-naar-een-infarct-in-de-zorg-28525722.html

Berg van den, N., Radicke, F., Stentzel, U., Hoffmann, W., & Flessa, S. (2019). *Economic efficiency versus accessibility: Planning of the hospital landscape in rural regions using a linear model on the example of paediatric and obstetric wards in the northeast of Germany*. BMC Health Services Research, 19(1).

Boer, R. (2021) *Het personeelstekort in de Friese zorg groeit, en er is ook een gebrek aan stageplaatsen voor de zorgopleidingen.*, Friesch Dagblad, Available at: https://frieschdagblad.nl/regio/Groeiend-personeelstekort-in-de-Friese-zorg-maar-ook-een-gebrek-aan-stageplaatsen-voor-de-zorgopleidingen-27132490.html

Bruun-Rasmussen M, Bernstein K, Vari S, Bercic B. (1999) *Regional health care networks.* Stud Health Technol Inform. 1999;68:265-9. PMID: 10724885.

CBS, (2022) *'Werkdruk en arbeidstevredenheid in de zorg'*., Available at: https://www.cbs.nl/nl-nl/longread/statistische-trends/2022/werkdruk-en-arbeidstevredenheid-in-de-zorg

Clifford, N.J., French, S., Valentine, G. (2010) *Key methods in geography*. London: SAGE.

Elsen, W. van den (2012) *Fusie Sionsberg en Nij Smellinghe definitief Van start*, *Zorgvisie*. Available at: https://www.zorgvisie.nl/fusie-sionsberg-en-nij-smellinghe-definitief-van-start-zvs014822w/ (Accessed: 14 November 2023).

Erku, D., Khatri, R., Endalamaw, A., Wolka, E., Nigatu, F., Zwewdie, A. & Assefa, Y. (2023). 'Digital health interventions to improve access to and quality of Primary Health Care Services: A scoping review', *International Journal of Environmental Research and Public Health*, 20(19), p. 6854. doi:10.3390/ijerph20196854.

Ezza, A., Marinò, L. and Giovanelli, L. (2019) *Assessing the impact of tourism on Hospitals' performance in a coastal destination*, *Munich Personal RePEc Archive*. Available at: https://mpra.ub.uni-muenchen.de/id/eprint/93999 (Accessed: 05 December 2023).

Franco C.M., Lima J.G., Giovanella L., (2021), Primary healthcare in rural areas: *access, organization, and health workforce in an integrative literature review.* Cad Saude Publica., 37(7):e00310520. English. doi: 10.1590/0102-311X00310520. PMID: 34259752.

Fries Sociaal Planbureau (FSP) (2020), *Toerisme In Fryslân.* Leeuwarden. Available at: https://www.planbureaufryslan.nl/wp-content/uploads/2020/02/FSP2020_publicatie_toerisme_in_FRL-DEF.pdf

García-Izquierdo, I. and Montalt, V. (2022) *'Cultural competence and the role of the patient's mother tongue: An exploratory study of health professionals' perceptions'*, *Societies*, 12(2), p. 53. doi:10.3390/soc12020053.

Hailemariam, T. *et al.* (2023) 'Individual and contextual level enablers and barriers determining electronic community health information system implementation in northwest Ethiopia', *BMC Health Services Research*, 23(1). doi:10.1186/s12913-023-09629-8.

Haimi, M. (2023) 'The tragic paradoxical effect of telemedicine on healthcare disparities- a time for redemption: A narrative review', *BMC Medical Informatics and Decision Making*, 23(1). doi:10.1186/s12911-023-02194-4.

In-Dokkum (2021), *Zorgpension Dokkum in Sionsberg klaar voor herstelzorg,* 15-02-2021, Available at: https://www.in-dokkum.nl/content/zorgpension-dokkum-in-sionsberg-klaar-voor-herstelzorg/

John J. *Patient satisfaction: the impact of past experience*. J Health Care Mark. 1992 Sep;12(3):56-64. PMID: 10120535.

Jorgenson, S. and Geropanta, V. (2021) 'Place attachment theories: a spatial approach to smart health and healing', in *Artificial Intelligence and big data analytics for smart healthcare.* pp. 47–63, London, United Kingdom ; San Diego, CA: Academic Press, an imprint of Elsevier.

Levin-Zamir, D., Leung, A.Y.M., Dodson, S., Rowlands, G. (2017). *Health literacy in selected populations: Individuals, families, and communities from the international and cultural perspective*. Information Services & Use 37, 131–151.

Madanian, S., Nakarada-Kordic, I., Reay, S. & Chetty, T. (2023) 'Patients' perspectives on digital health tools', *PEC Innovation*, 2, p. 100171. doi:10.1016/j.pecinn.2023.100171.

Mollon, D. (2014). *Feeling safe during an inpatient hospitalization: a concept analysis*. Journal of Advanced Nursing, 70(8), 1727–1737. doi:10.1111/jan.12348

Muennig, P. & Bounthavong, M., (2016) *Cost-effectiveness analysis in health: a practical approach.* New York: John Wiley & Sons.

Nicolai, I. (2020) *Experts Maken Zich Zorgen over Het Verdwijnen van de Spoedeisende Hulp, NPO Radio 1*. Available at: https://www.nporadio1.nl/nieuws/onderzoek/4bac16e9-a993-426b-ad2f-d0587e107e86/experts-maken-zich-zorgen-over-het-verdwijnen-van-de-spoedeisende-hulp (Accessed: 06 October 2023).

Nutbeam, D. (2000). *Health literacy as a public health goal: A challenge for contemporary health education and communication strategies in the 21st century*. Health Promotion International, 15(3), 259-267.

Oates, J. & Jensen, H.B.. (2000). *Building regional health care networks in Europe*. 67. 1-240. 10.3233/978-1-60750-911-0-i.

Provincie Fryslân (2019). *Staat van Fryslân. Recreatie en toerisme.* Leeuwarden: Provincie Fryslân.

Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative research in psychology*, *11*(1), 25-41.

Rudzinski, K., King, K., Guta, A., Carusone, S.C., Strike, C., (2023) *"And if my goal is never to leave Casey House?": The significance of place attachment for patients at a specialty HIV hospital in Toronto, Canada*, Health & Place, Volume 83, 103100, ISSN 1353-8292, https://doi.org/10.1016/j.healthplace.2023.103100.

RTV-NOF Nieuws, (2012), *Namens Actiegroep 'red de Sionsberg': Wakker Worden!* Available at: https://www.rtvnof.nl/namens-actiegroep-red-de-sionsberg-wakker-worden/129779/ (Accessed: 08 December 2023).

RTV-NOF Nieuws, (2012), *Oproep 'Red De Sionsberg' om geboortezorg goed te regelen,* Available at: https://www.rtvnof.nl/oproep-red-de-sionsberg-om-geboortezorg-goed-te-regelen/134989/ (Accessed: 08 December 2023)

RTV-NOF Nieuws, (2014), *Red De Sionsberg weer in actie*, Available at: https://www.rtvnof.nl/red-de-sionsberg-weer-actie/181767/ (Accessed: 08 December 2023)

RTV-NOF Nieuws, (2016), *Actiegroep Red De Sionsberg start publieksactie*, Available at: https://www.rtvnof.nl/de-actiegroep-red-de-sionsberg-start-publieksactie-in-hal-sionsberg/309092/ (Accessed: 08 December 2023)

Shishkova, I.M. & Pervichko, E.I. (2020). The Impact of Family on Children's Attitude toward Health. Psychology in Russia: State of the Art, 13(1), 147-160.

Significant Synergy, (2021). *Evaluatie Jobinder*. Mobiliteitsbureau Noordoost-Fryslân. Available at: https://www.fryslan.frl/_flysystem/media/evaluatie-jobinder.pdf

Skafle I, Nordahl-Hansen A, Quintana DS, Wynn R, Gabarron E., (2022) *Misinformation About COVID-19 Vaccines on Social Media: Rapid Review.* J Med Internet Res., doi: 10.2196/37367. PMID: 35816685; PMCID: PMC9359307.

Strong, A. E. (2017). *Working in scarcity: Effects on social interactions and biomedical care in a Tanzanian hospital*. Social Science & Medicine, 187, 217–224.

Teplinsky E, Ponce SB, Drake EK, Garcia AM, Loeb S, van Londen GJ, Teoh D, Thompson M, Schapira L., (2022) *Collaboration for Outcomes using Social Media in Oncology (COSMO). Online Medical Misinformation in Cancer: Distinguishing Fact From Fiction.* JCO Oncol Pract. ;18(8):584-589. doi: 10.1200/OP.21.00764. Epub 2022 Mar 31. PMID: 35357887; PMCID: PMC9377685.

Verkerke, M.B. (2016) *Creating a regional healthcare network: People first,* IOS Press Ebooks. Available at: https://ebooks.iospress.nl/publication/44585

Wijnsma, A.J. (2006) *De Sionsberg - monument van geloof, hoop en liefde*. Dokkum, Netherlands: Stichting Christelijke Zorginstellingen Talma Sionsberg.

Yeung AWK, Tosevska A, Klager E, Eibensteiner F, Tsagkaris C, Parvanov ED, Nawaz FA, Völkl-Kernstock S, Schaden E, Kletecka-Pulker M, Willschke H, Atanasov AG. (2022) *Medical and Health-Related Misinformation on Social Media: Bibliometric Study of the Scientific Literature*. J Med Internet Res. 25;24(1):e28152. doi: 10.2196/28152. PMID: 34951864; PMCID: PMC8793917.

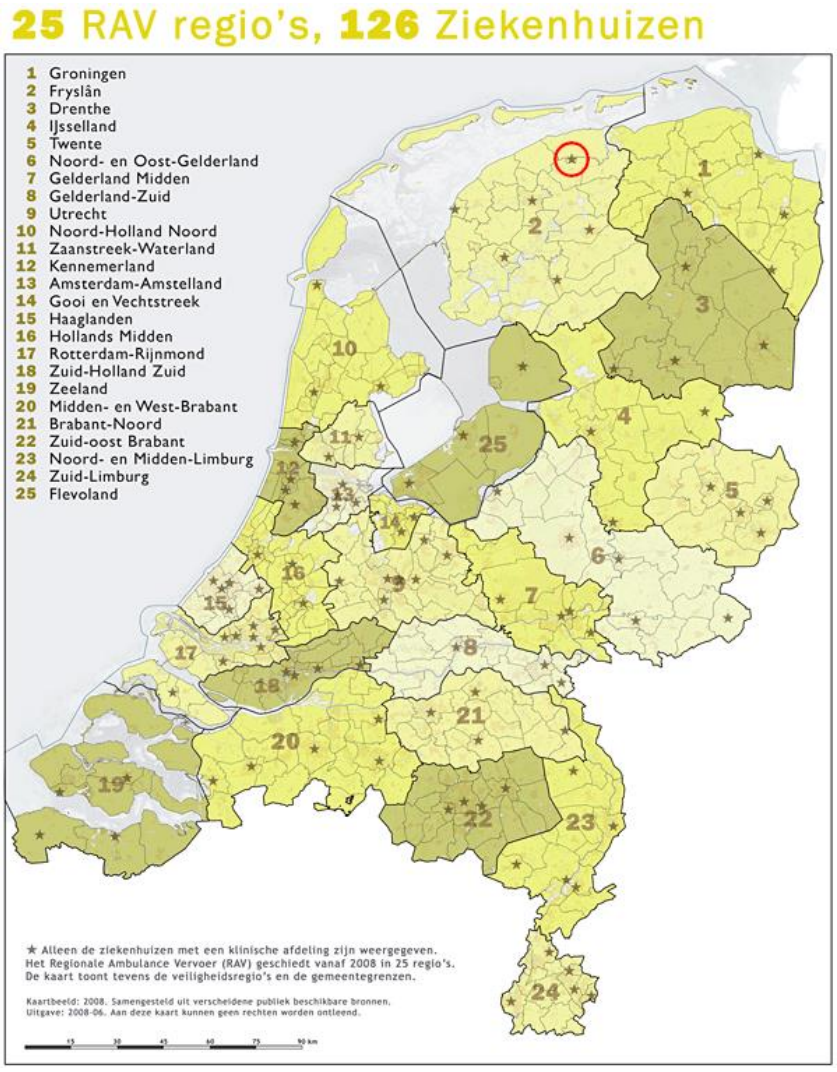
Sionsberg, (2022), *Sionsberg in Dokkum levert al langer spoedzorg zonder standaard spoedeisende hulp*, Available at: https://www.sionsbergnetwerkziekenhuis.nl/nieuws/sionsberg-in-dokkum-levert-al-langer-spoedzorg-zonder-standaard-spoedeisende-hulp/

'ZuidOostZorg trekt zich terug uit Sionsberg. ' (2016) *in-dokkum.nl* [Preprint]. 28 Nov 2016. Available at: https://www.in-dokkum.nl/wp-content/uploads/2016/11/20161129-PERSBERICHT-ZuidOostZorg-vertrekt-uit-Sionsberg.docx (Accessed: 08 December 2023).

Appendices

Appendix A
Stylized Sionsberg logo as it is used on official websites, documents and buildings.
(source: Sionsberg.nl)

Appendix B
Map displaying distribution of hospitals in the Netherlands. De Sionsberg is circled in red.
(source: Van Aalst (2008), via Wikipedia)



Appendix C
Interview Guide

Deel 1: Algemene informatie
- Wat is uw leeftijd?
- Waar bent u momenteel woonachtig? *(plaatsnaam is genoeg)*

Deel 2: Regionale gezondheidsservices
- Hebt u in de afgelopen jaren (laten we zeggen 2013-2023) gespecialiseerde ziekenhuisdiensten nodig gehad? *(Dwz anders dan een bloedprik of een huisarts bezoek.)*

Het huidig medisch centrum Sionsberg is in de afgelopen jaren afgeslankt als ziekenhuis: het heeft geen operatiekamers en IC afdeling meer, maar biedt nog wel spreekuren met diverse medisch specialisten, diagnosetechnieken (hartfilmpjes, rontgenfoto's, bloedprikken) en biedt de mogelijkheid van niet-complexe directe medische behandeling (gipsverband leggen bv).
- Hoe hebt u het mogelijke verlies van De Sionsberg ervaren, toen de toekomst van het ziekenhuis na faillissement een paar jaar onzeker was?
- Hebt u nu, in het huidige medisch centrum Sionsberg, toegang tot genoeg medische specialisten?
    - Wordt u door huisartsen of specialisten in De Sionsberg vaak doorgestuurd naar grotere ziekenhuizen in Leeuwarden, Drachten of Groningen?
        - Meer of minder dan voorheen?
    - Wanneer uw huisarts u adviseert om naar een specialist te gaan en dit betekent dat u naar Leeuwarden, Drachten of Groningen zal moeten gaan. Heeft dit dan invloed op uw besluit om dat advies op te volgen?
- Ontbreekt er op dit moment in de regio Noard-East Fryslân medische zorg die volgens u wel noodzakelijk is voor de regionale inwoners?
- Wanneer medische zorg niet aanwezig was, heeft dit ertoe geleid dat u alternatieven hiervoor bent gaan zoeken? Bijv;
  - Ziekenhuizen verder weg in bv. Drachten, Leeuwarden of Groningen.
  - Via privéklinieken en specialisten.
  - Digitale gezondheidsservices via internet.
- Is digitale gezondheidszorg volgens u een goed alternatief voor het traditionele gesprek met medisch specialisten? En kan dit ook voor huisartsenhulp?
    - Kan het digitale spreekuur en advies via beeldscherm in de toekomst een mogelijke vervanging zijn van het persoonlijke gesprek met de arts of specialist volgens u?
- Als u patient bent geweest in een ziekenhuis, hebt u gebruik gemaakt van een digitaal patientdossier? Bv MijnMCL of MijnUMCG.
    - Vond u of zou u dit een zinvolle aanvulling (vinden) op uw medische zorg?

Deel 3: Contextuele factoren
- Voelt u zich hecht verbonden met de plaats of regio waar u momenteel woont? (*Dit kan zijn verbondenheid met mensen, de fysieke omgeving of misschien de "cultuur". Of mogelijk simpelweg omdat u al uw hele leven op deze plek gewoond heeft.)*
    - Hecht u waarde aan een vertrouwd contact met een huisarts of medisch specialist die u persoonlijk kent? Heeft deze verbondenheid effect op uw vertrouwen in de arts of zorgverlener?
    - Vindt u het belangrijk dat een behandelend arts of specialist Frysk verstaat?

- In hoeverre is persoonlijke mobiliteit een beperkende factor voor uw toegankelijkheid tot gezondheidszorg?

- Ervaart u fysieke beperkingen, of zijn er praktische of financiele redenen waardoor uw mobiliteit beperkt is?
    - *Wellicht hebt u geen auto of rijbewijs of rijdt er geen goed aansluitend openbaar vervoer.*
- Zijn alle gezondheidszorgvoorzieningen, zoals huisartsen, specialisten of chirurgen volgens u voldoende toegankelijk voor iedereen in uw regio?
- Hoe ervaart u de mogelijkheden die worden aangeboden voor thuiszorg en consulten aan huis vanuit de Sionsberg?
    - Is dit veranderd sinds de nieuwe indeling van de Sionsberg?

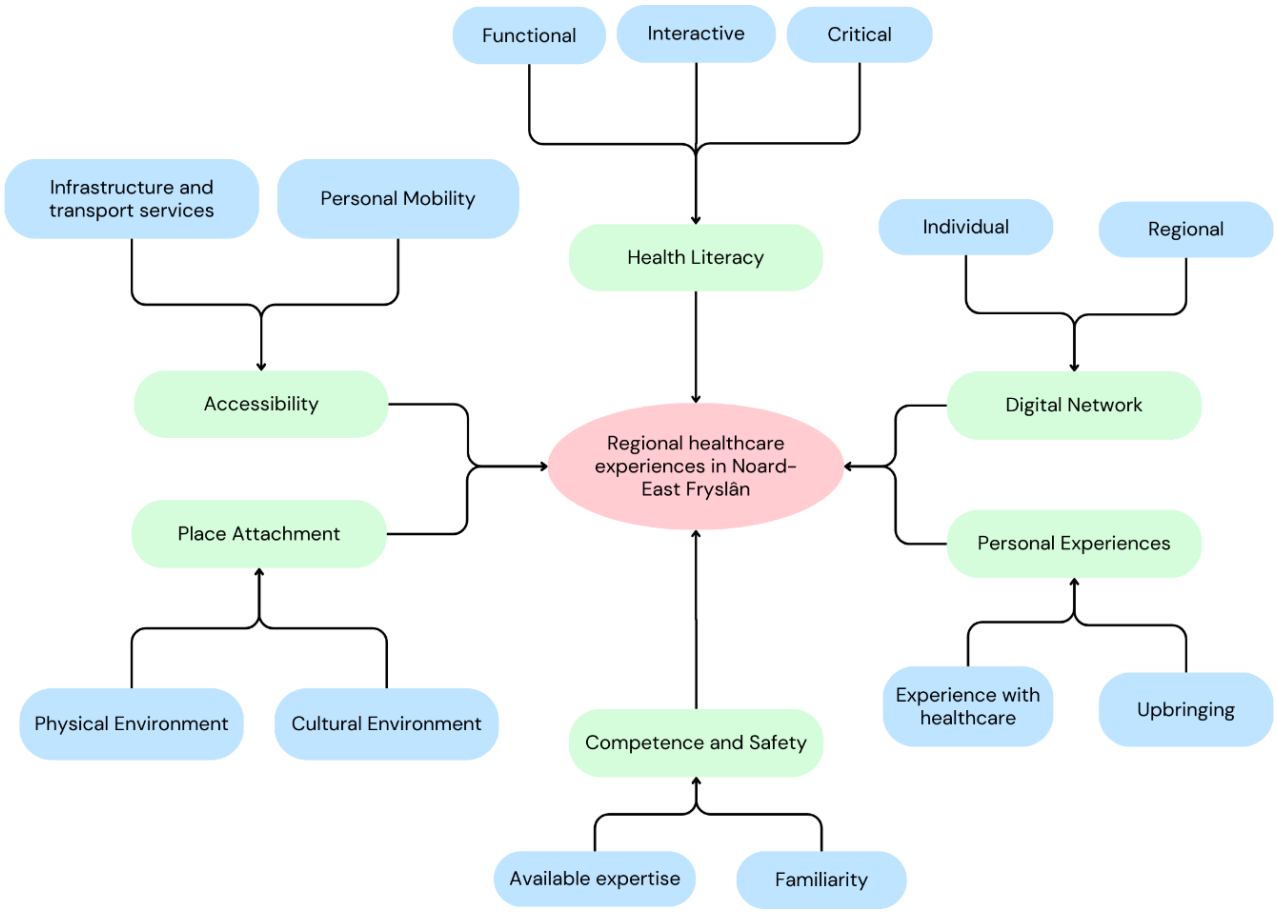
Heeft culturele achtergrond, taalkennis, opleiding of opvoeding effect heeft op contact met artsen en begrip van de gezondheidszorg?

- Ging u als kind vaak naar de huisarts of heeft u als kind medisch specialisten bezocht?

Spreektaal en geschreven tekst van artsen en ziekenhuizen is soms moeilijk te begrijpen. Het kan hierdoor zijn dat de boodschap van een arts of specialist niet goed begrepen wordt.

- Indien dit zich voordoet, zegt u dit dan tegen de arts? Is hier in uw ervaring tijd voor tijdens gesprekken met artsen en specialisten op hun spreekuur?

Appendix D
Deductive Coding Tree



Appendix E
Consent Form

Consentformulier voor onderzoeksproject: Effecten van afnemende zorgvoorzieningen in Noard-East Fryslân.

- Ik begrijp de doeleinden van het onderzoeksproject. Ik heb voldoende tijd gehad om te beslissen of ik mee wilde doen. Ik kreeg de gelegenheid om vragen te stellen en mijn vragen werden duidelijk beantwoord. Ik begrijp welke gegevens in dit onderzoek worden verzameld. Ik begrijp dat alle persoonsgegevens voor mij als deelnemer onherleidbaar worden gemaakt.
- Ik weet dat mijn deelname vrijwillig is. Ik begrijp dat ik mij op elk moment kan terugtrekken uit het onderzoek, zonder dat ik hiervoor een reden hoef op te geven.
- Ik geef toestemming voor de verwerking en het gebruik van de interviewgegevens voor educatieve doeleinden.
- Ik verklaar dat ik wil deelnemen aan dit onderzoek.

Datum:

_____

Handtekening deelnemer:

_____

Handtekening onderzoeker:

_____

Appendix F

Graph displaying age distribution of participants.