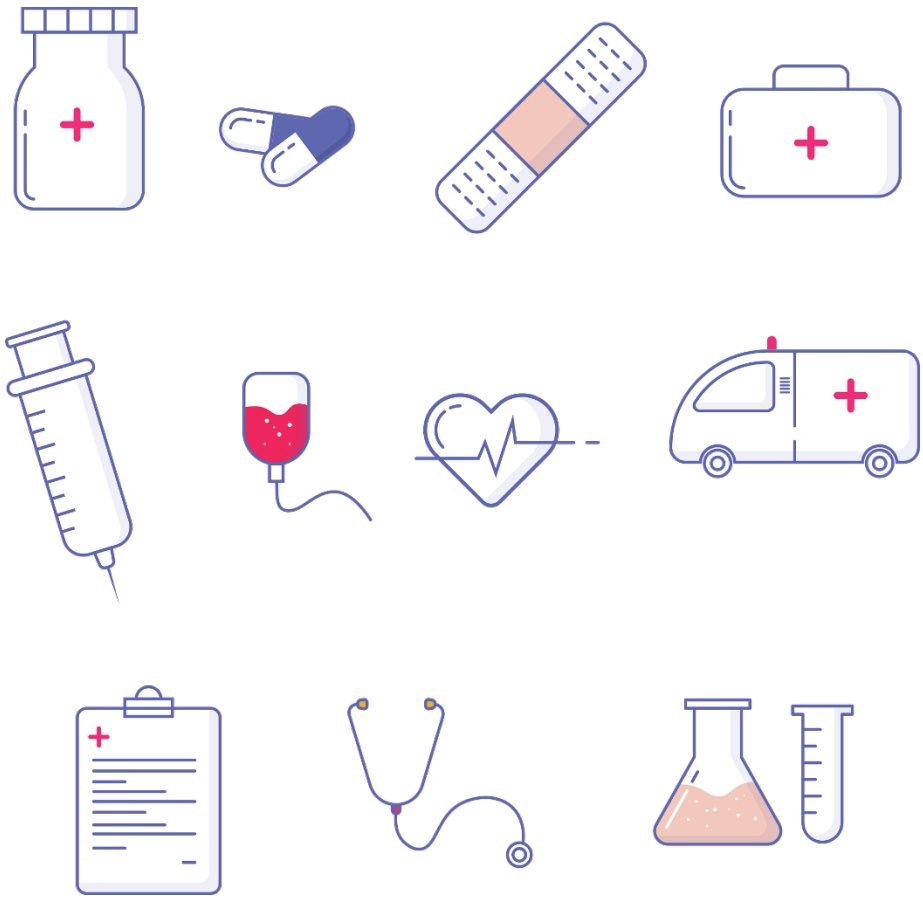
Health equality in rurality

A study on health inequalities in the Netherlands



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Preface

It is finished! In front of you lies my graduation thesis for the Masters in New Economic Geographies, Ecologies and Business Innovation. Writing the thesis was a huge undertaking that took me months to complete. From the first lectures in academic skills and research methods in the pre-master phase, to the last interviews and feedback sessions in recent months, a gigantic wave of information came over me.

Still, I enjoyed doing this research. I had the opportunity to discuss the narrative of the thesis with many interesting interlocutors. These were not only the experts interviewed, but also people from my own environment who are interested in the topic and shared their own experiences with mobility and health with me. Good reach and accessibility of acute care is important for everyone in the country, I have noticed this in all my conversations.

To gain experience in the field, it was a requirement to write the thesis for an internship organisation. As my topic was quite specific, it was quite a search to find a suitable internship organisation. Until I emailed the Council for the Environment and Infrastructure. I would like to thank Bart Swanenvleugel and Douwe Wielenga for the opportunity and their guidance over the past few months.

Thank you Arnoud Lagendijk for the coaching from Radboud University and the critical and helpful look at my writing. Thank you Joëlle van der Gaag for the enjoyable feedback and co-reading my documents.

I would like to thank all experts that I interviewed: Jeroen Bastiaanssen (PBL), Cindy de Bot (Avans Hogeschool), Lukas van Spengler (ROAZ Midden-Nederland, Nienke Huijbregts (ROAZ Zuidwest-Nederland), Manon Bruens and Geke Heurman (ROAZ Euregio), Ben van Essen (‘t LaefHoês America), Hanneke Starmans (ROAZ Limburg), Wendy Koolhaas (ROAZ Noord-Nederland) and Christine Schepel (ROAZ Brabant) for their time and for their answers to my questions.

I would like to thank my parents and Pieter for listening to my concoctions, their motivational words and thinking along with me about the process.

Summary

The television programme Pointer investigated the existence of ”medical deserts” in the Netherlands, places in the country where people cannot get to an emergency room by ambulance within 45-minutes. According to their research, 16,000 people live in these areas and a further 12,500 people live on the borders of these regions. Between the years of 2010 and 2020, twenty-two emergency rooms had to close down their services. Not only hospitals in in urban areas could no longer keep their SEH open, but also in areas where there is no SEH in the immediate vicinity had to close down.

This created a problem, because how can the Dutch government guarantee that quality acute care is always and for everyone available in the country? With no differentiation on the place where you live? The research in this thesis is built around the main question: **In what ways can the Dutch government ensure that the residents of rural areas in the Netherlands can continue to receive quality emergency care?** Four different perspectives on the questions are presented: healthcare, autonomous geographical trends, the mobility sector, and government influence. This was done by using both literature review and qualitative research methods.

The number of public facilities such as hospitals, general practitioners, schools, and libraries has been decreasing for many years for a variety of reasons, with the result that the distances to these places are increasing. The scope of this thesis will focus on the desertification of the acute care chain in rural areas in the Netherlands.

Care is one of the fundamental rights in the Dutch constitution. The healthcare system is extensive and complex and consists of five different laws that all safeguard a part of the chain. The laws ensure that all residents of the Netherlands are entitled to healthcare and that the government is obliged to provide it. The care chain is built up, with the general practitioner as the gatekeeper. They determine if a patient needs follow-up care and are responsible to not overburden the other facets of the chain. But at the same time, GPs are overflowing in work themselves. Due to geographical trends such as an ageing population and staff shortages, the care chain in general is struggling. When a healthcare facility can no longer guarantee the quality of care because they no longer have the right resources, e.g., sufficient staff, or corporate resources, it is inevitable in many cases to close departments.

On the other hand, there is the mobility sector. An interplay of transport options to ensure that residents can get to the right facilities. Yet, there is a growing group of people who are not as mobile as is often thought. People who cannot drive a car for a variety of reasons often rely on public transport in rural areas. Which in many cases is being cut back or runs less frequently. As a result, these people cannot get to hospitals, schools, and work locations. This leaves them sick longer, unemployed longer, or unable to get the education they desire.

By conducting interviews with experts in the fields of healthcare, acute care, mobility, and citizen initiative, I recommend the following points.

- **“Prioritarianistic view” on healthcare and its distribution:** For years, the government has been investing in areas that were already strong with the thought that the less strong areas will automatically ride on this. However, this is not the case, which results in undesirable differences between urban and rural areas in the country. A “prioritarianistic view” on healthcare means that the government should act and invest in certain areas to help the residents in being able to make healthier choices for themselves and their families.
- **Intersectionality in policy:** Mobility policy is written for mobility and care policy is written for the care sector. There is little or no cooperation between the policy bodies doing this while policies can influence each other either directly or indirectly. This means that the education level, level of independency and health can be determined by decisions made in The Hague. A cooperation between government bodies on different scales would help to solve this problem.
- **A new distribution key for mobility funding:** A lot of money is invested in big infrastructure projects and travel time savings in traffic jams, but the essence of mobility is forgotten in the process; making sure people can participate in society. When active mobility and the use of the public transport is desired, it is logical that the government should invest more in these options than in the car infrastructure.
- **A place for citizens’ initiatives:** Citizens’ initiatives prove repeatedly that they can relieve some of the burden of formal care by taking on informal care tasks. It is important that politicians recognize that initiatives like this should be supported and there should be space to set them up. The local population often knows best what is needed in their own region. An initiative like a village support worker can make the difference for a lot of people.

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Glossary

Acute care – Acute care is any care that needs to be provided as soon as possible, but at least within a few minutes or hours. The aim is to prevent damage to health or death from an acute life-threatening condition or accident (RIVM, ND).

Ageing Population – Ageing refers to the increasing proportion of older people in the population, which also increases the average age in the country (Ensie, 2009).

Care Chain – Chain care is the coherent set of care efforts provided by different healthcare providers under a recognisable direction function, where the patient is central. In the care chain, gradations exist from simple and strictly sequential to complex care (Kwaliteit in Zicht , 2011).

Care Question – Demand expressed by a care provider party for providing care services to a recipient (van Schie, 2000).

Formal Care - Formal care is provided by professionals who are trained, and thus paid for it. Informal carers and volunteers provide informal care, this is also known as unpaid care (HandicapNL, ND).

Medical Desert – These areas are characterized by several parameters such as a poor number of health professionals, remoteness, or high needs of care (Lucas-Gabrielli & Chevillard, 2018).

Mobility poverty – The process by which people are prevented from participating in the economic, political and social life of the community because of reduced accessibility to opportunities, services and social networks, due in whole or in part of insufficient mobility in a society and environment built around the assumption of high mobility (Kenyon, Lyons, & Rafferty, 2003).

List of Abbreviations and translation

Abb.	English	Dutch
A&E	Accident and Emergency	Spoedeisende Hulp
ADRZ	Admiraal de Ruyter Hospital	Admiraal de Ruyter Ziekenhuis
AED	Automated External Defibrillator	Automatisch Externe Defibrillator
ANWB	The Royal Dutch Touring Club	Algemene Nederlandsche Wielrijders Bond
BZK	Interior and Kingdom Relations	Binnenlandse Zaken en Koninkrijksrelaties
CDA	Christian Democratic Appeal	Christendemocratisch Appèl
CBS	Statistics Netherlands	Centraal Bureau voor de Statistiek
CWZ	Canisius Wilhelmina Hospital	Canisius Wilhelmina Ziekenhuis
EDP	Elektronisch Patiënten Dossier	Electronic Patient File
EHBO	First Aid	Eerste Hulp Bij Ongelukken
EMS	Emergency Medical Services	Medische noodhulpdiensten
EU	European Union	Europese Unie
EZK	Economic Affairs and Climate Policy	Economische zaken en Klimaat
GGD	Municipal/community health department	Gemeentelijke/Gemeenschappelijke Gezondheidsdienst
GGZ	Mental Health Services	Geestelijke Gezondheidszorg
GHOR	The Emergency Medical Services Organisation in the Region	De Geneeskundige Hulpverleningsorganisatie in de Regio
GP	General Practitioner	Huisarts
HAP	GP Surgery	Huisartsenpost
HBO	Higher professional education	Hoger beroepsonderwijs
HEMS	Helicopter Emergency Medical Services	Helikopter medische noodhulpdiensten
I&W	Infrastructure and Water Management	Infrastructuur en Waterstaat
KBO	Catholic Union for the Elderly	Katholieke Bond Ouderen
LNV	Agriculture, Nature, and Food Quality	Landbouw, Natuur en Voedselveiligheid
MKB	Small and medium-sized enterprises	Midden- en kleinbedrijf
MMT	Mobile Medical Team	Mobiel Medisch Team
NGO	Non-Governmental Organisation	Non-gouvernementele organisatie
NVSHA	Dutch Society of Emergency Physicians	Nederlandse Vereniging voor Spoedeisende Hulp Artsen
OECD	Organisation for Economic Cooperation and Development	Organisatie voor Economische Samenwerking en Ontwikkeling
OV	Public Transportation	Openbaar Vervoer
PBL	PBL Netherlands Environmental Assessment Agency	Planbureau voor de Leefomgeving
RAVU	Regional ambulance facility Utrecht	Regionale Ambulance Voorziening Utrecht
RIVM	National Institute for Public Health and the Environment	Rijksinstituut voor Volksgezondheid en Milieu
Rli	Council for the Environment and Infrastructure	Raad voor de leefomgeving en infrastructuur
ROAZ	Regional Acute Care Chain Consultation	Regionaal Overleg Acute Zorgketen
ROB	Council for Public Administration	Raad voor het Openbaar Bestuur
RVS	Council of Public Health & Society	Raad voor Volksgezondheid en Samenleving
SEH	Emergency Room	Spoedeisende hulp
SIRM	Strategies in Regulated Markets	Strategieën in gereguleerde markten
SP	Socialist Party	Socialistische Partij
UMC	University Medical Centre	Universitair Medisch Centrum
VWS	Health, Welfare and Sport	Volksgezondheid, Welzijn en Sport
WEMS	Wilderness Emergency Medical Services	Wildernis Medische Noodhulpdiensten
WMO	Social Support Act	Wet Maatschappelijke Ondersteuning.

Introduction

The television programme Pointer investigated the existence of "medical deserts" in the Netherlands; places in the country where people cannot get to an emergency room by ambulance within 45-minutes. According to their research, 16,000 people live in these areas and a further 12,500 people live on the borders of these regions (KRO-NCRV, 2020). However, a geographical analysis by the Rijksuniversiteit Groningen shows that there are larger areas that can cope with the accessibility and reachability within the 15-minute performance standard after notification. According to Pointer's analysis, the biggest problem areas are the Wadden Islands, Noordoostpolder, Zeeland, Groningen, and Friesland. The university's analysis shows that the whole of the Veluwe, the coastal area of Noord-Holland and parts of the Groene Hart also fail to meet the standards (Rijksuniversiteit Groningen , 2022). As a resident of a small village in the Groene Hart, I grew up with the knowledge that emergency services do not always arrive on time. Ambulances come from far away, the fire brigade cannot meet their response times due to a barrier in the road and even the nearest police station in our district is thirteen kilometres away.

It fascinates me that despite the village's location in the middle of the Randstad conurbation, administratively it is still something of a remote spot. As a result, I chose to write this thesis with acute care in rural areas in the Netherlands as the point of focus. Acute care is so much more than just ambulances. It involves trauma helicopters, general practitioners, obstetrics, mental healthcare, and hospitals. A chain that should be available to everyone in the country, and in which there should be no distinction as to where in the country you live.

> *"Everyone has the right of access to preventive healthcare and to medical care under the conditions established by national laws and practices. A high level of human health protection shall be ensured in the definition and implementation of all Union policies and activities."* ***(Art 2 Lid 2 GW)***

Societal relevance

Not being able to reach an emergency care location by ambulance is an important but small part of the equation. The ambulance only comes when a person is unable to transport themselves due to an acute care need. Requests for care that cannot wait until tomorrow but are not as serious that the person cannot transport him or herself must rely on their own travel time to a location. This brings immobile groups within Dutch society in a difficult position. They are reliant on others to get them where they need to be.

The accessibility of care is a much-discussed issue in the political landscape. The CDA writes in its party manifesto that it is increasingly hearing negative reports from rural areas about the closure of emergency care centres. The party wants to work to ensure that care remains accessible to residents, even in regional hospitals (CDA, 2022). The CDA also published a report in 2023 focusing on reducing the difference between urban and rural areas in the country. ChristenUnie writes about developing a regional vision to ensure that necessary acute care does not disappear within the regions and availability is not compromised (ChristenUnie, 2022). D66 writes about providing appropriate care as close to home as possible (D66, 2022).

In 2019, the SP wrote an initiative paper entitle 'Het ziekenhuis dichtbij voor iedereen' in collaboration with a former general practitioner. It concludes that access to healthcare continues to decline. Due to economies of scale and staff shortages. The report looks at scientific standards of accessibility, but also at social standards. The author proposes a liveability standard and an accessibility standard of twenty minutes to reach a hospital. And that an accessibility standard should be based on scientific arguments. The current standard of 45 minutes dates to the 1960s and is not based on scientific evidence (SP, 2019).

In its report 'Toegang tot de stad' the Council for the Environment and Infrastructure concludes that facilities in cities are becoming increasingly inaccessible for people living in non-urban areas (Raad voor de Leefomgeving en Infrastructuur, 2020). In their 2023 report 'Elke Regio telt!' they deepen this narrative of disappearing public facilities in rural areas within the scope of broad prosperity (Rli, RVS & ROB, 2023).

Scientific relevance

The Dutch healthcare system is complex, therefore there are several organisations that work on the quality and accessibility of care. For instance, universities throughout the country are investing in research about the availability and affordability of care. On the other side there are also knowledge institutions which are related to the government that monitor the healthcare system. Still, it is not easy to find publications on the theme of this thesis.

Much is written about the field of emergency care. A trend within medical scientific literature is the accessibility of emergency care. The accessibility of healthcare is one of the 'wicked problems' in the sector (Bodenheimer & Grumbach, 2020). This is a problem that occurs in many countries in the world. Papers are written on accessibility of emergency care in Portugal (Ferreira, Marques da Costa, & Marques da Costa, 2021), Finland (Kotavaara, Nivala , Lankila, Huotari, & Demelle, 2021), Canada (Wilson & Rosenberg, 2002) (Wilson & Rosenberg, 2003), and Croatia (Pristas, et al., 2008).

A few papers write about emergency care operations in extremely low dense or impassable areas due to geographical features. Main subjects in these papers are the network of helicopter emergency medical services in Switzerland (Meuli, et al., 2021), and Wilderness Emergency Services in the United States of

America (Millin & Hawkins, 2017). The Royal Flying Doctors Service in Australia, once the biggest mobile emergency care organisation, is covered in the paper of (Fatovich, Phillips, Jacobs, & Langford , 2011).

Though there are a lot of scientific papers written about the accessibility of care, the geographic perspective is underexposed. The main subjects that are spoken about in medical journals are the staff shortages (Zuiderent-Jerak , Kool, & Rademakers, 2012), overcrowding due to self-diagnoses (van der Linden , et al., 2014), and inefficiency (Hong, Thind, Zaric, & Sarma, 2020) which can be seen as factors that obstruct the accessibility of care as well.

Challenges faced by a large segment of the population in making use of care often remain underexposed. Indeed, there is talk of an urban-rural divide (Pristas, et al., 2008) and within cities of a disparity between poor and wealthy populations, but there is no mention of people whose demographics prevent them form arriving at an urgent care location on time. Guidelines for emergency care have been established in the Netherlands, but these standards do not take into account that people who do not have their own transportation, for instance, elderly people, youngsters without drivers licences, the disabled, and those taunted by transportation poverty, may still not arrive on time (Bastiaansen & Breedijk, 2022) (Raad voor de Leefomgeving en Infrastructuur, 2020). These are often areas where alternative means of transportation cannot be chosen, while this is systematically expected.

Thus, new topics can be tapped within literature. I chose to link mobility poverty, the care chain, and geographical phenomena in society. Something that has not yet been done in the Dutch scientific literature. However, mobility poverty is written about by research bodies of the Dutch government such as the PBL Netherlands Environmental Assessment Agency (Bastiaansen & Breedijk, 2022) and the KiM Netherlands Institute for Transport Policy Analysis. (Jorritsma, Jonkeren, & Krabbenborg, 2023). These reports focus on the inequality of opportunities created by mobility poverty. Health inequalities are often illustrated as a small part of this.

There is also little to no writing in international scientific literature about a causal link between lack of mobility and health inequalities. These articles focus on the link between socioeconomic status and having poorer health (Mackenbach, 2010). The book Urban Poverty and Health Inequalities: A Relational Approach does describe a foundation of urban poverty and the relation to health inequalities. Yet, the mobility problem is hereby excluded from consideration (Hodgetts & Stolte, 2017). When health and the physical environment are discussed together in a paper, the author concludes that spatial stigma can indeed affect health in three different areas: Access to material resources, processes of stress and coping, and processes related to identify formation and identity management (Keene & Padilla, 2014). Conclusions that are irrelevant to my final research question because they focus more on the psychological side of the problem.

I can never completely rule out the possibility that the components I am using in my thesis, have not yet been used together in a study. But I have done my best to find papers and other scientific literature that could prove otherwise and have not found them. I then come to the personal conclusion that my research, especially if I focus on rural areas in the Netherlands, has never been researched before in scientific circles.

Research Questions

Researching how the Netherlands is dealing with the desertification of care is a broad subject. Other health services, schools, shops, public transport, and other facilities are also disappearing in an increasing number of areas of the country but will not be discussed in as much detail as they deserve in this thesis.

Main Question:

In what ways can the Dutch government ensure that residents of rural areas in the Netherlands can continue to receive quality emergency care?

The main question will be answered by the following four sub questions.

1. **What are the standards in the Netherlands for making emergency care available for its residents?**
2. **What autonomous geographical trends within Dutch society that affect availability of facilities can be identified?**
3. **In what ways does the mobility sector contribute to obtaining quality care in the Netherlands?**
4. **In what ways can the Dutch government influence the availability of emergency care in the Netherlands?**

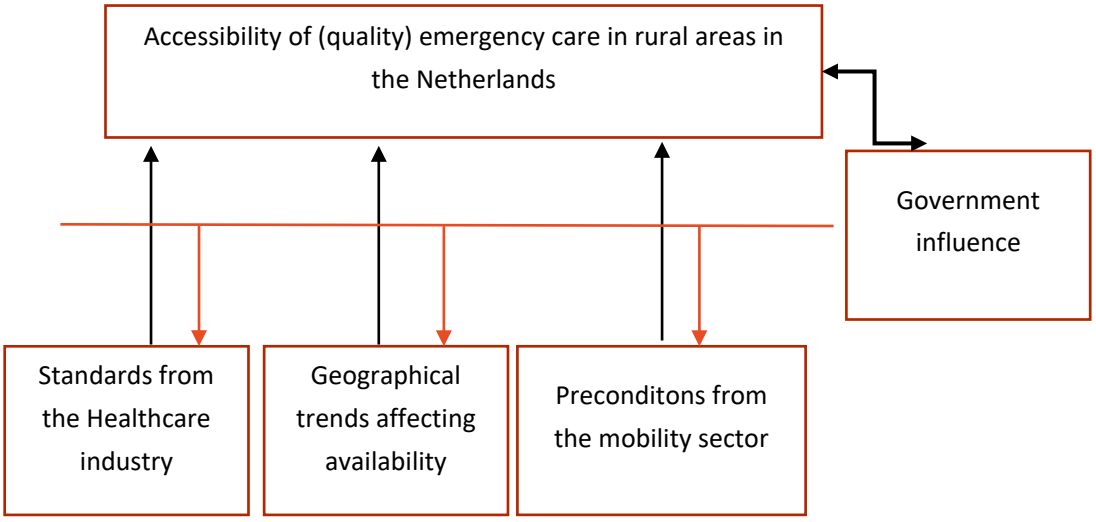

Figure 1: Conceptual Model

Figure 1 illustrates the conceptual framework of the research conducted in this thesis. At the top is the main topic of the thesis, the accessibility of quality emergency care in rural areas in the Netherlands. The word 'quality' is written in brackets because quality is subjective. In addition, quality is the subject of debate and many other studies around the world. I have therefore chosen to use the term 'quality' as something abstract. In doing so, I do not address the question of what quality should be within healthcare. The Dutch government has set quality standards for the healthcare chain, and I am not the person to question this as I am not medically educated, and I do not know anything about treatment modalities.

The bottom row shows three different issues that influence the availability of healthcare in the Netherlands. The influence is shown by the black arrows. Government influence is also something that has an influence on this, but at the same time it also has an influence on the three issues at the bottom, because all these conditions and standards are implemented by government bodies. For example, healthcare standards are set by the Ministry of Health, Welfare and Sport and the mobility sector is set by the Ministry of Infrastructure and Water Management. Autonomous geographical trends are an exception. These are not necessarily determined by a government agency but may be a direct or indirect consequence of policies set by one of the ministries. An ageing population in rural areas could be the result of policies that require people to live at home for longer, or fewer houses being built for first-time buyers in the housing market. The influence of the government on these three categories is indicated with the orange arrows.

The four blocks at the bottom of the model represent the four sub questions that together should answer the main question. The topic of facility attenuation is, as indicated earlier, broad. It includes schools, shops, healthcare facilities and social facilities such as the library. I have chosen to focus the scope of this thesis on acute healthcare. From previously done literature research and the interviews with experts, which I elaborate further in the coming chapters, four variables emerged that together influence the distribution of acute care in the Netherlands.

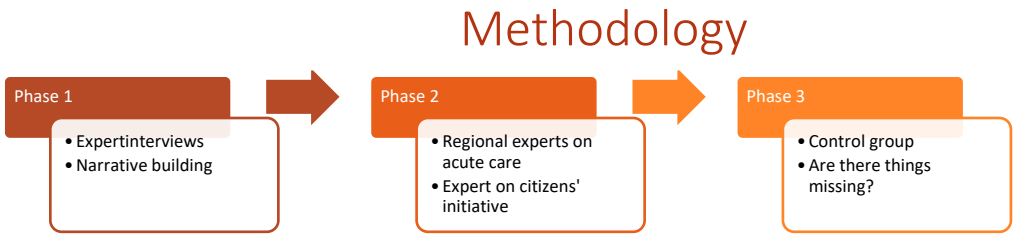

Figure 2: Research phases

Methodology is an essential part of the research process. It can come in many shapes and sizes. I have chosen to use empirical qualitative research to support my thesis, as my research question is broad and consists of different elements. I decided to divide my research into three separate phases. The fieldwork phase lasted two months in total. During these two months I spoke to nine different organisations.

Phase 1: Narrative building

The preliminary research defined several characteristics of the problem statement. However, because the problem is so broad and complex, a specific scope had to be sought. The first phase began with a literature review. However, it quickly became clear that the best way to write the narrative was to talk to experts, so I chose to talk to three experts which specialized in the various aspects of my research question. The aim of this phase was to work out the scope, questions, and structure of the thesis. As I said earlier, the problem is broad and consists of several components that work together but also function as a domino effect. It is all interconnected and react on each other.

I started with an interview with Jeroen Bastiaanssen from the PBL Netherlands Environmental Assessment Agency, who specialises in mobility and mobility poverty. Mobility poverty is an issue that creates inequalities in societies. An ongoing and growing problem within the Netherlands. The conversation focused on the current situation and what needs to be done to reduce this problem as much as possible. The second interview was with Cindy de Bot, who is an associate lecturer in nursing studies, at Avans University of Applied Sciences. I talked to her about the different trends in society and how the health sector is coping with these changes. This interview covered the ageing society and staff shortages in the care sector. As an educator of new nurses, she could tell me a lot about the current situation in the field. The third interview was with Lukas van Spengler, who is the director of the regional acute care network in Midden-Nederland. I chose to interview him in the first phase because the region he represents does not face major geographical challenges due to its compactness and the surveyability Which gave me the opportunity to talk about the network itself and how it is structured both at the healthcare level and at the administrative level.

Phase 2: Experts on regional acute care and citizens' initiative

The second phase of the research focused on data collection. As I use a qualitative research method, this was through interviews with different ROAZ regions and an expert on citizens' initiatives. In preparation, I read up on the different regions and the potential challenges they face on a day-to-day scale. This meant that all interviews were unique from each other, similar questions were asked but at the same time all interviews took on their own character and topic. It is therefore not possible to compare the interviews

one-to-one. In this way, interviewees had the opportunity to talk about topics they themselves consider important. As the interviewer, I monitored the conversations and made sure that the topics that needed to be covered for the study were actually covered.

In this second phase I spoke to Nienke Huijbrechts from the Zuidwest region which covers a large part of Zuid-Holland and the province of Zeeland. This makes the region remarkably diverse with clearly defined rural areas and the larger cities in Zuid-Holland. Next to this, it is facing challenges with the accessibility of facilities in Zeeland. Next was Manon Bruens from the Euregio. This region lays on the border with Germany, this includes an interesting cooperation with German emergency services and hospitals. The sixth interview was with Ben van Essen, who is a board member of Burgerkracht Europa, in which he studies “medical deserts” and engages in this partnership to keep them as small as possible through the development of initiatives to eliminate them. After this interview, I also visited the ROAZ in Limburg, here I spoke with Hanneke Starmans about the ageing population and the challenges of the border region and mobility in the province.

Phase 3: Control group

At the end of the research period, I spoke with yet another two experts. At that point, I had already spoken with seven experts on the subject. The answers were beginning to saturate. Which, in my mind, is a good sign. I therefore used the last two interviews, which were also held further toward the end, as a control interview. This meant that, besides asking questions about the respective regions, I also asked questions about the national structure of ROAZ organisations and the structure of the acute care chain. Besides, I was also extremely interested in the regional perspective of the Brabant and Noord-Nederland regions

I spoke with the regional network of the Northern provinces. Wendy Koolhaas told me everything about the special situation that they are facing on the Wadden Islands. Next to this we spoke about the challenges on the mainland which, in their case, covers three complete provinces. The last interview was with Christine Schepel from the Brabant region. This interview was a mixture of all the other interviews but aimed specific on Brabant. We spoke about the challenges with borders, demographic centres in the province and accessibility within the expanse of the area.

The study in this thesis is composed of several research methods. The first method that I used is literature analysis. For this, I used both primary and secondary sources which covers papers with empirical research done by the author, but also papers that revise empirical work done by others (Koekoek, 2019). Next to the academic texts, the subject also lends itself to the use of policy papers and news articles to describe the societal relevance of the matter. It is a social issue that not much has been written about in this capacity in the academic field. The collection of information continues in a steady pace as there are almost daily publications on healthcare and the accessibility of facilities in various newspapers and other news sources. The policy papers that I used are written by ministries and advisory bodies of the Dutch government, for example the Ministry of Health, Welfare and Sport or the Council for the environment and infrastructure. The news articles are written by both Dutch and international newspapers. What is important when using written sources is that they are relevant for the topic and that they are gathered through reliable search options. Therefore, I used Web of Science, Google Scholar, and the online search engine of the university library for the academic literature. Because the scope of this thesis is aimed at the Netherlands, I used Dutch sources when it comes to newspapers.

Furthermore, I used a qualitative approach during the research. This means that I wanted to highlight the research query from a humanistic and idealistic point-of-view. Qualitative methods are believed to understand people's beliefs, experiences, attitudes, behaviours, and interactions (Pathak, Jena, & Kalra, 2013). This form of research can be done in many ways and contexts, but the main overlapping criteria is that it involves the study of people. Examples of methods that can be used for this type of research interviews, focus groups, ethnographic research, or the analysis of case studies (Saunders, Lewis, Thornhill, Booij, & Verckens, 2011).

The method that I used was semi-structured interviews with experts in both the health as the mobility field. This form of interviewing has some degree of predetermined order but still ensures flexibility in the ways issues are addressed by the informant (Longhurst , 2016). This type of interviews allows for an open answer in the participants' own words instead of a short, closed answer. I did this through two phases; the first phase of the project was designed to talk to experts about my proposed theory. These interviews, from which I gained a lot of knowledge, helped me to design the questions for the second stage of the research in which I asked questions about the feasibility of the proposed theory. The questions I used for these interviews differ from one interview to another. Therefore, the answers cannot be compared one-to-one either. What I felt was most important was to let the interviewees speak, which is why I set up the interviews as conversations where I wanted to give the person space to bring up topics on their own when they felt they needed to. As a result, the different regions narrated region-specific challenges and, as a result, all interviews were stand-alone conversations.

After the interview phase, all interviews were converted into text by transcription. The transcripts were coded by creating an index. Usually, Atlas TI is used within the study programme, but it was found not to work. The method I used to replace it was creating an index by topic in Microsoft Word and Excel. The transcribed interviews make for a large document with a lot of text. Coding this should provide structure and find links between the different sources used. By grouping quotes into categories, the sources can be linked together, and the narrative is created (Saunders, Lewis, Thornhill, Booij, & Verckens, 2011). The elaborations on this can be found in the appendices. This contains of an Excel document with all the codes, which are represented by numbers of sentences in the transcript, ordered by topic. The Word document that is added shows the sentences that correspond to the numbers in the Excel document. This made it possible to find the right information per topic while writing the texts.

Methods per sub question

Sub question 1: *What are the standards in the Netherlands for making emergency care available for its residents?* This sub question is answered using both theoretical and interview sources. First, I used various search engines to find the right literature on the Dutch healthcare system. I also took a course in biomedical sciences on health policy, and one in safety sciences, which helped me to understand the Dutch system better. In the second phase of the research, I spoke to various sources about healthcare and access to healthcare in the Netherlands.

Sub question 2: *What autonomous geographical trends within Dutch society that affect availability of facilities can be identified*? The intention was to answer this sub question completely with theoretical sources, but I decided to ask my interviewees about this as well. They came with interesting insights on the developments in their field, and in the case of the ROAZ regions, in their region. This gave me the insights on the national challenges, concerning, for example, ageing in the more rural areas and the

national staff shortages in the healthcare sector. The theoretical sources were gained via the university library of the Radboud University and electronic search engines.

Sub question 3: *In what ways does the mobility sector contribute to obtaining quality acute care in the Netherlands?* To answer this sub question, I used theoretical sources. These sources came, for example, from the Ministry of Infrastructure and Water Management or the Knowledge Institute for Mobility Policy. In addition to the theoretical sources, I spoke to a specialist on mobility and mobility poverty from the Netherlands Environmental Assessment Agency. I supplemented this by listening to podcasts, watching an episode of research programme Pointer, and attending Karel Marten's academy lecture.

Sub question 4: *In what ways can the Dutch government influence the availability of emergency care in the Netherlands?* This question was slightly more difficult to answer with interview sources. This was discussed with my interviewees, but no one from the government was represented in this. However, my sources had good, and relevant knowledge of government involvement in their respective fields. As a result, enough information was still gathered to answer these questions. In addition, theoretical sources were also used to answer it, which were collected with the help of my internship organisation.

Theoretical Framework

Healthcare

In principle, the Netherlands is a liberal and free country. People enjoy social rights, and the government is obliged to guarantee these rights. However, not everyone has equal access to the institutions that provide them. The number of public facilities such as hospitals, general practitioners, schools and libraries has been decreasing for many years for a variety of reasons, with the result that the distances to these places are increasing (Koens, 2021). For this thesis I chose to focus on one facet of this bigger issue: the desertification of the acute care supply in rural areas in the Netherlands. The term "health desert, or medical desert" is not yet used in Dutch scientific literature, yet in French literature it is a well-known notion. "Medical deserts" are described as areas of exceptionally low population density, and as a term to describe difficulties in accessing healthcare services in certain regions (Lucas-Gabrielli & Chevillard, 2018). In France, this problem is due to the shortage of GPs. Yet, there may be a paradox: Paris is listed as one of the areas where most GPs are located, yet the larger area around it, Ile-de-France, has a percentage of 62,4% of the population experiencing difficulties receiving proper care. this shows that it is not only rural areas that suffer from the atrophying of facilities either. Socioeconomic status, geographical inequalities and waiting lists for specialized care are seen as threats. The study does provide three possible solutions: (1) Establish a uniform definition of the possible planned fragility of the area, (2) Maintain GPs in areas that already have them, and place more in areas that need them most, (3) Invest more in areas that need investment most, which encourage a "prioritarianistic" policy approach (Thompson, 2023).

Political-philosophical positions on health

Within the health literature there are six different political-philosophical positions on health. These positions are defensible and valid and are a conceivable representation of social justice. Nevertheless, one is simply easier to reach than the others and they do not receive equal political support (Broeders, Das, Jennissen, Tiemeijer, & de Visser, 2018). The main focus of public policy is Utilitarianism, which seeks the greatest possible overall benefit for all people combined. Maximal total welfare is the optimal distribution of policy effects. A major criticism is though, that the distributional effects are not considered (Wielenga, 2022). Next to this Utilitarianism, there are three other philosophical positions that are being used in the literature.

	Egalitarianism	**Sufficientarianism**	**Prioritarianism**
Focus on health outcomes (insensitive responsibility)	Everyone has the right to the same number of healthy life years and life expectancy.	Everyone should have at least x years of good health and the reach the age of [y].	The number of healthy life years and life expectancy of those who score the lowest should increase.
Focus on opportunities (sensitive responsibility)	Everybody should have equal opportunity to maximize health potential.	Everyone should have a decent minimum of opportunities to maximize health potential.	People whose potential is the least activated should receive more and better opportunities to do so.

Table 1: Comparison of political-philosophical approaches

Egalitarianism is a political-philosophical method of thinking that favours equality: People should be treated as equals, should treat each another as equals, should relate as equals, or enjoy an equality of social status of some sort. Egalitarian doctrines tend to be based on a background idea that all human

beings are equal in fundamental worth or moral status (Arneson, 2013). Translated to the health perspective this means that everyone should have the same number of healthy life years and life expectancy and that everyone should have the same opportunity to maximize their health potential (Broeders, Das, Jennissen, Tiemeijer, & de Visser, 2018). In the Netherlands this will mean that every inhabitant of the country, should get the same opportunities regardless of where they live, what their socio-economic status is, and how mobile they are.

Sufficientarianism on the contrary, talks about a minimum that should be available to all. The issue then is no longer necessarily that everyone should be completely equal, but that there should be a base available to all (Gosseries, 2011). The Elke Regio Telt! report also talks about a guaranteed basis for vital communities but suggests that this should be tailor-made for the country's regions. It should depend on the specific regional structure, regional character and needs of residents. The fear of creating a one-size-fits-all policy is present and should be avoided as much as possible (Rli, RVS & ROB, 2023). Translated to the Dutch healthcare context, the authors of the paper write about a minimum of healthy years and reach a minimum age. And they talk about a decent minimum of opportunities to maximize their health potential (Broeders, Das, Jennissen, Tiemeijer, & de Visser, 2018).

Prioritarianism states that priority should be given to those who are worse off in the distribution of advantages (Holtug, 2017). When you translate this to the healthcare perspective, this means that the life expectancy years of those with the lowest health score should increase and that the people with the lowest health potential should receive a higher amount and better opportunities to do so. In the Netherlands this can mean several things; people who live in the lowest rating areas on public health should be prioritized when being put on a waiting list in their own area, care made cheaper for people who cannot afford it or there should be a bigger investment from the government in their area to eradicate the reason of the low health. This does not necessarily mean that the healthcare system in this region is deficient. People may also make unhealthy choices because they simply have no other option, for instance due to a low socioeconomic position, or when there are no facilities in the area to exercise sufficiently, or when external factors play a role in getting certain diseases, such as living near industrial estates.

Healthcare law

As mentioned before in this thesis, care is one of the fundamental rights in the Dutch constitution. The Dutch healthcare system is extensive and complex, it consists of five different laws: the Public Health Act, Social Support Act, Youth Act, Health Insurance Act, and the Long-Term Care Act (RIVM, 2023). These laws all safeguard a facet of the healthcare system. And all these laws are equally important in ensuring that citizens get the right care.

- **Public Health Act:** Is responsible for the organisation of public health services, the control of infectious diseases, the detection of diseases through population screening and the municipal responsibility for youth health care and health promotion.
- **Social Support Act:** Responsible for the municipal responsibility for social support, domestic help, day care, counselling, and short-term stays in care facilities. Also, for sheltered housing for people with psychosocial problems and the support for informal carers and volunteers by municipalities. This law is not per se a right to care, but rather a supplement on what people cannot do themselves.

- **Youth Act:** Is responsible for the municipal responsibility for youth care, help and care for growing-up and parenting problems, psychosocial and psychiatric problems of young people. Just like the Social Support Act, this law is not a right to care but intended to supplement what the youth and family cannot do themselves.
- **Health Insurance Act:** The Health Insurance Act is responsible for the insurance system in the country. All people in the country have the duty to take out basic health insurance and they have the right to get care from the basic health insurance. And the act is also responsible for the financing of the basic health insurance.
- **Long-Term Care Act:** Is responsible for people who need permanent 24-hour care and permanent supervision, the right to care for people with an indication from the Centre of Care Assessment, the right to care at home or in an institution and the obligation for care offices to procure sufficient care regionally or establish an individual budget.

Healthcare laws ensure that residents of the Netherlands are entitled to the care they need. In doing so, it is compulsory to take out health insurance which insures you for basic care. Health insurers have a duty of care, which means that they are obliged to provide care to their insured and insured that have their contract with another health insurances in their assigned area. They conclude contracts with healthcare providers. The market forces were introduced in the Netherlands in 2006 and should ensure that health insurers compete with each other and that healthcare providers do the same, the aim being that the insured get the best care for the best price (Jeurissen & Maarse, 2021). Yet there are turning points in this policy; market forces focus on patients who have a single condition, while an ageing population means more people with multiple conditions. The care they receive is much more expensive than the care a person with a single condition receives, as healthcare providers have to cooperate in these cases. Another turning point is the increased administrative burden on healthcare staff, which means that they have less time to devote to the care of their patients. “Nurses in an intensive care unit spend an average of 53 minutes a day on quality registration” (RadboudUMC, 2021). Which will affect staff motivation. “The system of market forces puts a lot of pressure on costs. You can call that successful, but in an ageing society you cannot keep squeezing. At some point that gets stagnant (RadboudUMC, 2021).”

The healthcare chain

The healthcare system is pre-eminently a chain. When someone develops a care demand, they fist go to their general practitioner. This GP acts as the gatekeeper for the rest of the chain. They determine if the patient needs additional appointments with a specialist in the hospital or either with a paramedical service like a physiotherapist or psychologist. Their decisions ensure that the other parties in the chain are not overburdened with tasks that can be solved by other healthcare parties (Batenburg, et al., 2018). But at the same time, it is the general practitioners who are currently overflowing with work. This could have several causes; A demographic growth, in which a distinction can be made between a growing population due to births and migration and the changing composition of the population. A second reason for the increasing demand of care is the horizontal substitution, in which more tasks are moving from other medical specialists to general practitioners. As a result, the GPs are getting busier and the demand for care is expected to increase by 1,4% a year. Sociocultural developments are causing GPs to spend more time on additional issues. These include the weakened elderly who are living at home longer, mental illness, child abuse and the diversity of the population. In addition, there are more chronic diseases and multimorbidity that also need to be addressed. The demand for care, due to these problems is expected to grow by a maximum of 2,4% a year. A fourth reason is the vertical substitution, which involves shifting tasks to medical professionals from other levels of education. Think, for example, of paramedics or the

physician's assistant. The last reason that is named is the professional development of GPs is digitization of the healthcare industry which is expected to contribute to the role of director of chain processes. Tele diagnostics, telemonitoring, and E-Health are on the rise, requiring GPs to delve into new care technologies. It is assumed that this will cause a rise of care demand of 0,25% on average (Batenburg, et al., 2018) (Kuijf, 2023).

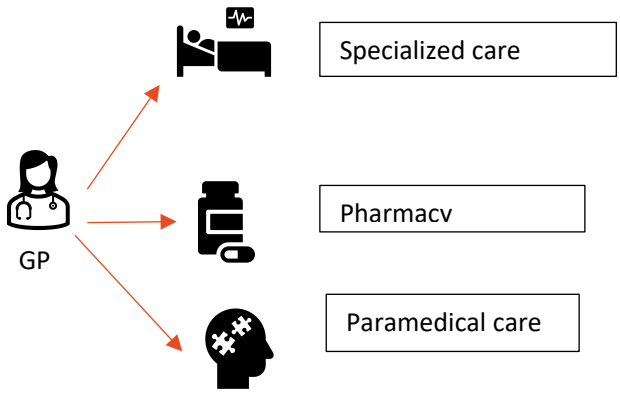

Figure 3: GP as gatekeeper

The acute care chain works slightly different. It is possible that patients first see their own general practitioner or an alternate after office hours. They determine if it is necessary to take immediate action and send someone to the emergency room. Patients that suffer an acute injury call the emergency services; in the Netherlands this is by calling 112. The telephone operator then sends the needed services to the patient. Another common way is through the obstetrician. When a labour does not want to start, or something else is wrong, women giving birth at home are going to the hospital. When the state of the injuries or situation prevents a patient from going to the hospital by himself, because it will seriously damage his health or the situation is too dangerous, an ambulance is deployed. When the injuries are so severe that the patient may need to be sedated at the scene or when specialized care is required, the MMT is called (LNAZ, 2023). Here, the big difference is that an ambulance takes the patient to a hospital, while the MMT takes a piece of the hospital to the patient before being transported to a care facility.

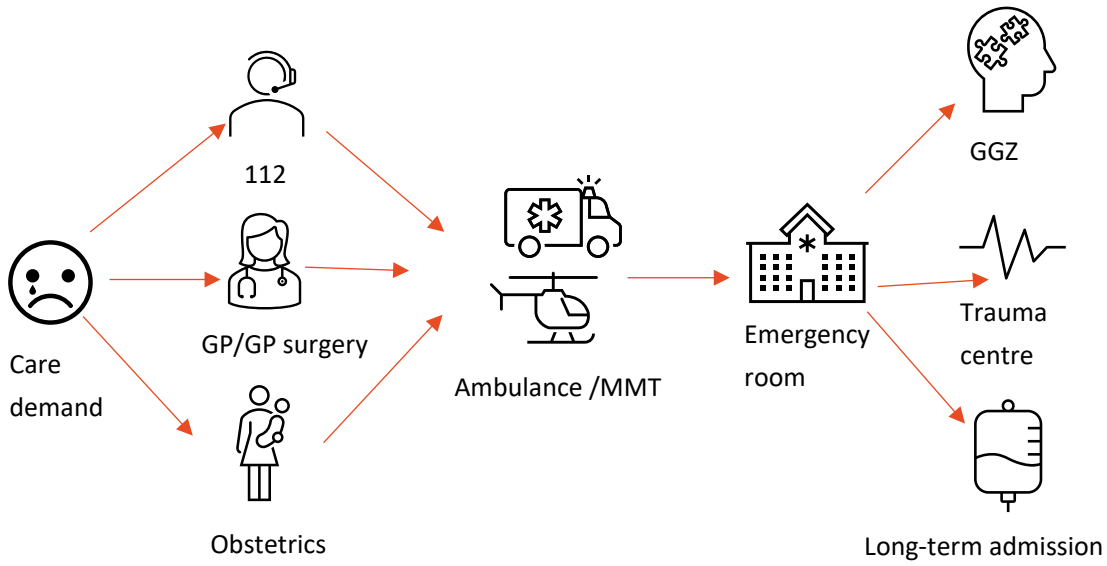

Figure 4: Acute care chain

Acute care organisation in the Netherlands

In 1999, the government ordered the country's eleven trauma centres to set up a regional acute care advice centre, a ROAZ (Starmans, 2023). These regional networks are supported by a national network, which represents the interests and leads national projects. The ROAZ regions are responsible for working with all regional chain partners to ensure that acute care in their region remains available and accessible to all residents. Chain partners include hospitals, regional ambulance services, general practitioners, home care, psychiatric care, health insurance companies and obstetricians (NAZB, 2023).

Nonetheless, in the years between 2010 and 2020, twenty-two emergency rooms were closed in the Netherlands. But even after that, there are discussions about closing SEH locations. In Zoetermeer, the SEH at Lansingerland Hospital had to temporarily close for parts of the day due to a tight labour market and absenteeism (De Telegraaf , 2022). Another example is the emergency room in Meppel which was temporarily closed during the nights because of a shortage of junior doctors (Isala , 2023). Next to this, an increasing number of GP surgeries are set to be closed completely, or after a set time in the evening (de Volkskrant , 2022) (Spijkers, 2023). GP surgeries are designed to treat patients with an acute general practitioner care question after office hours. The general practitioner uses this to make visits to people who are old or people who have arrived at their final stage of life. But in other cases, people are expected to come on their own to a location where the GP consults, and where the necessary medical equipment is available. Closing these facilities creates a variety of problems. Emergency departments and GP surgeries will get an increasingly larger catchment area, which will influence the response times and the mobility possibilities for patients.

However, the spatial and demographic perspective must be considered. A closure in The Hague will have a different impact on accessibility than a hospital in Zeeland, where there are only three hospitals for the entire province (NPORadio 1, 2020). Experts at the NVSHA are particularly concerned about the

accessibility of emergency care. in addition to accessibility there is also the concern that beds are disappearing while the number of patients is not decreasing. This is also a problem in the urban areas of the Netherlands partly due to the ageing population, which results in that the remaining locations are not prepared for peak loads. This leads to admission stopping and ambulances having to be diverted to other hospitals (Nicolai, 2020).

Geographical features

What emerges is a difference between rural and urbanised regions. Differences between regions within the country are common and often encouraged, they have their own culture, dialects and people have different perceptions on prosperity. An example of this is the Friese Paradox, money has long been the metric to describe whether a country or region is happy. Consider, for example, GDP where countries are ranked by prosperity. Until it was measured in Friesland that less money does not necessarily mean that those people are less happy. In these cases, social variables such as health or social cohesion weigh as much as economic ones (Planbureau Fryslân, 2020). But there are also differences that cannot be justified. The quality of life of villages, neighbourhoods, and communities in rural areas of the country is under pressure. This leads to disadvantages in certain areas of the country, including differences in health and average income levels (Rli, RVS & ROB, 2023). This creates health inequality in addition to income inequality, where your degree of health depends on your socioeconomic characteristics. Now it is well known that income and level of education have been part of this for some time (Wilson & Rosenberg, 2002). But because of the current differences in accessibility of care between rural and urban areas in the country, the place where you live also determines your life expectancy (Broeders, Das, Jennissen, Tiemeijer, & de Visser, 2018). And this is not just based on factors such as distance to industry or other harmful sources. The life expectancy of people in remote areas may be up to seven years lower than those with good accessibility to healthcare facilities (Rli, RVS & ROB, 2023). An important note here is this does not apply to all remote areas in the Netherlands. The accessibility of care might be a factor in this, it is not the biggest one in the equation. Variables such as education level and socio-economic status also play a big role. This results in a vicious circle where people start avoiding care because accessibility makes it impossible. As a result, conditions are not detected at the right time, and they end up incurring only higher healthcare costs. You can compare this to the sociologic principle of the Matthew-effect. A term which is often used to describe that the rich are getting richer, and the poor are getting poorer. People who suffer disadvantages will only suffer great disadvantages if timely action is not taken (Broeders, Das, Jennissen, Tiemeijer, & de Visser, 2018).

The ageing population is one of the main trends in Dutch society. Statistics the Netherlands speaks about a 20% representation of people ageing sixty-five and over. When plotted on a map, the data shows that many of the municipalities with the highest ageing numbers are located in rural the Netherlands. For instance, in the Twente area, Limburg, Zeeland and the North of the country (Centraal Bureau voor de Statistiek , ND). The WHO estimates that over 15% of the world's population live with some sort of disability. They attribute this to the ageing population and the higher survival rates among people with disabilities (Westwood & Carey, 2018). Though, trough population mobility and urbanisation, it is anticipated that there will be a greater proportion of older people in rural areas compared to urban areas. This is due the out-migration of young people and the in-migration of retirees (Burholt , Foscarini-Craggs, & Winter, 2018). Urban living will be the new reality for most of the world's population. It is a phenomenon seen widely among countries in the Global South and will be taking place in the context of

other global challenges, economic globalization, climate change, financial crises, energy and food insecurities, old and emerging armed conflicts, as well as the changing patterns of communicable and noncommunicable diseases. But also in a country like the Netherlands, the urbanization is both good and bad for the public health and it did contribute to the unequal distribution of health within the urban-rural divide and the rich-poor divide within cities (Friel , et al., 2011).

Demographic transition is one of the most important developments in the country. In addition to an ageing population, the population is expected to grow in the coming decades, especially in the four large cities in the Randstad. In other parts of the country, such as the more rural areas, the population is expected to shrink. This is expected to happen in one in five municipalities by 2035 (Jorritsma, Jonkeren, & Krabbenborg, 2023). The population decline in these municipalities will most likely be caused by an ageing population, young people moving away and low birth rates. At the same time, urban growth will put additional pressure on the mobility system and leads to a more individualistic society through secularisation. Not everyone has a natural social safety net anymore as use to be the case by attending a religious facility or the compartmentalized society. The social cohesion of areas in the country decreases leaving people on their own. Individuals now have to search for the meaning of life on their own. This can create greater mental strain and a possible increase in problems associated with it, such as burnout (de Hart, van Houwelingen, & Huijnk, 2022). But it also fails to promote positive developments in terms of safety, health, the economic situation, and liveability (Huygen & de Meere, 2008).

Apart from the fact that the regions in the Netherlands all have their own culture, dialect, and different perceptions on certain issues, there is a difference between the urban and rural areas on the accessibility of facilities. But when does a region classify as a rural area? The Wageningen University describes it as follows; “The rural area is primarily a geographical and a planning concept. Geographically, it denotes municipalities with lower population and activity densities, planologically, it denotes areas zoned for agriculture and/or nature. The term countryside referring to an area with certain socio-economic function is related to this, while outlying area refers to the space outside village centres” (Overbeek & Vader, 2009). A paper from the United Kingdom addresses the problem that the definition of the concept or ‘rural’ is hard to determine due to the diversity of types; these can for example range from small settlements on the fringe of large towns and cities to remote villages and hamlets, and from ‘green belt’ agriculture to areas of extensive arable farming or grazing. The table below shows the traditional stereotypical differences between urban and rural populations as determined by this paper (Scott, Gilbert, & Gelan, 2007). The paper focuses on the United Kingdom, which might bring prejudices based on culture. This ensures that it does not fully reflect the Dutch context. If you look at the economic and employment variables, it is not a foregone conclusion in the Netherlands that everyone in rural areas work in agriculture or forestry. We also have many people who live in rural villages and also work in the tertiary sector in the larger towns around them. In addition, the demography variable might also not fully reply on the Dutch context. Yes, we do have villages where there are big families, but we also see an ageing population in those villages. Young people tend to move away towards the urban areas, which is why in a lot of places the fertility might be quite low (CBS, 2023).

Dimension	Urban	Rural
Economy	Secondary and tertiary sector dominant	Primary industry sector and supporting activities dominant
Employment	Manufacturing, construction, administration, and services	Agriculture, forestry, and other primary industry occupations
Education	Higher than national averages	Lower than national averages
Services accessibility	High	Low
Information accessibility	High	Low
Sense of community	Low	High
Demography	Low fertility and mortality	High fertility and mortality
Political views	Liberal and radical elements more strongly represented	Conservative, resistance to change
Ethnicity	Varied	White
Migration	High; net in-migration	Low; net out-migration

Table 2: Traditional stereotypical differences between urban and rural populations

Another consistent theme within the Dutch economy is staff shortages, they can be seen throughout the different branches of the economy. The CBS attributes this to the increasing workload felt by many employees (CBS, 2022). The future of the demographic pressure is, in detail, still unsure. What is proven, is that the Dutch population is rapidly ageing and that the current working generation is less than the generations before (NIDI, 2020). There are several reasons for this, which can also vary from region to region. Staff shortages can have profound consequences for the liveability of an area. For instance, the shortage of general practitioners is a narrative of itself. About 2.500 of the 15.900 general practitioners in the Netherlands will reach retirement age within the coming five years (Hogenbirk, Boelens, & den Heijer , 2023) Young GPs do not want to take over an existing practice or start one themselves, and older GPs cannot find a successor to take over their practice (Batenburg, et al., 2018). Besides the shortage of GPs, the rest of the healthcare system is facing the same problem. With the rising, and ageing population in the country, the healthcare demand is only expected to grow. Thus, more needs to be done with fewer staff in the coming years (IGJ, 2022). Applying informal care or citizens' initiatives could be a temporary solution in staff shortages and the rising care demand. The St. Antonius hospital in Nieuwegein is therefore starting a trial to let relatives and friends of sick people conduct part of the care. For example, they will be deployed to make beds and provide daily care for the patient. If they wish, they will also learn to give injections or insert tube feedings, in order to be prepared for the care they might also provide at home. In this way, they hope to improve job satisfaction, because the nursing staff will have more time for their patients, and this will increase the quality of care (van Diepen & Makkink, 2023).

Mobility

Mobility is something every Dutch citizen is confronted with daily. People have jobs to attend, classes to go to, need to go grocery shopping and visit care facilities now and then. But what happens when these facilities are not reachable for a certain part of society? The Netherlands Environment Assessment Agency wrote a report on the accessibility of facilities in the country and concluded that there are differences in mobility (Bastiaansen & Breedijk, 2022). There is a difference between the Randstad and the periphery of the country, but the biggest difference is between people who do and do not own a car. There are many ways to get around; people take the car, public transport, bike or go by foot. But what has long gone unrecognised is that each modality excludes certain groups in society (Martens, 2023). These people can be divided into three groups: People who have a car and make maximum use of it, people who do not own a car but make use of a bike and public transport, and people who rely on public transport only. Poor

mobility can cause social exclusion as people can no longer participate in everyday life. Groups affected are People on low incomes, the unemployed and jobseekers, the elderly, people without driving licenses, people from migration backgrounds and residents of rural areas. People with disabilities are mentioned, but the report's conclusion outlines that there is an alternative for them, target group transport (Jorritsma, Berveling , de Haas, Bakker, & Harms, 2018).

There are two different components that determine accessibility: the mobility system and the spatial layout of a country (Martens, 2023). The mobility system aims to ensure that people can get somewhere. Accessibility does not measure exactly where you are going, but where you can get to. It is important that everyone has a reasonable level of ability, allowing freedom to choose where to go, which school suits you and which sport you play. According to Martens, mobility policy is too selective, looking separately at different facets of the mobility policy. This is done with the engineering approach; "If a system works, it works." However, the fact that these systems all stand alone and develop on their own ultimately does not give any result for traffic flow.

When people do not have sufficient mobility alternatives you speak of mobility poverty, also known as transportation poverty. At the same time, this poverty can be the reason people are not able to make use of public facilities, this can enhance the Matthew-effect, which is spoken about earlier in this chapter. People who are sick, will stay sick longer because they do not have the opportunity to go to a medical facility, and people who do not have a job, will stay jobless because they cannot reach job interviews or job-specific locations (Bastiaansen & Breedijk, 2022). There is not yet a set-in-stone definition of what transportation poverty is. Yet, the European Parliament describes it as a concept that knows different situations.

- No transportation availability, the lack of transport options or low frequency, this is also referred to as mobility poverty.
- No accessibility to transport, for disabled people for instance.
- Low transport affordability, inability to meet the costs of transport.
- Too much time spent travelling, also referred to as time poverty.
- Inadequate transport conditions, available transport options are dangerous or unsafe (Kiss , 2022).

Government influence

The central government with its Minister of Health, Welfare and Sport dictates performance standards and quality standards that the health sector must adhere to. The Netherlands is not unique in this; other countries around the world also set standards for healthcare quality. The provinces of Canada, for instance must uphold five principles to receive health care from the federal government: universality, comprehensiveness, portability, public administration, and accessibility (Wilson & Rosenberg, 2002).

The emergence of large disparities between the Randstad and periphery creates a sense of social unease. Complicated administrative issues as the Groningen gas quakes and farmers' protests, which mostly affect people in the periphery, cause lower turnout at elections, lower trust in national institutions and the growth of a protest vote (van den Berg & Kok, 2021). They speak about places in the Netherlands that can be referred to as 'forgotten' because people there do not see their problems being addressed by the government. This is reinforced by the conclusion of 'Atlas van Afgehaakt Nederland', that there are people in the Netherlands who 'disconnect' from national politics due to differences between regions

because they do not feel listened to (de Voogd & Cuperus, 2021). The Rli's report also talks about places where the government has lost its feelers. Regional government services are being withdrawn to larger cities due to upscaling, meaning that people cannot visit a regional tax office, courts are located far away and police stations are also located at an increasing distance (Rli, RVS & ROB, 2023).

Both reports write about workable solutions for reducing the perception of unease among residents of peripheral regions. The report on social unease does this through six perspectives for the government. It speaks of a combined strategy which includes:

- Constitutionalising: giving new lustre and work to the binding, regulatory and protective principles, structures, and ground rules that belong to the democratic rule of law
- Cleaning up, strengthening, and moderately differentiating inter-governmental relations
- Invest in a system of 21st-century basic facilities and sustainable infrastructure in every area of the Netherlands.
- Imagining: increase support for transitions by developing and highlighting appealing socio-spatial visions of the future
- Compensate: Inational spatial ambitions that require major interventions in rural areas should be accompanied by additional investments so that there is a net improvement in liveability and spatial quality.
- Temper expectations: dare to confront citizens that changes can mean losses as well as improvements (van den Berg & Kok, 2021).

Also, the report Elke regio telt! talks about changes to be done by the central government: (1) **Recalibrate the regular policy and investment logic of the central government.** Policies and investment choices should not automatically lead to 'making stronger what is already strong.' Better thought should be given to government choices, the report's authors argue for a basis for vital communities at the regional level. (2) **Invest in long-term and substantial regional development programmes.** Opportunity agendas should be developed by cooperating parties in the region. They determine priorities in the region based on opportunities, needs and tasks. At present, the central government provides lesser amounts for fixing backlogs; a long-term programme will help strengthen the broad prosperity of the areas. In doing so, they believe priority should be given to the regions that are currently lagging significantly behind. (3) **Work on a vital relationship between regions and central government.** A vital relationship between the regions and the regional government is advocated. In addition, the central government should be more empathic about spreading institutions across the country when closing and distributing them (Rli, RVS & ROB, 2023).

Results

The results chapter will focus entirely on the results obtained from the interviews. Results acquired in the desk research are described in the Theoretical Framework. The data obtained for this chapter can be found in appendix 1.

Sub question 1

"What are the standards in the Netherlands for making emergency care available for its residents?"

As mentioned before in the theoretical framework, the government ordered the eleven trauma centres to organize a regional acute care advice centre, a ROAZ (Schepel, 2023). The different ROAZ regions are described in the table below. For my research I spoke with six of the, now, ten regions, which are: Brabant, Euregio, Limburg, Midden-Nederland, Noord-Nederland, and Zuidwest-Nederland. These organisations are responsible for the accessibility and the quality of acute and trauma care in their designated region. The regions that are missing in my analysis are: Oost, Noord-Holland/Flevoland, West, and Zwolle.

ROAZ Region	Care administration regions	Main trauma centre	City	Number of inhabitants
Oost	Arnhem, Nijmegen,	RadboudUMC	Nijmegen	1.321.314
Brabant	Midden-Brabant, Noord-Oost Brabant, West-Brabant, Zuid-Oost Brabant	Elisabeth Tweesteden	Tilburg	2.573.853
Euregio	Twente, Apeldoorn/Zutphen	Medisch Spectrum Twente	Enschede	761.279
Limburg	Noord- en Midden-Limburg, Zuid-Limburg	MUMC	Maastricht	1.115.895
Midden-Nederland	Utrecht	UMCU	Utrecht	1.474.813
Noord-Holland & Flevoland	't Gooi, Amstelland-Meerlanden, Amsterdam, Flevoland, Kennemerland, Noord-Holland Noord, Zaanstreek,	AUMC	Amsterdam	3.323.832
Noord Nederland	Drenthe, Friesland, Groningen	UMCG	Groningen	1.674.275
West	Haaglanden, Midden-Holland, Zuid-Holland Noord, Westland Schieland Delfland,	LUMC	Leiden	1.936.035
Zuidwest-Nederland	Rotterdam, Waardenland, Westland Schieland Delfland, Zeeland, Zuid-Hollandse Eilanden	ErasmusMC	Rotterdam	2.175.517
Zwolle	Midden-IJssel, Zwolle	Isala	Zwolle	1.125.542

Table 3: ROAZ regions in the Netherlands

Within the designated area, a ROAZ is responsible for ensuring and making the acute care chain accessible. They do this by bringing the chain partners together and making chain-wide arrangements on these issues (van Spengler, 2023). Partners include the safety regions, hospitals, ambulance services, mental health services, home, and nursing care, and general practitioner organisations (Schepel, 2023). The size of these meetings varies from region to region. In a small region such as Midden-Nederland, there are nineteen different organisations; in a large region such as Zuidwest-Nederland, for example, there may be 40 to 50 partners around the table (Huijbregts, 2023). The ROAZ is divided into a tactical board and an executive board. The different branches of acute care are represented in both groups, which ensures that the right person is present for the relevant topics and that decisions can be made more easily. The different organisations are free to set up their own structure. This means that all regions have developed their own structure.

The aim of the partners is to make joint decisions about acute care in the certain region. The organisations that sit at the table are often competitors of each other due to market forces, but the arrangements must be made together (van Spengler, 2023). Collaboration is by consensus, working together to serve the common interest; being able to help patients with acute care needs in the best way possible. There is no mandate from the chair, so if one party neglects its duties, it can be held accountable, but it is not possible to impose a measure (van Spengler, 2023).

The Integral Care Agreement has stipulated that each ROAZ region must identify the demand for care and the supply of care in their region. This includes forecasts for the number of beds and jobs. The purpose of doing this is to identify bottlenecks early in the process (Bruens, 2023). A one-size-fits-all model is not possible in a country like the Netherlands where there are regional differences. Even within the regions, there are major differences on a sub-regional scale. Rotterdam cannot be compared to one of the islands of Zeeland, and even within Zeeland, each island is different from the next (Huijbregts, 2023). Noord-Nederland has a special challenge with the Wadden Islands where people could never get to the hospital on time due to the geographical location. There they use a special ambulance helicopter, and the tasks of general practitioners are broader than their colleagues on the mainland (Koolhaas, 2023). You really must look at what is needed per region, with a district nurse taking over the management (de Bot, 2023). But care is a responsibility of all of us, and everyone should step in to find a joint solution to fight against the emergence of “medical deserts” (van Essen, 2023).

“Medical desert” is still an unknown term in the Netherlands, so the ROAZ regions refer to hard-to-reach areas as ‘white spots’ (van Spengler, 2023). These areas are rare according to the ROAZ regions, but agreements are needed to keep these spots as small as possible. It is not without reason that foreign organisations are needed to provide certain parts of the country with extra security regarding ambulances and trauma helicopters, such as in Limburg (Starmans, 2023) and that there are hospitals that are deemed ‘high-risk’ (Koolhaas, 2023). This means that these hospitals have inferior accessibility to other hospitals in the area. But “medical deserts” are also threatening within general practitioner care. There are 320 villages that have a dispensing general practitioner, so a GP practice that also owns a pharmacy. When the regulations are constantly tightened for this, it will result in the pharmacies having to close, which in turn will lead to the closing of general practitioners, as keeping the practice open is then also no longer profitable, so that the “medical deserts” will expand or new ones may arise (van Essen, 2023).

Acute care is chain care by definition. It is not just about the patient being picked up by an ambulance because they have had an accident. It is about the chain of healthcare providers working together to ensure the right care for all people with a care need. For example, it is also about the person who picks up the phone when someone calls, who can perform triage and ensure that the care request can be answered with the right help (van Spengler, 2023). Because it is well known that the overall demand for care is going to rise, but it is also important, besides acute care, to look at the pressure on other care, how will the chronically ill, GP care and oncological care manage? If this is not properly organised, the pressure on acute care will only rise further. This requires a lot of coordination between the various parties (Huijbregts, 2023). Competition and market forces within healthcare sometimes make it difficult to make good agreements with each other about the chain (Bruens, 2023).

General practitioners function as gatekeepers of the chain, patients in many cases consult their GP first. He or she then determines whether further steps are needed. However, GPs are known to experience an ever-increasing workload, with more people coming for consultations who do not actually need a GP. A well-coordinated and efficient healthcare system is crucial for relieving the burden on all partners involved in the chain, as exemplified by the expected increase in visits to the GP surgery in the Rijnmond region due to inadequate general practitioner care during the day (Huijbregts, 2023). Prevention can play a significant role in preventing the various parts of the chain from becoming overloaded. When people live healthier lives, or avoid doing certain things, they are less likely to get sick. Actively monitoring people and looking behind the front door is not desirable (van Spengler, 2023), but looking out for each other and helping each other, when necessary, can quickly unburden formal care organisations. This can be done through community care or peer support, where people can help each other before calling care organisations for everything. This is desirable in many cases (van Essen, 2023). An initiative such as a village support worker can support the GP in, for example, seeking social contacts for people who come to the GP with loneliness symptoms.

Citizen initiatives like this are becoming more common, they do not always have to be about informal care. There are also citizen initiatives that are specifically aimed at supporting the acute care chain. CPR courses are being taught in villages where the ambulance is not always on time or an initiative where people are taught how to stop bleeding. This can save lives when needed (van Spengler, 2023). In Drenthe there is a network that ensures that an AED can be found within six minutes from every resident (Koolhaas, 2023). However, citizens' initiatives are not always known to the ROAZ regions. In the Zuidwest region there is no insight yet into the initiatives in smaller villages, but when the ROAZ plan is being drawn up, citizens' associations and patient councils are being approached to listen to their views (Huijbregts, 2023). Patient representation in the ROAZ structure is not self-evident. In the Euregio, Zorgbelang Overijssel participates in t he meetings about the ROAZ plan, but the inclusion of patient federations as a standard is difficult due to the fact that it often concerns small organisations that cannot find enough people to participate (Bruens, 2023). In Limburg, Burgerbelang Limburg is actively involved (Starmans, 2023).

Even though so many partners are working together and the citizen's initiatives that try to relieve the care chain, it is inevitable that hospitals and general practitioners will have to close their doors. The Ministry of Health, Welfare and Sports do not do this, but it is often done due to economical reasons. The Ministry sets standards and regulations to ensure the quality of care. If these quality requirements cannot be met, for example due to a lack of specialist staff or economic setbacks, a hospital may decide to close certain

departments. This is not an easy decision to make, emergency rooms and operating theatres are often the places where hospitals earn their money (Starmans, 2023). If there is no more money coming in and a hospital has to close completely due to bankruptcy, what impact will that have on the quality of life in the area? This has to be considered by the ROAZ region and the hospital partners, or, for example, a scaling down scenario has to be agreed to jointly counteract this setback and keep the hospital open. The shift would then be more towards planned care, allowing hospitals to work in certain specialties (Starmans, 2023).

A hospital can also decide to temporarily close the emergency department, which is what happened in Meppel. They decided to close the emergency department in the evenings. When this happens, a solution must be found with the other partners in the region so that the patients can be treated elsewhere (Koolhaas, 2023). In Drenthe, this led to outrage among residents, who argued that people with strokes would never get the right care in time, but these patients would not be treated in the closing hospitals anyway because of the lack of specialisation. There is an ongoing debate in traumatology as to whether a multi-trauma patient would benefit more from being treated in an emergency department that is closer but provides inferior care, or in an emergency department in a specialised centre that is further away. It has been scientifically proven that a slightly longer journey is preferable to arriving at a hospital and then being transferred to a specialised trauma centre (van Spengler, 2023). This does not consider the paramedic who must ensure that this patient also reaches the trauma centre in a stable condition, often with limited options for intervention if things go wrong. The feeling of healthcare workers are not sufficiently taken into account in this case (Koolhaas, 2023) (Starmans, 2023).

Recently there have been other hospitals that announced a closure. The hospital of Zutphen is currently a point of discussion (van Spengler, 2023) and there will be a merger between the hospitals in Bergen op Zoom and Roosendaal (Schepel, 2023). The closure of Zutphen ensures that agreements will be made between the safety regions and the ROAZ regions in the area to receive patients in the other hospitals. It is simply not possible to have an emergency room on every street corner. There is neither the money nor the staff to do so. Expanding care is not always a terrible thing, if quality is guaranteed (van Spengler, 2023). An example of this is the Ruwaard van Putten hospital, now the Spijkenisse Medisch Centrum. An analysis showed that this hospital did not need a 24/7 emergency room because it only provided low-complexity care. In nine out of ten cases, this hospital was bypassed. Today, it has a small emergency unit with limited opening hours for low-complexity emergencies such as broken limbs (Huijbregts, 2023). For complex care questions, patients go to larger hospitals such as in Rotterdam.

On the other side of the country, The Netherlands must deal with long national borders, five of the ROAZ regions that I spoke to for my research are located on the national border. Region Zuidwest borders Belgium in Zeeland, Brabant, and Limburg border both Belgium and Germany, and Noord-Nederland and Euregio both connect to Germany. What is seen is that standards and regulations stop at the border, but that residents certainly do not. Residents in the border areas make use of facilities in their close proximity, this means that people go to Germany or Belgium to do groceries, go to school or make use of hospitals, and this is also the other way around (Starmans, 2023).

In Zeeuws-Vlaanderen, it is observed that Dutch citizens are increasingly choosing hospitals in Ghent and Knokke because they are closer than the facilities in their own province. The management of the hospital in Terneuzen is having conversations with these hospitals to decide together to provide the best possible

care (Huijbregts, 2023). However, working together is difficult because the two healthcare systems are much different from each other, in addition, Dutch people are only insured for certain amounts abroad through their Dutch health insurance. In Limburg, it was noted that many Dutch people use Belgian care because there are fewer waiting lists there; when there are complications, these patients still end up back at a Dutch SEH, which also makes them a bit more crowded. Sharing patient data is exceedingly difficult due to privacy and incompatible systems. In the meantime, patients are becoming more assertive and are less and less satisfied with the advice to first wait and see if the symptoms get worse or to first use physiotherapy (Starmans, 2023).

Administratively, the Euregio cooperates with the emergency services in Germany. There is no legal framework in place but together they look at what is needed and act on it (Bruens, 2023). During the day, the area is also helped by the German trauma helicopter, as it does not fly at night due to missing night vision, use is then made of the helicopters in Nijmegen and Groningen. In Limburg there is cooperation with the Germans and Belgians when it comes to ambulances. The province is long and quite narrow, so a Dutch ambulance is not always the closest (Starmans, 2023). The other way around, a Dutch ambulance also be closer to certain Belgian or German border areas, so they also function as back up for the Belgian and German ambulance services.

Brabant calls for better cooperation between the Netherlands and Belgium, they border each other in so many areas and so little is done to take advantage of this. Especially in the small areas enclosed by the Belgian border, arranging ambulance services is difficult. Belgian ambulance services require Dutch hospitals to apply for a “100 recognition”, otherwise they will not be allowed to take patients to a Dutch hospital. This means that a Dutch citizen who is noticed on Dutch territory by a Belgian ambulance is therefore always automatically taken to a Belgian hospital. However, the procedure to change this is unknown (Schepel, 2023).

As described in this chapter, organizing acute care is a major task. Organizing is only the first step in the chain, making it accessible and guaranteeing the quality of care is at least as much work. During all the conversations I had, I asked the same question; What would be the ideal situation? Several examples have emerged from this that could alleviate part of the problem. Yet there is no ready-made way to relieve the pressure on the healthcare chain, but it is a combination of several factors. For example, there is a plea for a participation society, the next chapter will talk more about the changing society and solo behaviour, but the bottom line is that people should be given more opportunities to take on informal care tasks. The policy stipulates that people should continue to live at home for as long as possible, but then the resources must be made available to make this possible (de Bot, 2023).

The ideal situation for reducing the acute care demand is the use of preventive methods. “Looking behind the front door” of an elderly person who is perfectly healthy but forgets to drink a glass of water now and then and becomes dehydrated and trips and breaks something. But something like this would seriously damage someone’s privacy which is most certainly not an ideal situation (van Spengler, 2023) and secondly, where would we find the people to monitor everyone. A milder variant of this is video calling with the elderly (de Bot, 2023), or deploying a village or neighbourhood support worker who visits lonely people and therefore looks after them a bit (van Essen, 2023). A village support worker can assist in establishing contacts between people in the village. As a result, complaints such as loneliness, which would normally end up with a visit to the general practitioner, can be solved in advance.

The use of an acute district nurse was a common answer (de Bot, 2023) (van Spengler, 2023) (Huijbregts, 2023) (Bruens, 2023) (Starmans, 2023). Such a district nurse can visit people and treat acute care questions that do not require consultations with a doctor. But to achieve this, there must first be good care coordination in all regions. All parties must work together in a good way and steps must be taken in the field of communication between those parties and the data exchange of patients (Huijbregts, 2023) (Koolhaas, 2023). Initiatives such as the pscyholance can contribute to relieving the burden on ambulance care, which often spend a long time on finding crisis accommodation in the mental care system, while they can then no longer make trips to other people in need (Koolhaas, 2023).

Sub question 2

"What autonomous geographical trends within Dutch society that affect availability of facilities can be identified?"

Dutch society is changing. In the 1960s, society was still very compartmentalised, people took care of people from their own circle. Secularisation has led to the disappearance of social networks and society has become more isolated. Social cohesion is increasingly eroding, especially in urban areas. In rural areas and smaller villages, there is still a lot of talk about neighbourliness (van Spengler, 2023). People's self-reliance has deteriorated, how they first waited and see whether symptoms develop or asked around, an ambulance or the general practitioner is now called for the slightest of things. Resilience has decreased and people expect that the problem will be solved immediately. This is part of a social issue in which people think that everything can be made and can no longer deal with setbacks, but unfortunately not everyone can get better, some problems can no longer be solved (Bruens, 2023).

Due to the solitary behaviour, fewer and fewer people are becoming informal carers (PBL, 2018). Children no longer have time, live too far away, or have no contact with their parents, there is also talk of composite families where the family bond is often less strong. People are having fewer than the last generation and the Dutch population will grow through migration. This means that many people come to the Netherlands with a different background and culture who think about healthcare in a different way (de Bot, 2023).

As earlier spoken about in this thesis, the ageing of the population is a trend in the Netherlands to be taken seriously. Twenty percent of the population ages 65 and over, and the municipalities with the highest ageing numbers are located in rural areas in the country, for instance Twente, Limburg, Zeeland and the North of the country (Centraal Bureau voor de Statistiek , ND).

In Midden-Nederland, they see it as a challenge to be solved. "An ageing population creates an imbalance between the green and grey pressures and the working portion of the population." This means that the amount of working people is in imbalance with the amount of people who enjoy social security provided by the government. The births in this region are set to grow 18-20% in the coming years which will cause a care demand on its own. And with a bigger population of older people who are set to live longer, healthier, and more independent than their predecessors, the care demand will inevitably grow. Because in the end, everyone will develop a demand for care. On the other hand, they are aware that the demand of care will start to increase and that, because of the smaller working population, there is also a staffing issue that needs to be solved (van Spengler, 2023).

In the Zuidwest region, the increasing ageing population is a reason to look critically at the future of the care chain. "Ageing puts a strain on the demand of care." The region speaks about interventions that through prevention and preparation the rising demand for care can be treated (Huijbregts, 2023). This is also something that is deemed important by the Euregio. It is important that people can get to the right care within the right time, "but at the same time, I do think that it is more pleasant for the elderly if it is a little closer to home. Because that is also where the social environment is, their social network which also provides most of the aftercare" (Bruens, 2023).

Ageing was one of the reasons to start a citizens' initiative in the village of America in Limburg. "The disappearance of care in the village means that the desire to live more independently at home for longer will soon no longer be possible" (van Essen, 2023). Another example is the KBO in Brabant which is expressing the desire for community living. Where for example, the vital over-sixty-fives do something for their older housemates, but who also continue to feel socially involved as the result of it. But also, initiatives like 'Mijn Woongenoot' where the elderly live with students who help them with household chores in exchange for a lower rent than the normal rental prices for student rooms. Cindy de Bot gave the example that in Japan the elderly are still at the centre of society by getting involved in volunteer work and she advocates an approach in the Netherlands based on the Scandinavian model of community-based living. People who are willing to keep doing something for society should not be put off at the age of sixty-five. Another important case that is mentioned is that the community centres should be reintroduced in many places. Through this, meaningful citizens' initiatives are organized, for example CPR courses (de Bot, 2023). In Oss, they decided to do it a little different. In cooperation with care organisations and the government the inhabitants of the Ruwaard neighbourhood started a community centre where positive healthcare is stimulated through a personal plan for everyone; what does this person really need? The only thing they asked for was a community centre, a sofa and coffee. Six months later there was a community centre that organizes thirty-two activities per week.

This is also seen in the village of America. By giving the health centre with formal care, also a social function. This assists the formal care being relieved from the extra work. People who usually call their GP because of loneliness are doing this less since they found themselves a new place within the villages' society. In America, they introduced a village support worker which is taking care of these initiatives and stimulates interpersonal encounters in the village (van Essen, 2023). As an example, the village that King Charles designed in the United Kingdom was mentioned. The houses are situated in such a way that people must meet each other when they go out. In many neighbourhoods in the Netherlands, contact with neighbours is also made almost impossible by architectural principles. If people do not meet each other, social cohesion ebbs away by itself (van Spengler, 2023).

A recurring problem within the Dutch economy is the dire shortage of personnel. Especially in the care sector the cry for personnel is big. This can have different causes and outcomes. In nursing programmes, the number of students choosing to work in home care is decreasing (de Bot, 2023), this is particularly noticeable in rural areas of the country compared to the more urbanized areas. This is due to the wishes of the student. When they enter the programme, the preference often given is that they want to work with either children or in the ambulance, home care has less appeal. The nursing programmes therefore do their best to introduce students to all facets of the nursing profession, to also show the students the charms of home and long-term nursing care. National regulations have stipulated that nurses can only spend a certain amount of time with an intervention. However, a home care nurse in Zeeland is already on the road for a much longer period of time to reach the patients than a colleague who works in the Randstad (Rli, RVS & ROB, 2023). This leaves much less time to properly assist patients (de Bot, 2023), this is highlighted with the example that nurses do not have the time to change beds, which leads to patients having to stay in a bed dirty with their own excrement. Nurses, when choosing their studies and careers, often do this because of their motivation to help people. With the current regulations and health insurers picking on nurses who want to do a little extra for their patients, does not make the profession more popular (de Bot, 2023).

Next to the shortages in home care, there are also shortages of physician assistants, general practitioners who want to take over a practice, and surgical assistants (Starmans, 2023). A simple solution would be to train more medical staff, but that comes with a price tag and besides, that would require more people that want to be trained (van Spengler, 2023). It added that while there will be new teaching positions for doctors, they will first have to complete a six-year basic training and then specialise. In doing so, they are soon at least ten years further before they can start working independently as medical professionals. Society will look different in ten years' time; it is a problem that should have been foreseen earlier (Starmans, 2023). Noord-Nederland is collaborating with Germany to see if it is possible to train Dutch healthcare staff together with German healthcare staff. A measure that could work well in border areas (Koolhaas, 2023). As mentioned before, staff shortages can have profound consequences for the liveability of an area (Starmans, 2023). Within the coming five years 2.500 of the 15.900 general practitioners in the Netherlands will reach retirement age (Hogenbirk, Boelens, & den Heijer , 2023). Young GPs do not want to take over an existing practice or start one themselves, while older GPs cannot find a successor to take over their work (Batenburg, et al., 2018). Region Limburg also sees a significant difference with thirty years ago. Young GPs often prefer to work as observers rather than take over a practice. In addition, they also attribute the shortage to the older, greyer population. The area is a lot less youthful than, say, the Randstad (Starmans, 2023).

Most hospitals in the country, except for the university hospitals, are autonomous business entities, or part of a group organisation. Business processes ensure that if you want to hire staff, you must have money to do so. Therefore, staff shortages are not always a demographic phenomenon, but simply also a problem of an economic nature. The region Midden-Nederland substantiates this with the example that politicians do not make choices about closing hospitals or hiring staff. Quality requirements have been set, and hospitals must ensure that they meet them themselves (van Spengler, 2023) (Bruens, 2023). When hospitals run out of financial and human resources, the discussion turns to how dense the network of SEHs should be. This is because quality must be ensured and, in the process, staffing and training requirements must also be met (van Spengler, 2023). Operating theatres and emergency rooms are often the places where new patients come in, the place where hospitals make money. A shortage of resources and staff prevents patients from being accommodated. As a result, departments must close (Starmans, 2023), which we see happening in the cases of the closing SEHs in the past years.

Brabant gave the example that in the GGZ, the crisis service looks after an average of six patients per night, but a lot of staff are deployed throughout the province to facilitate this. Reducing the number of sites, which then will serve a bigger area, can ensure that staff saved during the night, can be used during the day when they are needed more (Schepel, 2023). While, on the other side, Limburg has a shortage of maternity nurses, making scaling down inevitable. As a result, young families receive fewer hours of help from a professional in the first week after childbirth. This in turn can lead to an increase in GP surgery visits and calls to 112 (Starmans, 2023).

Sub question 3

"In what ways does the mobility sector contribute to obtaining quality acute care in the Netherlands?"

Mobility and the government are inextricably linked. The government has a monopoly when it comes to mobility. It is not possible for a private party to buy land to build its own road, or to run trains on ProRail's tracks. The essence of mobility is that people can fully participate in society by being able to reach the social facilities that are important to them (Bastiaanssen, 2023). However, research has shown that there are exceptionally large differences in accessibility. On the one hand between cities and rural areas, between the Randstad and the periphery, but the biggest difference is between people who have a car at their disposal and those who do not. Wat emerges is an exclusion of certain population groups, research in the United Kingdom has found that two in three jobseekers experience problems accessing transport and as a result remain unemployed for longer because they cannot reach work locations or job interviews. In addition, people also experience problems reaching education and healthcare locations, this causes a lack of choice in education and people missing healthcare appointments and therefore stay sick longer (Bastiaanssen, 2023). Another term for this is transportation poverty. Translated to the Dutch context, this means that people who can work fine use WW benefits longer, or people who can heal and then be declared fit for work again use benefits longer, this comes with a huge cost for society. In the United States, this has been researched since the advent of the car. It is known that many white Americans moved to the suburbs, taking many jobs with them, while the often African American citizens remained behind in the city centres and depended on the use of public transportation. The relocation of jobs to the sub-urban areas and the poor connections to these places made it difficult to find a job and get a stable income. In the Netherlands, too, many jobs have been relocated to business parks on the edges of urban areas. Mobility policy has not been adjusted to this yet. You can often get tot the station quickly with buses, but the activity in cities, such as Rotterdam Zuid is skipped. This is because the focus is too sectoral and there is a need for more consultation with the various sectors (Bastiaanssen, 2023). The Limburg region provided a good example of this, with Rijkswaterstaat closing tunnels in which a main thoroughfare, the A73, is not able to be used. The agreed policy is that the security region and the ROAZ will be contacted to discuss alternative routes for the emergency services. This has not been done, which means that arrangements must be made at the last minute to ensure that ambulances can still reach part of the region's populations in emergencies (Starmans, 2023).

In contrast, many people depend on public transportation. Owning a car is expensive, the purchase is a one-off cost, but the maintenance, petrol and parking costs are a recurring expense. In some cases, it is the only way for people to transport themselves to the needed facilities, because there are no other options with the shrinking supply of the public transport system (Bastiaanssen, 2023). In addition, there are also large groups of people who are unable to use their own transport, such as people who do not have a driving license due to age, disability, or anxiety. You cannot expect a person over eighty-five to get into a car in the evening to drive thirty kilometres to the nearest GP surgery (van Spengler, 2023). But elderly people who live in urban areas also have difficulty getting to care locations in the evening. In addition to its academic and traumatological character, the MUMC in Maastricht also has a regional function. It is a real city hospital, easily accessibly, but when you ask a person over 85 to come to the

hospital from one of the working-class areas in the city, it is practically impossible to do that without own transportation (Starmans, 2023).

However, no accessibility standards have yet been drawn up by the Dutch government. It says that the accessibility must be sufficient, or good, or must improve, but a guideline regarding the ideal accessibility is non-existent. Then comes the question, what is acceptable? In the Netherlands there is the right to a roof over your head, the right to care and the obligation to study until you are eighteen years old, but how you get to these facilities is your own responsibility. There is no basic right to mobility in the constitution, which means that these groups of people have no freedom of choice, or in the worst cases, no opportunities to access social services and therefore hold a disadvantaged position in society (Bastiaanssen, 2023). We have basic rights, but if you cannot exercise them, then you do not have them either (van Essen, 2023). But how can this be solved? (Bastiaanssen, 2023) Speaks of the need of politicians in The Hague to make choices, because it is a problem on a national scale. “I think that it is undesirable to get major regional or local difference because provinces or municipalities make certain different choices or place different emphasis, there will undoubtedly be variation, because you have an urban and rural area. But I do think that there are certain limits to the variation you see therein.”

The largest part of the government’s mobility budget is invested in places where travel time savings are the greatest. In most cases, these are places where there are many traffic jams or where it is expected that there will be many traffic jams in the future. In the meantime, there are plans for gigantic infrastructure projects like the Lely line, while bus lines in the countryside are being discontinued more often. Then the question becomes; who is responsible for this and how can this be solved? Building a train connection in the countryside is in most causes unnecessary, people there often already own a car and would benefit better from a good and frequent bus line.

When speaking to the ROAZ regions, one thing became clear fast. Hospitals should not be responsible for their own accessibility. A supermarket is also not responsible for people being able to reach them to do their groceries, a municipality should ensure that patients are able to reach the location (Bruens, 2023). It is then up to the mayor and the partners to ensure that the public transport improves. A ROAZ region is responsible for the accessibility of acute care, so they must ensure that every citizen has access. Yet, this does not mean that they must arrange bus transport (Huijbregts, 2023). We must be careful that is not a responsibility that a healthcare organisation must bear (Bruens, 2023). But it is important to look at where a hospital is located and how the mobility plan around it is regulated (Starmans, 2023). In addition, there is also a plea for looking at the essence and not rigidly clinging to existing regulations. It is necessary to give more space to citizens’ initiatives in mobility. In the village of America, a citizens’ initiative was started to be able to transport people that are not able to travel on their own. This is done with the help of the province of Limburg, which exempts a budget for this. The transport service of America also wants to help the pharmacy, who is not able to deliver medicine themselves, with the home delivery. But this is not possible due to current regulations. This has created a paradoxical movement. People themselves do not have sufficient mobility to collect medicines from the pharmacy, which then decides to bring the service to the customer via an already existing service, but then encounters regulations that prevent this (van Essen, 2023).

It is not possible to make a suitable solution for the mobility issue to be found nationally, as each region is faced with its own problems and characteristics. In some regions, alternative transport is provided, such

as dial-a-bus or regional taxis, which is seen by many local policymakers as the solution for the busses that are cut back. But is this the perfect solution? Nonetheless, these transport options often depend on volunteers, who in many cases cannot be found. And is it justifiable that work, that is normally funded by local authorities now must be done for free? For the disabled and long-term sick people there is target group transport, which is funded by the Social Support Act. Experience shows that this is not an ideal situation. In many cases, people must make arrangement far in advance to use the transport service, which detracts from the spontaneity of mobility (Bastiaanssen, 2023).

In terms of public health, active mobility is promoted. People should take the bicycle or travel on foot more often. This reduces unnecessary traffic jams and emissions and is a much healthier option for the living environment. Another alternative, as established in America, is a transport service in which the inhabitants of the village, with the support of the province, work together to bring residents to important appointments. A major advantage of this structure is that mutual contacts arise between villagers and that social cohesion is strengthened and loneliness is reduced (van Essen, 2023).

Sub question 4

"In what ways can the Dutch government influence the availability of emergency care in the Netherlands?"

Many policies are written in the Netherlands regarding healthcare. There is a Ministry of Health, Welfare and Sport and there is a system with market forces within healthcare. Market forces where healthcare institutions compete and where health insurers are allowed to negotiate on price, and decide for themselves what they offer, provided they meet basic care, and should ensure that the quality of care remains guaranteed. The Ministry sets quality requirements for healthcare providers and expects them to take care of this themselves. Of course, there are organisations from the government that organise the quality control, but it is primarily the responsibility of the care providers. The question here is how disobedient can you be to bend the policy to fit within the region? "We want to stick to the national frameworks as much as possible, but sometimes this makes no sense and the region requires a different solution, which sometimes makes it quite challenging" (Koolhaas, 2023).

The political noise in which healthcare is mentioned is not always strategically planned. A negative report about the closure of an emergency room or GP surgery can cause great panic among the population without explaining the scientific and strategic rationale behind it (Koolhaas, 2023). The media is very quick to report that a closure of a SEH is detrimental to rural areas, people panic about this while this is not the policy from the ministry at all (Huijbregts, 2023). It is important that political administrators are included in the communication, but the preference in this case is for administrators who understand the healthcare system, in order to avoid miscommunication (Huijbregts, 2023).

Last year, the Minister of Health, Welfare and Sport made a crucial decision. Two of the four paediatric cardiac surgery centres had to close. The minister called on the four centres to talk about it together and come to a solution, a consensus was not found in this after which the minister used his power to make the final decision. The centres in Leiden and Utrecht would have to close and those in Groningen and Rotterdam would be allowed to stay open. He makes this decision on safeguarding the quality of care, which is only possible in high specialised care. Other departments will be closed by the hospitals themselves (van Spengler, 2023). The case surrounding paediatric hearth surgery is a political exception.

According to the ROAZ regions, there is still a lot of progress to be made in more areas. An example of this is an accessible EPD; now, all healthcare providers use their own electronic patient records, which do not automatically share information with each other. This causes these to be mismatched, with a lot of information being lost or noticed too late. A social domain-like set-up would be ideal. Where personal information about the patient wishes would also be included (Bruens, 2023). Due to strict privacy laws, this is not possible and patients with complex conditions, often treated by multiple specialists, get caught in a web of consent forms and medical records that are not up-to-date. Dutch government policy writes that older people should live independently at home for as long as possible. But is has also been proven that sooner or later these people develop a care need, and this should be spotted in time to ensure that a care need does not develop into an acute care need (van Spengler, 2023). The decision was made with the idea that care can be arranged more cheaply and efficiently in one's own environment. What is forgotten here is that there are several home care organisations per region, and this can be arranged much more efficiently by working together (Bruens, 2023).

Currently, the 45-minute standard for ambulance response times is being analysed. This standard was drawn up at the time without any scientific basis and asks ambulances to be at the hospital with a stabilised patient within 45 minutes of reporting. It has since become clear that, for a number of conditions, it is actually more efficient to drive a little further to a specialised centre than to treat this person in a regional hospital (Bruens, 2023). If you cannot make it with 45 minutes then you are a sensitive hospital, what is not considered is that it is also getting busier on the road, also in the northern part of the country, and that the distances in the north are also bigger. This further complicates the 45-minute norm (Koolhaas, 2023). The standard will not become a 30-minute standard as the people and the funding is not available for that, so the study was actually set up to get an already known answer (Schepel, 2023).

Healthcare is always seen as a cost rather than a revenue when it also generates a lot of jobs. When a factory closes, we talk about the job losses, but when a hospital closes, we do not talk about that. Just apart from this, good healthcare ensures that people are employable sooner, it therefore has real importance not only to people's health but also to the Dutch economy (Bruens, 2023).

Conclusion

The Netherlands is a liberal country, a country where people can make use of social services, where the government looks after its citizens and where good healthcare is available to its citizens. But what happens when groups in society have less access to this healthcare?

The Dutch healthcare system is complex and extensive, built up out of five different laws that safeguard a facet of the system. All of them are evenly important and needed in the care chain. The chain is a flow chart that brings patients from one link to the next, with, in most cases, the general practitioner being the gatekeeper who decides if further care is needed. Recently the care demand started to rise, this is due to many changes in society; people get older, are healthier and stay at home longer. But also, the decreasing secularisation and the rise of individualistic thought make people more dependent on the healthcare professionals, causing longer waiting lists and more calls to 112. The complexity of the care system leads to efficiency issues.

Partly due to the ageing population, the demand for acute care starts to rise. Most of the places where this is developing the fastest are rural areas in the border provinces. The demand is rising such that persistent staff shortages make it difficult to comply. Yet, between the years of 2010 and 2020, twenty-two emergency rooms were closed in the country, and others are on the brink of closure. This will have profound consequences for the accessibility of care when the capacity is not captured by the chain partners in the region. A closure of a facility in The Hague has different consequences then a closure in Zeeland, where the proximity of the next hospital is longer than in bigger cities. Ageing and other autonomous geographical trends discussed in the results section of sub question 2 are influencing society and therefore also the policies that are written for it.

Against popular believe, the Minister is not the one that closes the hospitals. This is in most cases a prudential choice of the hospital itself. The Ministry of Health, Welfare and Sports regulates the quality of healthcare through regulations. If a hospital is not able to meet with these regulations due to staff shortages or disappointing revenue, it makes the decision to cut back on the amount of care that they offer. Many hospitals are affiliated with a hospital group, which then chooses, for example, to change a smaller hospital to an outpatient clinic. It is often those smaller hospitals who have a regional character and are located in smaller towns. The larger head establishments are often located in urban areas and continue to offer healthcare in all fields.

In 1999, the government ordered the trauma centres in the country to organize a regional acute care advice centre, a ROAZ, which represents the acute care chain in their designated area. As asked in sub question 1 it is their responsibility to ensure that the accessibility of acute care is organized in cooperation with all the chain partners. These partners include safety regions, hospitals, ambulance services, obstetricians, home care and the GGZ. The Integral Care Agreement asks the ROAZ regions to identify the demand for care and the supply of care in their own regions, this includes the forecasts of beds and jobs for healthcare personnel. It is known that a one-size-fits-all model is not possible in a country like the Netherlands, where there are so many differences between regions, but healthcare is a responsibility of all involved, and together they must fight against the rise of “medical deserts”.

On the other hand, the mobility policy, which is covered in sub question 3, focuses too much on preventing congestion in often urban areas, a lot of money is invested in large infrastructure projects to

prevent future traffic jams. This is essentially about travel time savings. On the other hand, it is almost impossible for people of certain groups to travel to facilities without owning an own vehicle. People without drivers' licenses, due to handicap, age or anxiety are not able to travel by their own transport and thus face difficulties participating in society. Also, it is not always possible to go to appointments with health professionals. And when the nearest hospital or GP surgery then closes, and people must travel more than thirty minutes by their own transportation, it becomes impossible to reach it without the use of public transportation.

A cry for change emerges from citizens of rural areas and experts in mobility policy. It is time to re-consider the way that people travel and the places where facilities are located. People should have the freedom of choice which education they want to follow, and the freedom to visit a specialist in the hospital when needed. Alternatives should be introduced for people who are not able to travel on their own, herein call-a-bus is not the holy grail and large infrastructure projects like the Lelylijn are also not always the answer. There must be a discussion at a regional level about what is needed in the area and people who are dependent on public transportation should be considered in the decision.

The government policy, which is addressed in sub question 4, has been 'making stronger what is already strong' for long. Yet, they forgot about the regions that were not deemed the strongest and thus did not see any investment in their facilities in the past years. Slowly the desertification came, and the inhabitants saw their range of facilities stripped. Slowly citizens' initiatives were started to replace the missing facilities. In rural, villages, CPR courses are offered by the village associations, there are village cooperatives that ensure that sufficient AEDs are available, and there are villages that jointly arrange part of the formal care to be available. Proeftuin Ruwaard in Oss and 't LaefHoês in America are positive examples of this. The local population determines what is needed and asks the government for help, together they build an alternative that partly relieves formal care by taking on social care.

Then we do return to the main question of this study: In what ways can the Dutch government ensure that residents of rural areas in the Netherlands can continue to receive quality emergency care? Overall, then, it is important to recognize the problem of increasing disparities between people within the country. Differences that do not need to be there when clear agreements are made on the accessibility and distribution of healthcare facilities across the country. This asks for an intersectional approach on policy making. When rural villages are no longer cut off from the outside world by cancelling bus routes, and when regulations start encouraging, and especially not working against, the remaining general practitioners in these villages. The Netherlands is a liberal country but let us make sure that ALL residents can continue to enjoy it for as long as possible.

Recommendations

"Prioritarianistic view" on healthcare and its distribution.

For years, government policy has been to invest in what was already strong. The idea behind this is that the less strong areas will then automatically profit from this. However, this is not the case (Rli, RVS & ROB, 2023). This results in large undesirable differences between urban and rural areas within the Netherlands in several fields. The place where you live may determine the life expectancy of its residents (Broeders, Das, Jennissen, Tiemeijer, & de Visser, 2018). What emerges is a vicious circle where people start to avoid care because accessibility makes it impossible. As a result, conditions are not detected at the right time, and they end up incurring only higher healthcare costs. This is described in the Matthew-effect; where the rich are getting richer, and the poor are getting poorer. People who suffer disadvantages will only suffer greater disadvantages if timely action is not taken (Broeders, Das, Jennissen, Tiemeijer, & de Visser, 2018).

But these differences are also seen abroad. As indicated in the Theoretical Framework, the growth of "medical deserts" is a major problem in France, where even the people in certain urban areas cannot get the care that they need due to staff shortages (Thompson, 2023). Living in a rural area need not be the main reason for health disparities in an area, socioeconomic status, geographical inequalities and waiting lists are seen as threats as well. The author of the paper mentioned three possible solutions: (1) Establish a uniform definition of the possible planned fragility of the area, (2) Maintain general practitioners in the areas that already have them, and place more in the areas that need them most, (3) Invest more in areas that need investment most.

This encourages to use a "prioritarianistic" policy approach. This approach advocates for the least fortunate by concluding that they are the first to be aided (Holtug, 2017). When this is translated to the healthcare perspective, see table 1, this means that the life expectancy years of those with the lowest health score should increase and that the people with the lowest health potential should receive a higher amount and better opportunities to do so (Broeders, Das, Jennissen, Tiemeijer, & de Visser, 2018). This may mean that the government should act and invest in certain areas to help residents make healthier choices for themselves and their families.

Intersectionality in policy

The Dutch government has twelve different ministries. These ministries are in turn responsible for their policy areas. To stay in the theme of this thesis; the Ministry of Health, Welfare and Sports writes about policy on healthcare and the Ministry of Infrastructure and Water management does so on mobility. The intersectionality of these policy areas is often underestimated. Policy on mobility also indirectly influences people's health, education level and independence. There is too much thinking in a selective engineering approach; "If a system works, it works." However, the fact that these systems all stand alone and develop on their own, ultimately does not give any result (Martens, 2023).

In the Netherlands, many jobs have been relocated to business parks on the edges of urban areas. At the same time, mobility policy has not been adjusted to this yet. What can be seen is that you often can reach a train station fairly easy, but the activity in the cities are skipped in this policy. Which can be seen in Rotterdam-Zuid, the harbour is, as the crow flies, close to this neighbourhood but almost impossible to reach by bus or metro (Bastiaanssen, 2023). But even for temporary projects, it is often difficult to tune

in. For example, Rijkswaterstaat is conducting road works at the A73 tunnels and is closing the road for an extended period of time. There is no consultation with the safety region or the ROAZ of this region for the purpose on whether or not ambulances and other emergency services can continue to drive. As a result, a part of Limburg is not easily accessible for the emergency services. Which means that ambulances can hardly drive to a hospital in their own region and have to divert to hospitals in Brabant. When there is intersectional thinking and cooperation, these kinds of problems are already noticed and solved in the preparations of the project (Starmans, 2023).

But even within the health domain, it is important to write an intersectional policy plan. For instance, the policy at the moment is for people to continue to live independently at home for as long as possible (van Spengler, 2023), but in addition, it is then also important to adapt facilities accordingly in housing and mobility. This is not necessarily about intersectionality between ministries, but also between officials in the 'Haagse Hectare' and officials in local politics and implementing organisations (Koolhaas, 2023).

New distribution key for mobility funding

The essence of mobility is that people can fully participate in society by being able to reach the social facilities that are important to them. The largest part of the government's mobility budget is invested in places where travel time savings are the greatest. In most cases, these are places where there are many traffic jams or where it is expected that there will be many traffic jams in the future. At the same time, the public transportation supply is shrinking in big parts of the country.

In contrast, many people depend on public transportation. Owning a car is expensive, the purchase is a one-off cost, but the maintenance, petrol and parking costs are a recurring expense. In some cases, it is the only way for people to transport themselves to the needed facilities, because there are no other options with the shrinking supply of the public transport system (Bastiaanssen, 2023). In addition, there are also large groups of people who are unable to use their own transport, such as people who do not have a driving license due to age, disability, or anxiety.

What emerges is an exclusion of certain population groups, research in the United Kingdom has found that two in three jobseekers experience problems accessing transport and as a result remain unemployed for longer periods of time because they cannot reach work locations or job interviews. In addition, people also experience problems reaching education and healthcare locations, this causes a lack of choice in education and people missing their healthcare appointments and therefore stay sick longer (Bastiaanssen, 2023)

In terms of public health, active mobility is promoted. People should take the bicycle or travel on foot more often. This reduces unnecessary traffic jams and emissions and is a much healthier option for the living environment. Another alternative, as established in the village of America, is a transport service in which the inhabitants of the village, with the support of the regional government, work together to bring residents to important appointments. A major advantage of this structure is that mutual contacts arise between villagers and that social cohesion is strengthened and loneliness is reduced (van Essen, 2023).

It is important that there are options for all population groups in the country. On the one hand, it is understandable that money is being poured into infrastructure projects to promote traffic flow, but on the other hand, it chafes that travelling by car is still promoted so much. To achieve the major national goals, it is more important that residents realise to travel by public transport or take the bike more often.

But when the infrastructure for this is inadequate, they often have no other option than travelling by car, especially in the rural areas in the country. It is therefore important to look at a new allocation key for mobility funding within mobility policy.

A place for citizens' initiatives

The healthcare sector in the Netherlands is struggling. Whit long waiting lists, rising care demand and staff shortages, it is increasingly difficult to offer the right quality of care. GPs are overflowing with administrative tasks (Batenburg, et al., 2018), nurses in hospitals no longer have time for a chat with the patient (van Diepen & Makkink, 2023), and home care is struggling with the number of minutes they are allowed to spend per patient (de Bot, 2023).

In various parts of the country, citizens are now standing up to relieve formal care. At the hospital in Nieuwegein, there is a trial with relatives and friends of patients taking on some of the care (van Diepen & Makkink, 2023) so that nurses have more time for the patient and their other tasks during the day. In America in Limburg, the village has jointly set up a health organisation where, in addition to formal care, informal care tasks are taken up by residents (van Essen, 2023). And there are also concepts where students take care of the elderly in exchange for cheaper living space (de Bot, 2023). Looking out for each other and helping each other, when necessary, can quickly unburden formal care organisations (van Essen, 2023). An initiative such as a village support worker can support the GP in, for example, seeking social contacts for people who come to the GP with loneliness symptoms.

Citizen initiatives like this are becoming more common, they do not always have to be about informal care. There are also citizen initiatives that are specifically aimed at supporting the acute care chain. CPR courses are being taught in villages where the ambulance is not always on time or an initiative where people are taught how to stop life-threatening bleeding. This can save lives when needed (van Spengler, 2023). In Drenthe there is a network that ensures that an AED can be found within six minutes from every resident (Koolhaas, 2023). However, citizens' initiatives are not always known to the ROAZ regions. In the Zuidwest region there is no insight yet into the initiatives in smaller villages, but when the ROAZ plan is being drawn up, citizens' associations will be asked to participate as well (Huijbregts, 2023).

In the village of America, a citizens' initiative was started to be able to transport people that are not able to travel on their own. This is done with the help of the province of Limburg, which exempts a budget for this. The transport service of America wants to help the pharmacy with the delivery of medicine, because they are not able to do this themselves. But it is not possible to help because of the current regulations. This has created a paradoxical movement. People themselves do not have sufficient mobility to collect medicines from the pharmacy, which then decides to bring the service to the customer via an already existing service, but then encounters regulations that prevents this (van Essen, 2023).

The local population often knows what is needed in their region and ask the government for help or tries to raise the funds themselves (van Essen, 2023). But it is important that politicians recognize that initiatives like this should be supported and there should be space to set them up. Of course, the formal care must remain of excellent quality for everyone in the country, it is not meant to be seen as a substitute, but a community centre or a village support worker can have a positive impact on people's health.

Discussion and reflection

I am aware that, as a master's student, I am not the one who is going to solve the 'wicked problems' of the healthcare system and the Dutch government. Nevertheless, I hope that my research and the thesis written hereby can contribute to raising awareness of this problem. There are several topics that I feel I have not been able to adequately explain, as these are issues that are still being discussed within policy making or that I have not been able to explore due to lack of resources and time.

At the beginning of the thesis, I write about the ambulance arrival times, I have deliberately kept away from the current discussions on performance standards because this requires a technical approach. If it is decided to move away from the 45-minute standard, it will be up to doctors and other medical scientists to determine a new standard based on their knowledge and research in the medical field. However, it would be wise to assess this on geographical data in addition to medical scientific data only.

As described earlier, the concept of "medical deserts" is not yet widely used in the Netherlands. Other European countries, such as France, already use the term regularly when describing the desertification of the rural areas in the country. A European initiative, AHEAD (Action for Health and Equity: Addressing medical Deserts), is working to put the problem on the agenda with politicians in the different countries in the European Union, and together seek solutions to the creation and growth of "medical deserts". It is important that countries where this is not necessarily a major problem yet realise that through desertification and disinvestment, it can become a reality in areas in their countries as well. I chose not to delve too deeply into the problem in other European countries. This thesis is focused on the Netherlands, and the Dutch system. Nevertheless, in follow-up research it would be interesting to compare countries within the European Union and test European laws and regulations for possibilities.

Furthermore, I think citizens' initiatives could be a very inspiring topic to explore further. The Netherlands has areas that have extensive social cohesion due to neighbourliness. Together, they set up initiatives to relieve formal care or, on the contrary, make people less likely to fall ill. This topic is underexposed in literature and could be a solution that contributes to a better healthcare system in the country. This could be a good combination with research on broad welfare. This is still a fairly new topic within economics, which has been the subject of much recent writing and research.

This thesis is written as a conclusion of the master's degree in New Economic Geographies, Ecologies and Business Innovations, with a clear geographical focus. However, it seems important to me that this research is being continued by officials and consultants within the policy world. I think professionals who have made a name for themselves in the policy world can go even further in identifying the problem by having conversations with chain partners. As a student this is a lot harder, since people are aware of the fact that it is only a thesis.

In addition, in the time set for the thesis, it was not possible to highlight all the different perspectives in the data collection. Because of this, I chose to evaluate the different points of view with the people I did speak to. For follow-up research, I think this is a nice starting point for further writing. It was also not possible to access all the literature as the university only works with a limited number of publishers. Often, I came across literature where a Radboud account was not sufficient to read the papers. Perhaps I missed useful papers because of this.

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