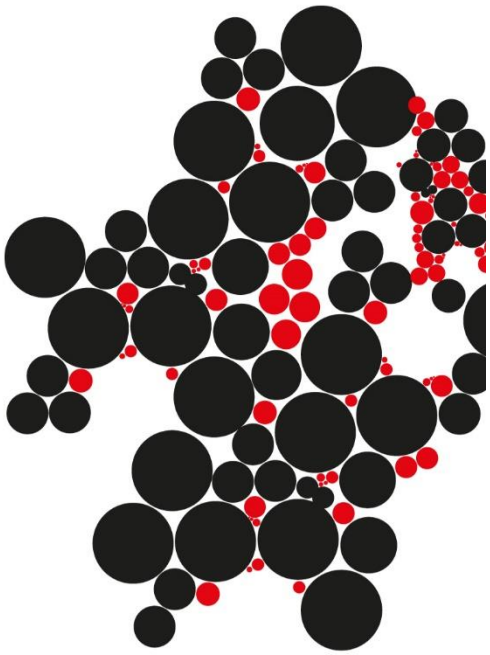

IMPROVING HEALTHCARE IN THE NETHERLANDS WITH TRIPLE AIM

Bypassing the quality, cost and quantity trade-off

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Title: **Improving Healthcare in the Netherlands With Triple Aim: *Bypassing the quality, cost and quantity trade-off.***

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Preface

Hereby, I proudly present my thesis with which I finish my Master Business Administration (track Service & Change Management) at the University of Twente. As I had hoped, it connected my Bachelor in Health Sciences and my MBA Service & Change Management together perfectly, through its focus on change within the healthcare sector. I enjoyed working on the case and I discovered where my interests lie in my future employment.

It has been quite the learning track in which I have faced many challenges, both on a personal and on a practical level. The data collection did unfortunately not follow the original plan, as was hoped. As a result, it was sometimes hard to push through. Fortunately, I had gathered a lot of people around me that helped me through it.

First, I would like to thank my external supervisor of the ZIF, René van der Most, for every time we could discuss the matter and which steps should be taken next. Even when difficult times came around, he was always ready to help me out.
Furthermore, I would like to thank my first and second supervisors from the University of Twente, respectively Michel Ehrenhard and Jeannette van Manen. They almost always could find the time to provide me with feedback, even when a very short term was asked for. The feedback that followed was insightful and helped me to improve my thesis.

Finally, I would like to thank my colleagues of the ZIF for making me feel welcome at the office and for their occasional help, and everyone who helped me check my spelling, grammar and helped me improving the thesis structure.

I hope you will enjoy the thesis report and find the motivation in the outcomes of the research to change the healthcare system for the better. There are always aspects in the healthcare organization or provision that could be improved in order to make populations more healthy, to improve the experience of the care supply, and to reduce unnecessary costs.

Karen de Vries,

October 18th 2015, Groningen

Summary

Within the United States, the costs made in the healthcare sector were very high and steadily rising, while the United States' population was not more healthy than countries with much lower expenditures in healthcare. In order to attack these problems, Berwick et al. (2008) came up with the Triple Aim ideology: simultaneously improving the experience of care (in terms of quality of care and care coordination), improving the health of populations, and reducing per capita costs of health care, without having the trade-off between these three components.

This thesis is focused on researching whether this ideology is also applicable in depopulating areas. These areas are known for having a worse experienced health among the population than non-depopulating areas, while the number of healthcare facilities is declining and the average age of healthcare professionals is rising. This resulted in the following research question:

'In which form can the Triple Aim ideology contribute to an improvement of the health of a population, an improvement in the experience of healthcare and to a reduction of the per capita costs, in depopulating areas?'

In order to do so, the most unhealthy population and their associated problems were sought after. Furthermore, the bottlenecks and ways to take away these bottlenecks were researched.

In order to do so, the healthcare expenditures per postal code region within a depopulating area were analyzed in the Vektis database of the year 2012. Furthermore, in order to specify the health problems that are occurring in this depopulating area, unstructured and semi-structured interviews and a focus group with professionals practicing within the area were conducted. The latter method also helped to research which bottleneck were faced and which solutions could solve these bottlenecks.

The population that was found most in need of health improvement was found in multi-problem families, having children with mental health problems and issues. The bottlenecks that occurred in the provision of care for these families, were mostly found in a bad awareness of the different care organizations and the integration of care could in some cases be improved. Healthcare providers and the municipalities were not always able to find each other, whereas in some cases the primary mental care organizations were even neglected. Furthermore, the population that faces the most problems could not always be reached by care providers.

The solution to these bottlenecks was found in an effective intervention focused on multi-problem families, called 'De Ploeg'. Furthermore, a coordinator function focused on the entire region may need to be installed, which may be the responsibility of the municipalities of the depopulating area.

Table of Contents

1. Introduction and Relevance

1.1. Depopulation areas and health

Within the Netherlands, the health of populations differs geographically. Some populations in different regions are less healthy than others. This is also the case in depopulating areas. A depopulating area is a region where the size of the population is declining. In general the average health, and experienced health, of the population living in a depopulating area is worse than the national average (Verweij & van der Lucht, 2011; Verweij & van der Lucht, 2014).

As of the first of July of the year 2015, there are already nine regions appointed within the Netherlands as a depopulating area (Blok, 2015):

1. Eemsdelta (province of Groningen),
2. East-Groningen (province of Groningen),
3. De Marne (province of Groningen),
4. Parkstad Limburg (province of Limburg),
5. Maastricht-Mergelland (province of Limburg),
6. Westelijke Mijnstreek (province of Limburg),
7. Zeeuws-Vlaanderen (province of Zeeland)
8. Achterhoek (province of Gelderland)
9. Northeast Friesland (province of Friesland)

However, the amount of depopulating areas will increase in the future. Though there are eleven regions within the Netherlands appointed as anticipation areas – regions that will transform into depopulating areas in the future (Blok, 2015), the experienced health within these anticipation areas does not differ at the moment from the national average (Verweij & van der Lucht, Gezondheid in krimpregio's, 2014). A map of the present depopulating areas and the anticipation areas can be found in figure 1 (Blok, 2015) below.

Figure 1: The depopulating and anticipation areas of the Netherlands

Adapted from: Blok, S. (2015, June 29). Kamerbrief over Moties Krimpregio's en Anticipeerregio's. The Hague, The Netherlands: Ministry of Interior and Kingdom Relations.

In the depopulating areas of the provinces of Groningen and Limburg, the lower rates in average experienced health are caused by socio-demographic causes, while in the depopulating area of Zeeuws-Vlaanderen, the lower average experienced health rates are caused by the age structure (Verweij & van der Lucht, Gezondheid in krimpregio's, 2014). Next to these causes, selective migration is also occurring in the depopulating areas. This is a process where younger, higher-educated, and healthy people migrate from a depopulating area. The older, low-educated, and less healthy population stays behind. The selective migration is appointed as the most probable explanation of the

lesser average experienced health in the depopulating areas compared to the average experienced health in non- depopulating areas (Verweij & van der Lucht, Gezondheid in krimpregio's, 2014).

There is another factor that could also contribute to a decrease in health of the people living in a depopulating area. In the depopulating areas of Groningen, more and more health centers and general practices are closing down due to the population shrinkage, as a smaller population is causing health centers and practices to become less profitable. Care providers also do not establish in these regions anymore (Provincie Groningen, n.d.; Menzis, 2013). The general practitioners that still reside here are also ageing rapidly; the average age of the general practitioners practicing within the depopulation areas of Groningen is above 50 years (Menzis, 2013). This, combined with increasing quality standards, makes shutting down care facilities in these regions more common. This phenomenon is already taking place within the depopulating areas of Groningen. The amount of hospitals within this area is already shrinking, whereas two locations of the OZG hospital will fuse into one location on the first of January in 2016 (Menzis, 2013). The accessibility to (acute) care may be endangered if this process continues (Provincie Groningen, n.d.).

Whilst the demand for care may increase in the future because of the increasing ageing of the population that is already less healthy on average when compared to the national average, the closing down of healthcare facilities and general practices is making it increasingly difficult to meet the demands of this population in the future.

1.2. An ideology as a solution

In order to remain able to meet the demands of the population in the future, efficiency regarding the deployment of care is asked. Waste in the provision of care needs to be minimalized without reducing the quality of care.

One way to reach this is to make the provision of care more integrated. In order to reach integrated care in a system, the different components of the system (i.e. the different care providers) need to cooperate and complement each other (Pfeffer, 1982). Throughout time this is made more and more difficult by the profound specialization, division and decentralization of (health)care delivery (Lawrence & Lorsch, 1967). This phenomenon is also confirmed by the Institute of Medicine. They saw different healthcare providers each operating in what they called different '*silo's*'. In order to coordinate the care of patients better between these different care providers, they proposed *Six Aims for Improvement* to which each actor within the system should comply, wherein the care should be *(IoM, 2001 – crossing the quality chasm)*:

1. *Safe*
2. *Effective*
3. *Patient-centered*
4. *Timely*
5. *Efficient*
6. *Equitable*

An ideology on how these six aims could be reached in practice followed. In 2008, Berwick et al. of the Institute for Health care Improvement (IHI) proposed a way to tackle the health care issues in the form of taking away the barriers that prevent integrated care, making care more efficient, called 'The Triple Aim'. The Triple Aim focuses on three goals: 1. Improving the experience of care (in terms of quality of care and care coordination), 2. Improving the health of populations, and 3. Reducing per capita costs of health care all at the same time. These goals are interdependent of each other: the pursuit of one goal may affect the two other goals (Berwick, Nolan, & Whittington, 2008). The Dutch Health care Authority concluded the same; the quality of care, costs and quantity of care are trade-offs. However, they added this is only the case with complete efficiency in the health care system and perfect competition between the providers. When this is not the case, such as in the Netherlands, a lowering of costs can sometimes lead to the opposite (e.g. through waste reduction): a rise in the quality of care (Halbersma, 2008).

Following the Triple Aim ideology, several organizations in the United States – and some in other countries whom are having the same problems – tried to reorganize the way health care is provided towards different populations according the Triple Aim principles, and succeeded. These initiatives range from employers trying to reduce health care costs and absenteeism through work-related injuries by reducing waste and better integrated care, to reducing lay days, and improving the experience of care and improving the rehabilitation of patients of certain diseases (Bisognano & Kenney, 2012). As in Germany, since 2006 a Triple Aim initiative has started between two health insurers and a regional management company setting up one of the first comprehensive population-based integrated care systems in Germany. The results of this initiative were positive on both health gains, healthcare cost reductions and some efficiency gains through better trans-sector coordination of healthcare services (Hildebrandt, Schulte, & Stunder, 2012). Through its success and promising ideology, Triple Aim has become the organizing framework for the National Quality Strategy of the US Department of Health and Human Services and for strategies of other public and private health organizations within the United States of America such as the Centers for Medicare & Medicaid Services, Premier, and The Commonwealth Fund (Stiefel & Nolan, 2012).

1.3. Research question

Though the ideology of the Triple Aim seems promising, the goal of this thesis is to research whether the Triple Aim ideology would also achieve positive results in the setting of depopulating areas with their associated issues. Therefore, this thesis will research in which form the Triple Aim ideology could improve the experience of care, improve the health of populations, and reduce per capita costs of health care within depopulating areas in the Netherlands.

In order to research a possible functioning of Triple Aim in the DAL-municipalities, the following research question was asked:

'In which form can the Triple Aim ideology contribute to an improvement of the health of a population, an improvement in the experience of healthcare and to a reduction of the per capita costs, in depopulating areas?

In order to design a Triple Aim intervention, a clear specification of a population is needed (Berwick, Nolan, & Whittington, 2008; Institute for Healthcare Improvement, 2014; Stiefel & Nolan, 2012; Jan van Es Instituut, 2014 (1)). According to the IHI, there are two ways to determine a population: 1. A defined population, made on an enterprise-level, and 2. Regional or community-wide populations, where a population is chosen on a geographical basis, such as the focus of this research. The regional or community-wide populations are built up from population segments. The different segments within this population have the same needs or issues in common, such as a disease or social problems. When choosing to act on a geographical population, the IHI advises to focus on a segment which' healthcare provision could benefit significantly of a Triple Aim initiative (Institute for Healthcare Improvement, 2014). Therefore, the following sub-questions are asked:

1. *Which populations in a depopulating area are most in need for healthcare improvement?*
2. *Which health problems are at play within these populations?*

In order to research in what way the Triple Aim goals can contribute to achieving a better healthcare in order to fulfill in the needs of the population better, the sub-questions 3 and 4 are asked:

3. *Which bottlenecks in the current healthcare provision need to be altered according to healthcare providers?*
4. *What are potential solutions or interventions that can attack these bottlenecks according to healthcare providers?*

1.4. Research contribution

This thesis will research a theoretical question in a practical situation: the Triple Aim initiative will be exercised in an existing environment with real issues. This means that stakeholders who are concerned with the issues in this environment, will be provided with possible solutions resulting from the thesis that can make their healthcare system more efficient.

Since every situation where a Triple Aim solution is implemented is different and the Triple Aim intervention is customized, the results of this study may not directly form a solution to every depopulating area or anticipation area. The theoretical contribution can rather be found in the way the research for a Triple Aim solution is organized; the steps that were taken in order to arrive at the (core) problem and potential solutions and whether these steps were effective or not in reaching results. Furthermore, this research could contribute in assessing whether the Triple Aim ideology could also be effective in an area where both the population rate and the number of healthcare facilities are declining, facing different problems than a 'regular' area in forming a Triple Aim initiative. Until now this has not extensively been researched.

In the following chapters, first there will be a further elaboration on the theory involved with Triple Aim, its implementation, and the design of a Triple Aim initiative. Furthermore, the research design, data collection and data analysis will be further explained in the method section. After that, the research findings will be given. The thesis will finish with an elaboration on the conclusion and discussion on the findings alongside with recommendations.

2. Theory and concepts

The Triple Aim is developed by Berwick et al. (2008) of the Institute for Healthcare Improvement as an approach to optimizing the health system performance. This is done by pursuing three aims simultaneously: 1. an improvement of the patient experience of care (including quality of care and satisfaction with the provided care), 2. an improvement of the health of populations, and 3. a reduction of the per capita costs of healthcare.

The Triple Aim ideology is broad and can be exercised in different and divergent ways in order to reach the three different goals of the Triple Aim. Several scholars and institutions provided theories on how Triple Aim can be implemented in practice. Most theories agree on the existence of most components, although they can differ slightly. In order to provide a guideline and a structure for implementing Triple Aim in the practice of a depopulating area, theories for the implementation of Triple Aim are provided in this chapter.

2.1. Pre-conditions for designing Triple Aim

Berwick et al. (2008) saw three preconditions for starting with a Triple Aim initiative. The presence of an integrator was seen as one of these precondition as stated by Berwick et al. (2008). This integrator is made responsible for a proper implementation of all three components of Triple Aim. The integrator needs to be an individual or a single organization that can coordinate the behavior of all the different stakeholders of a health care reform. He has the goal to link organizations with the same goals for the delivery of health care together, which are factually involved with the treatment of the same patients. To reach this goal, this integrator has five tasks in the process: 1. Involving individuals and families, 2. Redesign of primary care services and structures, 3. Population health management, 4. The financial management system, and 5. The system integration on a macro-level. All these tasks will be further explained in the following paragraphs.

The other two preconditions that Berwick et al. (2008) found, were policy constraints and the defining of a population. These preconditions will also be further in a more in-depth manner explained in the next paragraphs.

2.2. Population choice

As prompted in the previous paragraph, Berwick et al. (2008) described the specific choice of a population as a subject of Triple Aim as the first of three preconditions of Triple Aim. A population is

defined by a common background, such as sharing the same social needs or disease (Berwick, Nolan, & Whittington, 2008).

The JvEI (2014) marked the choice of a population, instead of a precondition, as a first step in designing a Triple Aim intervention. In order to choose a population, one should not focus merely on the disease in order to choose a population, but look rather at the population with the highest health risk and health care costs. Within this population the highest Triple Aim profit can be reached. By focusing on the population with the highest risks, it can be prevented that non-complex cases develop problematic issues (Jan van Es Instituut, 2014 (1)).

One way to identify a population with high health risks is by looking into advanced health records. The consumption of health and the diseases of a category of patients can be found via this way. Another way that is proposed by the Jan van Es Instituut (JvEI), is to use the so-called 'district and practice scan'; a scan for social determinants and health determinants that is made for a geographic population – per district –, benchmarked against health records of General Practitioners. This scan is made with the purpose of predicting the health care demand of a General Practitioner's population per district (Jan van Es Instituut, 2014 (2)).

Another way to find a patient population with a high risk of consuming health care in the (near) future, is by looking at their '*gravity of health care demand'*; a prediction of an individual's subjective need for health care (Elissen, Struijs, Baan, & Ruwaard, 2014). This gravity of health care demand has incorporated several determinants of health care usage, which can be built up from societal determinants (such as availability of resources and the organization of health care) and individual determinants. An accumulation of individual determinants form the so called population determinants, making it possible to identify a population with a higher gravity of health care demand. The population determinants can be divided into three categories: pre-disposing variables (such as age or gender), enabling variables (i.e. factors that enable or inhibit the use of health care), and illness level variables (determining whether chronic illnesses or disabilities are present) (Andersen & Newman, 1973; Elissen, Struijs, Baan, & Ruwaard, 2014). The population determinants of these three categories that were found most useful by Elissen et al. (2014) for predicting the gravity of health care demand, can be found in figure 2 below:

Figure 2: Most useful population determinants as found by Elissen et al. (2014)

Pre-disposing variables:	Enabling variables:	Illness level variables:
- Age	- Social economic status	- Diagnosis/risk/clinical status
- Origin/ethnicity	- Income	- Functional status
- Lifestyle	- Region of habitat	- Complications of chronic illnesses
- Emotional worries	- Social network	- Use of health care in a previous period
		- Medication use

Adapted from: Elissen et al. (2014). Kenmerken van individuen als voorspeller van zorgvraagzwaarte op populatieniveau. Maastricht, The Netherlands: Maastricht University.

For the estimation of the gravity of healthcare demand, different models are developed, some using population determinants as stated above. Of the models that Elissen et al. (2014) researched, the following models focus on the gravity of healthcare demand of a mixed population (i.e. no pre-specification of illnesses, demography or geography):

A. The *District and Practice Scan* of the Jan van Es Institute,
B. The *Supply and Demand Analysis Model* (VAAM) of NIVEL/NPCF,
C. The *District Tools Prevention-Curation* of ZonMw,
D. The *Backlog Fund for GPs* (NIVEL/NZA)
E. The *Risk adjustment somatic care* & *Risk adjustment mental healthcare*

In the subsequent report, reference will be made to the models above on the basis of the corresponding character (A/B/C/D/E).

2.3. Identifying the needs of the population

The Jan van Es Institute (2014) states that the demand for care of the patients with the highest health risks and health expenditures is often higher than other patient populations because of social or financial problems. This population can exist of people that are lonely, socially isolated or people without a job. In addition high illiteracy, language barriers, and unsafe living conditions may be present. They have more problems with self-management and they can feel poorly understood in the complexity of the health care system. However, these high-risk patients find it hard to formulate their goals and they have no clear expectations of the health care they receive. In return, health care providers find it hard to understand and connect to the needs of these patients. Therefore, it is important to improve the communication between the patients and their care providers (Jan van Es Instituut, 2014 (1)). In order to do this, the JvEI (2014) advises to map the needs of a larger group of

patients and search for a common pattern in needs of a population within this high-risk patient group. This may help to provide in the needs of these patients in an efficient way (Jan van Es Instituut, 2014 (1)).

Berwick et al. (2008) describe the first task of the integrator as to involve individuals and families in the process of shared dicision making, in order to fulfill in the needs of the patient. Instead of mapping the needs of a population, Berwick et al. (2008) state that the patients and their families need to become more informed and involved with their received care and their health. The working culture of care providers needs to make a change from a 'the more, the better' culture towards more transparancy, systematic communication, shared decision making and communication with patients and their families in order to fulfill better in the needs of patients (Berwick, Nolan, & Whittington, 2008).

2.4. Identifying the playing field of the intervention

Before starting to design a Triple Aim initiative, it is advised to research first whether there are already health interventions offered in order to apply to the needs of the population. From this perspective it becomes clear what gaps are present and which needs still need to be fulfilled. (Ministry of Health, Government of Saskatchewan, 2012).

Policy constraints are seen by Berwick et al. (2008) as one of the preconditions as stated in the first paragraph of this chapter. They stated that policy constraints, such as restrictions on per capita expenses for healthcare institutions or equal treatment for all sub-groups within a population, can finally underlie effective accomplishment of Triple Aim (Berwick, Nolan, & Whittington, 2008). This was also underlined by the Ministry of Health of Saskatchewan (2012). They added that the intervention should be aligned with the strategic priorities of the local Health Authorities. For a successful implementation, their support is needed – both in time and in resources (Ministry of Health, Government of Saskatchewan, 2012).

2.5. Designing the intervention

When designing a Triple Aim intervention, a strengthening of the primary care should be the center of concern. In order to reach a stronger primary care as a basis of the intervention, the care should not only be provided by physicians; the role of the primary care providers should be expanded (Berwick, Nolan, & Whittington, 2008).

The Jan van Es Institute (2014) notes that an intervention selected from a pool of existing interventions is preferable above a self-designed intervention. Not only should be thought of merely health or care related interventions. There are more domains one could consider, like employment or environment related interventions that could contribute positively to one or more of the Triple Aim domains. Therefore, it is important to look at healthcare in a broad way and to include not only healthcare issues, but also social issues in the design of an intervention. McGinnis et al. (2002) underline this by stating that only a small part of early deaths is due to shortfalls in medical care. They divided all early deaths in the United States into five categories:

1. Genetic predispositions – accounting for 30%,
2. Social circumstances – accounting for 15%,
3. Environmental exposures- accounting for 5%,
4. Behavioral patterns – accounting for 40%, and
5. Shortfalls in medical care – accounting for about 10% of all early deaths (McGinnis, Williams-Russo, & Knickman, 2002).

After selecting a specific intervention, the intervention can be adapted to the local setting (Jan van Es Instituut, 2014 (1)). It is important to deploy the intervention only towards the selected population. Deploying the intervention towards other populations may cause a spillover effect and unnecessary costs, since other populations are better able to self-manage their conditions (Jan van Es Instituut, 2014 (1)).

As a final note when designing an intervention; the well-being of care providers themselves should not be taken outside of consideration. In the United States, the rate of burnouts among physicians is, according to studies, the highest of all professionals with advanced degrees. The prevalence is even twice as much as the general US population (Shanafelt, et al., 2010), although the responsibilities of the General Practitioners in the Netherlands may differ in gravity from the United States. This trend can possibly be reversed by reconciling these issues when designing the intervention. Adopting system metrics that are also focused on the well-being of the professionals, implementing plans for guaranteeing the well-being of the physicians, and adopting self-care strategies for professionals experiencing burnout symptoms may help prevent professionals from experiencing a burnout (Spinelli, 2013).

2.6. After designing the Triple Aim intervention

As stated in the introduction, this research will merely focus on the design of a Triple Aim intervention in an existing practical situation. Therefore, the steps that are taken after the design of such a Triple

Aim initiative will not form a part of the research. The steps that the Jan van Es Institute propose to take for a successful implementation are (Jan van Es Instituut, 2014 (1)):

- Identifying the stakeholders that are needed to implement the Triple Aim initiative
- Making an integral business case in order to calculate the benefits and the disadvantages for the cooperating healthcare organizations
- Evaluating the implementation: identifying the success and the fail-factors encountered during the implementation phase
- Triple Aim learning: sharing the knowledge that is gained during the entire process around the Triple Aim journey.

3. Research Method

In this research, three research methods were used that together delivered the results that answered the main research question. For each of these methods the sample selection, the measurements, the data collection and the data analysis will be explained separately in different chapters. Since each research method is building on the results of the previous research method, the results are presented consecutively the corresponding research method in the next '*Results'* chapter.

The following research methods were used during this research:

- The first method involved the analysis of public available databases and models to make a start in the search for the population that is most in need of a healthcare system change. This research method will partly answer the first and second research question.
- The second research method contained four interviews in order to build further on the results from the first research method: three unstructured interviews based on the results of the first research method to form the basis for one – more in-depth – semi-structured interview. This method served to answer the first and second research question more thoroughly and conclusive, and the definitive subject population of the Triple Aim intervention is derived.
- As a third research method, a focus group was conducted with professionals that are experienced with the – in the previous method derived – subject population of the Triple Aim intervention. The bottlenecks that are experienced in the current provision in healthcare and what potential solutions or interventions could solve these bottlenecks are researched with this method. Hereby, the third and fourth research questions were answered.

3.1. The Mediator for Triple Aim

The research was carried out under the dome of the Care Innovation Forum (ZIF) in Groningen. The ZIF is an independent organization with a broad network of stakeholders within health care in the Northern part of the Netherlands and has an advisory task. It connects different partners with each other and spreads knowledge in the northern provinces of the Netherlands. Since the organization is independent and has the purpose of spreading innovation throughout the healthcare sector of the Northern provinces, the organization is able to function as a mediator in the search for a Triple Aim initiative.

3.2. Narrowing down the population

As said previously, there are nine regions within the Netherlands where depopulation takes place. Since each of the depopulating areas is composed of different healthcare providers and may be coping with different problems, it is difficult to make an overall conclusion on all depopulating areas. Therefore, the

focus of this research will be on one of the depopulating areas in specific. Of these areas, the choice was made to focus on the area of the Eemsdelta, since this area is one of the first three areas where depopulation took place. Therefore, the effects of population shrinkage (over a longer term) are already more visible here. The reason to specify on this area instead of the other two first depopulating areas, is that the ZIF is residing near this area, and has the advantage of being acquainted with professionals working within this area, granting an easier excess to knowledge and data.

The area of the Eemsdelta consists of four municipalities: Delfzijl, Eemsmond, Appingedam and Loppersum (Provincie Groningen, n.d.). Of these municipalities, the focus of this research is further specified to the DAL-municipalities: the municipalities of Delfzijl, Appingedam and Loppersum. The choice of this further specification is based on the collaboration these three municipalities share in healthcare policies, whereas the municipality of Eemsmond acts in some policies more on its own or in collaboration with other municipalities within the province of Groningen. The collaboration that already exists between the DAL-municipalities implicates that the ties of collaboration between social care and healthcare providers within the DAL-municipalities are already present, and that new ties and collaborations have to be made with social care and healthcare providers in the Eemsmond municipality. This may inhibit optimization of the healthcare system performance. Therefore, a specification towards the DAL-municipalities is preferable for a first attempt of a Triple Aim initiative, whereas an expansion towards more municipalities may be the focus in a later (diffusion) stadium when they cope with the same problems. However, this falls outside the scope of this research.

4. Results

4.1. Method 1: Model and database analysis for population determination

4.1.1. The method description

The *Theoretical Framework* presented several models that could be used in order to predict the gravity of healthcare demand of a population. The use of none of these models was found feasible for this research. The main reasons were that either the costs attached to using the model were too high (A), the sources for the input of the model were unable to attain (C/D/E) or the information provided by the model was too general or too unpredictable to draw conclusions on (B). Instead, the population determinants as found by Elissen et al. (2014) were used as a way to evaluate the gravity of healthcare demand on the basis of population determinants of a chosen population (see figure 2, chapter 2.2).

In order to approximate illness level variables and to find the domain with the strongest urgency for an improvement of healthcare, the health care costs that were made on a postal code level were analyzed, using health care cost data of Vektis of the year 2012. Vektis, a trusted third party in the Dutch healthcare, delivers data on declarations of care on both the level of healthcare provider and insurers, and on the disease-oriented and population level. Only data on healthcare expenses segregated on the first three of the four digits of the postal codes was cost-free available (further referred to as postal code regions). Furthermore, the data showed costs of declarations per year of age, per gender of the population. The total declaration costs were split into eighteen expense items:

- Costs medical specialist care
- Costs pharmacy
- Costs secondary Mental Health Care
- Costs GP enrollment fee
- Costs GP consult
- Costs GP remaining
- Costs helping devices
- Costs oral care
- Costs paramedical care physiotherapy
- Costs paramedical care remaining
- Costs patient transport sitting
- Costs patient transport laying down
- Costs maternity care
- Costs obstetric care
- Costs primary psychological care
- Costs trans boundary care
- Costs primary care support
- Costs remaining

The amount of insured and insured years (which takes births, deaths and removals into account), were also specified. Of course, these data do not mirror directly the health of the population. If the health expenses of a population are high in comparison with national averages, the assumption may be made

that (a part of) the population makes more use of healthcare, and is therefore less healthy. Healthcare providers' prices are contained by both the Dutch Care authority and the contracts with health insurers. The Dutch Care authority (NZa) set maximum prices on 30% of the Diagnosis Treatment Combinations (DTCs). The costs of the remaining 70% is based on price agreements between the insurer and the hospitals that deliver the care, where often contract prices or turnover limits are agreed upon (de Vries & Kossen, 2015). Since health insurers are operating mostly nationwide and have bargaining power through the amount of insured, the differentiation of the prices between health care providers throughout the country offering the same treatments is lowered. This lowering of price differentiations is also strengthened by the market transparency for insured when choosing their healthcare insurance.

The data obtained from Vektis were analyzed in Microsoft Office Excel, after determining the postal code regions that apply to the DAL-municipalities. These were the postal code regions 990, 991, 992, 993, 994 (partly) and 999 (partly). In figure 3 below, the postal code regions are chartered in thick lines, along with their postal codes on a four-digit level.

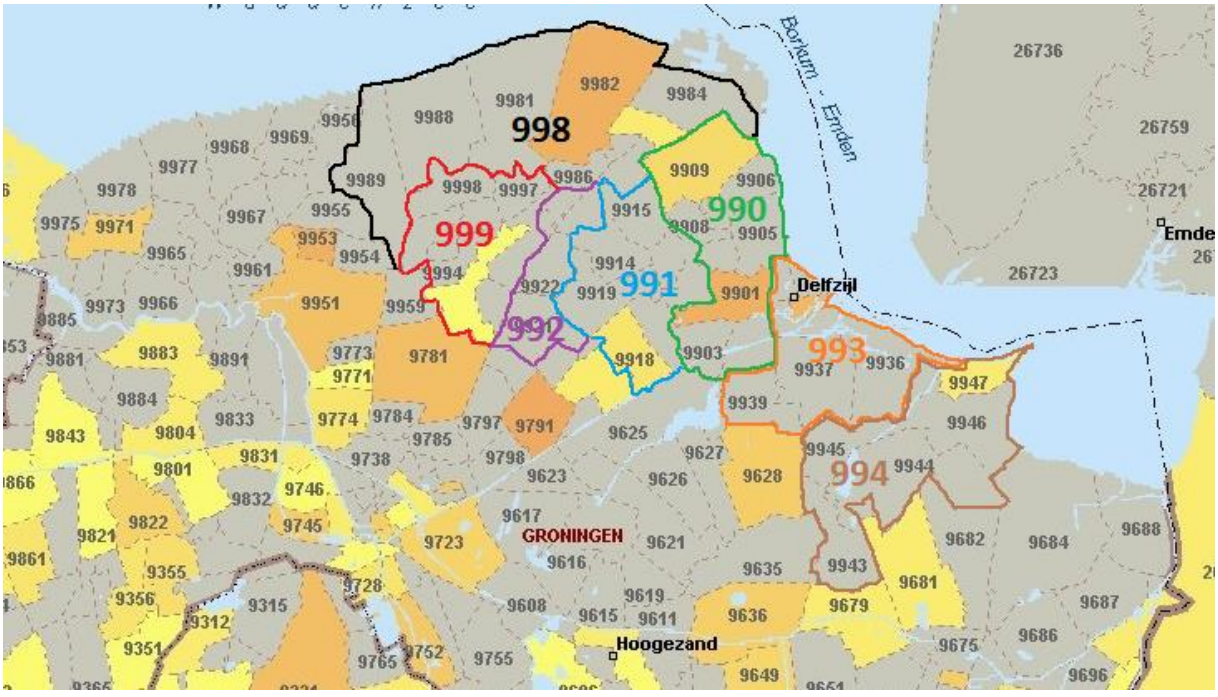

Figure 3: Division of postal codes over the DAL-municipalities per last two digits.

The postal codes 990 (partly), 993 and 994 (partly, due to overlap with a municipality outside the DAL-municipalities) belong to the municipality of Delfzijl. The postal code region 990 (partly) belongs to Appingedam, and the postal code regions 991, 992 and 999 (partly due to overlap with a municipality outside the DAL-municipalities) belong to the municipality of Loppersum. Due to a low number of inhabitants in the postal code region 992, healthcare costs for some ages were omitted from the

database due to traceability to individuals. Due to the absence of this data, this postal code region was left out of the analysis for validity reasons.

For a first analysis, the age of the population was merged in ten age categories for a first analysis; 0-5, 6-15, 16-25, […] 76-85, and 86+ years, and gender specificity was not taken into account. In order to notice deviations of a specific age category (in a specific region) in a specific expense item, several calculations were made, all made separately per different age category, concluding into the following calculation:

The deviation of the average costs per insured year, per expense item, per postal code region from the average total of the Netherlands (in percentages)

Deviations were marked as a pattern when the regional average deviated more than 1% from the national average. Additionally, a majority of the postal code regions (at least 3 out of 5) needed to have higher average costs than the National average.

Since the expense items above are stated very broadly, no conclusions could be made on the population in more detail and which diseases and healthcare facilities cause differences between costs. However, the patterns in the data that were seen from the analysis formed a starting point for further research of the Vektis database, in which the age categories and genders were altered to better identify the ages and gender where the patterns occur. These insights were used for a further demarcation of the population.

Crosschecks with both a healthcare insurer and a local healthcare facility were tried to be made in order to increase the validity of the results. However, both the healthcare insurer and the local healthcare facility were not prepared to cooperate in this request.

4.1.2. The results

The results of the Vektis analysis can be found in tables per age category in Appendix 3. Throughout the results of the Vektis analysis, there were 5 patterns found that stood most out throughout all postal code regions:

1. The expense item ‘secondary mental health costs’ for the age categories 0-5 and 6-15. On an overall level, the deviation percentages of the national average ranged from -2.8% to +22.8%. All costs in the region were elevated, except for postal code region 994 in the age category

0-5, and only 1 of the 6 postal code regions spending less than the national average in the age category 6-15. The average deviation from the national average in costs for both age categories together of this expense item was +4.39%.

2. The expense item 'Costs medical specialist care' for the age categories 16-55. All costs in the region were elevated, except for postal code region 991 for the age category 46-55. Over the entire age category and the postal code regions, The average deviation from the national average in costs was +3.98%.
3. The costs for the expense item 'pharmacy' for the age categories 56-75 and 86+. All costs within the whole region in these expense items for this age category were elevated in comparison with the national average, except for the postal code regions 993 and 999 within the age categories 66-75, and 990 within the age category 86+. The average deviation in costs for the expense item was +2.03%.
4. The costs for the expense items 'maternal care' in the age category 16-25 years. All costs within the whole region in this expense item for this age category were elevated in comparison with the national average. The average deviation in costs for the expense item 'maternal care' was +1.21%. To a lesser extent, the related 'obstetric care', was also elevated by +0.70% for all postal code regions in the age category 16-25.
5. The costs for the expense item 'patient transport laying down' in the age category 16-25. All costs within the whole region in these expense items for this age category were elevated in comparison with the national average. The average deviation in costs for the expense item was +1.15%.
6. The costs for the expense item 'helping devices' in the age categories 16-25 (+1.10%) and 86+ (+6.44%). Remarkably, in the age category 76-85 years, the expenses did not fit the criteria for being marked as a pattern, whereas the age category 86+ within this expense item shows a severe deviating pattern relative to the national average. A cause may be found in the validity of the results of this age category;
    a. For the age of 86 years, no data on males and data for only n=15 females were reported for the postal code regions 991 and 994, whereas the postal code region 999 shows entirely no data within this age.
    b. For the age of 87, the same occurs as for the age of 86: no data on males in the postal code regions 991 and 994 (females 991 n=11, and 994 n=14), and entirely no data on postal code 999 within this age.
    c. For the ages of 88 and 89 years, entirely no data was shown on both males and females.

This means that, with all this data missing, the validity of the results for this age category is very low. Especially since the postal code regions 994 and 999 showed the most deviation from the national average (respectively +14.37% and +13.34%) within the expense item for this age category.

Except from the category 'helping devices' for the age category of 86+ with its low validity, the expense item 'Costs for secondary mental health' deviated the most from the national average of the six phenomena, showing also the highest deviations from the national average per postal code region. Remarkably, the costs that were made for the same age category in the expense item 'primary psychological care' were, except for one postal code region, lower than the national average. Due to the high deviation in the expense item, in combination with the discrepancy between the high costs in the expense item 'Costs for secondary mental health' and the low costs in the expense item 'Costs for primary psychological care', the choice was set on focusing on the secondary mental healthcare amongst youth in the DAL-municipalities.

The care for youth in the Netherlands focusses on youth with an age between 0 and 23 years. Therefore, in order to investigate the phenomenon further, the secondary mental healthcare for each independent age until 23 years was further mapped for the DAL-municipalities and per postal code region.

In figure 4, the total average costs in Euros of the DAL-municipalities and of the Netherlands are mapped against age (in years). When looking at the entire region of the DAL-municipalities, the observation can be made that from the age of 3 until the age of 14 years the average costs are consistently higher than the national average. Remarkably, the costs that are made around the ages of puberty (in this case, from the age of 14 until the age of 19) where in the national average a clear alleviation of the costs can be observed, the average costs within the DAL-municipalities stay for a large part beneath the average costs of the Netherlands in total. The peek that is registered at the age of 16 forms an exception on this pattern.

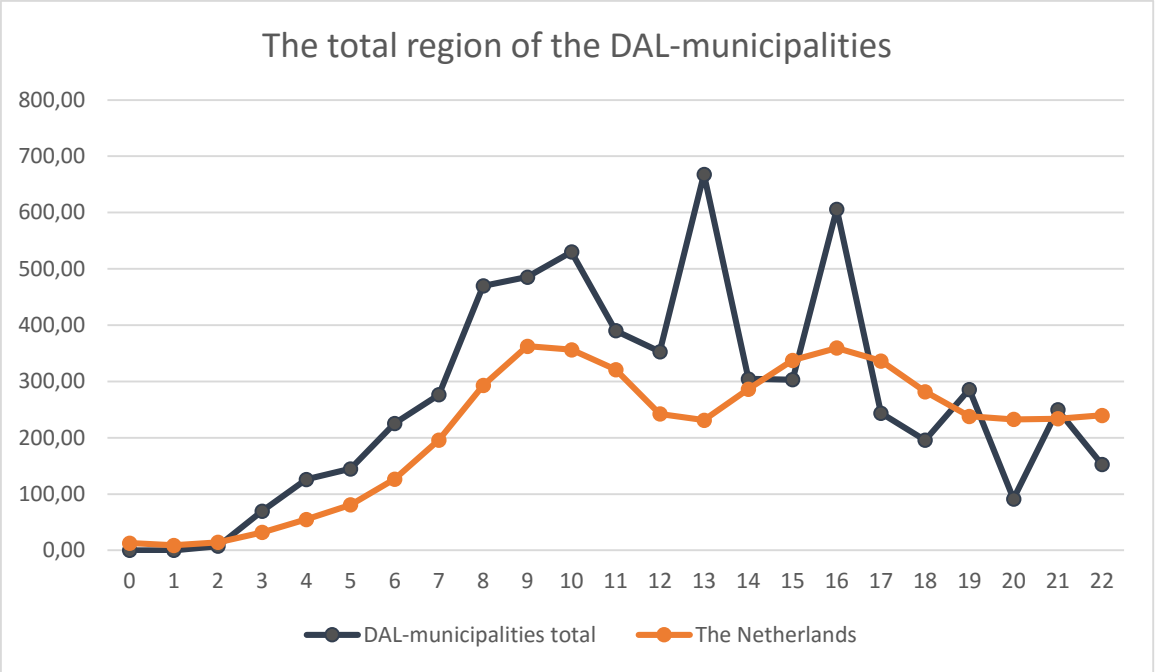

Figure 4: The deviation of costs in the expense item 'Costs for secondary mental healthcare' of the total region compared to the national average.

The average costs for the postal code regions were, next to the overall average, further split into average costs per gender, which can be found in can be found in Appendix 4. Remarkably, with a few exceptions, the average costs for girls until the age of 13 stayed for the large part under the average costs for boys. This phenomenon accounted for the all postal code regions: 990, 991 (except for the ages 4 and 6), 993, 994 (except for the ages 7 and 11), and for 999 (except for the ages 3 and 8). After the age of 13, the average costs become more fickle, where the gender with the highest costs take turns:

- For the postal code region 990, the female gender has the upper hand (except for the ages 14, 18, 20, and 21)
- For the postal code region 991, the female gender has the upper hand (except for the ages 13, 16, 18, and 21)
- For the postal code region 993, the male gender has the upper hand (except for the ages 19 and 20)
- For the postal code region 994, the male gender has the upper hand (except for the ages 14 and 18)
- For the postal code region 999, the male gender has the upper hand (except for the ages 16 and 21)

This pattern is also (partly) shown on the national level: the Vektis database shows that the highest costs for secondary mental healthcare on average for men are made at an age of 9 years old. For women the highest costs on average within this expense item are made at an age of 16 years old. An

explanation might be found in the nature of the underlying problems. Boys tend to show more disorders such as ADHD and autism than girls, whereas girls show on average more symptoms of depression or anxiety disorders than boys. AHDH and autism tend to show on a younger age than depression and anxiety disorders (Beekman, 2014).

4.2. Method 2: The interviews

4.2.1. The method description

After the analysis with the Vektis database the population had to be narrowed down, since the definition of secondary mental healthcare is very broadly stated. Three unstructured interviews were held with professionals operating within the area of Northeast Groningen to define the population better and to explain the patterns that Vektis showed. After the unstructured interviews, information was gathered which could form a starting point for a more in-depth semi-structured interview.

Using the network of stakeholders of ZIF, the first unstructured interview was held with the coordinator of the Academic Collaborative Centre Public Health Northern Netherlands. However, the interview did not gather valuable results. A referral of the coordinator led to a second unstructured interview with an epidemiologists of the public health services of Groningen, which remarkably also did not gather valuable results.

After this, the network of stakeholders of ZIF was used again to contact the manager of internal affairs of a secondary mental healthcare facility for youth for the third unstructured interview. She provided within 20 minutes a short insight in the multiple causes that could underlie the deviation in the costs that are made in the secondary mental healthcare. During this conversation, field notes were taken and elaborated right after the conversation.

In order to research these underlying causes, a face-to-face semi-structured interview was held with a care coordinator for youth in the DAL-municipalities. The care coordinator is responsible for the coordination of care for clients who are in contact with more than one care provider. Therefore, she is in contact with most of the care facilities operating in the field and knows on a global level the problems that are at play within the region. The care coordinator was approached for participation by telephone.

The interview between the researcher and the care coordinator took place at the office of ZIF. The duration was 45 minutes and the interview was audio recorded and transcribed using the online software of *oTranscribe*. Also field notes were taken during the session. Beforehand, an interview guide was designed in order to provide structure to the interview. The guide consisted of open questions to provide more leeway for the interviewer to dig deeper into the matter. It also provided more leeway for the interviewee to deviate into issues of concern in the DAL-municipalities. Information on the mental health problems, or social issues that are affiliated, that could be the cause of the high expenses were gathered, next to interventions that are already offered in order to apply to the needs of the

population. The interview guide can be found in Appendix 1**.** The questions that were asked during the interview, consisted of three parts:

- An introductory part in which the background of the interviewee was asked,
- The main part, in which general questions were asked on the population and their (mental health)problems. This part was designed after the menu of Stiefel and Nolan (2012) with which can be measured how a specified population scores on '*Population Health*', '*Experience of Care*', and '*Per Capita Costs*'.
- A concluding part, in which the interviewee was left some room for comments which might be complementary for the research.

The transcription of the interview was coded afterwards, using the grounded theory.

4.2.2. The results

During the unstructured interview with the manager of internal affairs, some information was provided that may explain the high costs for youth within the secondary mental healthcare within the DAL-municipalities. As searching for a cause for the high secondary mental health costs, she advised to look into the (social) background problems that are at play in the DAL-municipalities. These background problems may increase the severity of the mental health care classifications, but they can also underlie the development of mental health problems manifested in ADHD, addiction problems and the like. This is consistent with the literature, as presented by the JvEI (2014), wherein is stated that non-complex cases can develop into complex cases when the population is exposed to high risks. This can in this case mean that due to the addition of background problems, the mental health problems worsen and become more costly to treat. In addition, the JvEI (2014) agrees that the population with the highest demand for care and the highest healthcare expenditures are associated with having social or financial problems. McGinnis et al. (2002) go even further by stating that early deaths are for 40% caused by behavioral patterns, and for 15% by social circumstances. The causes for the high costs in the expense item 'Costs for secondary mental healthcare' that were noted by the manager of internal affairs were high rates of:

- Unemployment
- School dropouts
- Teen pregnancies
- Low educated people
- Financial problems, and
- Addiction problems

During the subsequent interview, the care coordinator of the DAL-municipalities was also asked to provide insight in why secondary mental healthcare costs were this high in the DAL-municipalities. She suggested that an accumulation of problems can cause the burden of the problems becoming higher than the strength to carry this burden. When this goes on chronically, mental health problems can be developed that need attention from secondary mental healthcare. Furthermore, the care coordinator of the DAL-municipalities was asked to name the problems that she encountered within the DAL-municipalities, and which initiatives are set up in order to attack these problems.

This resulted in the distinction of two primary codes: '*Problems and Issues'* and '*Existing Policies'*

Problems and issues:

- School dropouts / truancy
- Lack of future perspective
- Unemployment
- Infant mortality
- Cultural problems
- Domestic violence
- Depopulation

Existing policies:

- Psychological problems
- Trinity of school-officials, school attendance officers, and the police
- Preventive courses for Anxiety, agoraphobia and bullying
- The Care and Advise Teams
- The risk-taxation team
- Prevention infant mortality

An overview of the problems and issues that were found during the interviews can be found in table 1 below.

Table 1: An overview of problems and issues present in the DAL-municipalities, as found during the interviews, divided over four categories

	Manager Internal Affairs Mental Healthcare Facility	**Care Coordinator DAL-municipalities**
Education & Employment		
School dropouts / truancy	X	X
Low educated people	X	
Unemployment	X	X
Lack of future perspective		X
Financial problems	X	
Psychological issues		
Addiction problems	X	
Psychological problems	X	X
Pregnancy & Birth		
Teen pregnancies	X	
Infant mortality		X

Other issues		
Depopulation		X
Cultural problems		X
Domestic violence		X

In this table, the mentioned problems and issues are divided into four categories; *Education & Employment*, *Psychological issues*, *Pregnancy & Birth*, and *Other issues*. An '*X*' was placed under the interviewee that mentioned the issue or problem lined up at the left side. Of the entire list of (social) problems and issues named in both interviews, two out of twelve items – school dropouts and unemployment – (16.67%) were named by both the interviewees, whereas three out of four categories were addressed by both interviewees (*Education & Employment*, *Psychological issues*, *Pregnancy & Birth*).

Next to problems and issues that are at play within the DAL-municipalities, different initiatives and structures were mentioned that were established to reduce some of the problems and issues. In order to reduce the number of school leavers and truancy, a working group trinity of school-officials, school attendance officers, and the police is put in place within the DAL-municipalities. With the short communication lines between these three units, an attempt is made to get school leavers back to school by looking at the individual's needs. However, youth that does not attend school because they get called in sick often by their parents, because of reduced (mental) health or fear issues, cannot be tackled via this way. Therefore, a local mental healthcare facility is rolling out a new intervention to reach this last category of youth by offering preventive courses to tackle anxiety issues, performance anxiety, agoraphobia, and bullying along with its impact.

Next to the working group trinity, the so-called Care and Advise Teams (CAT) are called into existence throughout the DAL-municipalities – existing at least of a care coordinator, a staff member of the Youth Care Office, a pediatrician, a social worker, a school attendance officer, and the police. At the time of the interview, the reaction time of the CAT could be faster. However, care-pathways are already being developed in order to become more incisive.

For the problematic youth, the DAL-municipalities have called a risk-taxation team into life. Within this team young people who are dealing with serious truancy, or have committed (smaller) crime, or have problems in the neighborhood or on the street, are being discussed. Parties such as the municipality, the social work, Public Mental Health Care, the police, youth work, and school attendance officers are included within the team.

In order to reduce the high rates of infant mortality, an intervention is started by the Center for Youth and Families to support young mothers already during pregnancy in preventing infant mortality.

4.3. Method 3: The focus group

4.3.1. The method description

For the identification of the needs of a population according to healthcare professionals, more data collection from healthcare providers needed to be done. The most feasible method for mapping the needs of the population was found in organizing a focus group. In this way, different perspectives of the concerned healthcare providers could be exhibited, leaving room for the other professionals present to discuss these opinions. This resulted in a function transcending image of the needs of the population and bottlenecks in the healthcare provision.

For the selection of participants a brief stakeholder analysis was made in collaboration with the Project Leader Youth of ZIF, whom is familiar with the organizations and different parties affiliated with the mental healthcare for youth. In order to prevent the negligence of potential participants, actors operating within the mental healthcare for youth were divided in a rough actor classification with six categories, after Edelenbos (2000):

- Actors with political-governmental positions
- Actors with positions in the civil service
- Actors with societal functions
- Actors with scientific functions
- Private parties
- Individual civilians

This resulted in a compact list of the ten most important potential participants from different organizations for the focus group. Of the ten invitees, five invitees were absent from the session because of unavailability (n=2) or were not responding (n=3). All invitees that were not available were asked for colleagues that could be invited for the session, but unfortunately no substitutions could be found because of unavailability. With the absence of these invitees, no information could be gathered from the political-governmental, scientific, and civil service perspective. With the absence of these perspectives, valuable input might be missed. Especially since the local government is responsible for the purchase and distribution of youth care since January 2015, whom is therefore an important player in the field of care for youth. Also, scientific insights and civil servants involved with youth may have held interesting viewpoints on the matter.

The focus group took place at a meeting room at the office of ZIF. The session was led by both the researcher and the experienced Project Leader Youth of ZIF, who has a Masters' degree in Health Sciences. The participants were contacted through an invitation by e-mail. The Project Leader Youth

of ZIF knew five of the invitees by earlier professional contact. With one of these five invitees, previous face-to-face contact had been made in an earlier stadium by both the researcher and the Project Leader Youth. The other five invitees were unfamiliar with ZIF or the research.

The focus group consisted of five parts:

1. An introductory round in which each participant is asked to introduce himself/herself,
2. A general explanation of Triple Aim, to make the participants acquainted with the Triple Aim ideology,
3. Questions on causes of the high costs in secondary mental healthcare for youth the participants encounter in their professional field
4. Showing the results of the analysis of the Vektis database, and asking questions on whether the results are recognized from practice,
5. Debating on the bottlenecks in delivering healthcare for the identified problems and possible solutions for taking these bottlenecks away.

The focus group manual can be found in Appendix 2. The session was audio recorded and field notes were taken. It took two hours to collect the data. Afterwards, the focus group was transcribed again using the online software of *oTranscribe*. After transcription, the data was coded in order to be able to analyze the transcriptions.

Finally, a report of the focus group was made. This report, combined with the transcription of the focus group session, was sent to the participants for commentary and feedback. Due to absence because of the summer holidays, two out of five participants responded. Of these respondents, one returned the focus group report with additional feedback, while the other respondent agreed with the reporting. After receiving the feedback, the focus group report was send for a second round of feedback to the absent invitees in order to be still able to include their opinions on the matter in the final report. One of the absent invitees returned feedback for the improvement of the focus group report.

4.3.2. The results: the participant selection

As a result of the stakeholder analysis for a population with social problems and mental health problems, a list of ten possible participants for the focus group was made on the basis of their functions. The background of all participants is different, in order to exhibit the issue from different angles. The functions of the participants can be divided over the six categories, after Edelenbos (2000), as shown in the table below:

Table 2:A division of the participant functions that were invited to the focus group over the six categories after Edelenbos et al. (2000)

	Political-governmental positions	**Civil service positions**	**Societal function**	**Scientific functions**	**Private parties**	**Civilians**
A. Care coordinator youth (Municipal Health Service)		X				
B. Confidential counselor for youth of Youth Care			X			X
C. External advisor of a primary care advisory organization					X	
D. Prevention officer of a mental healthcare facility					X	
E. Social worker for youth					X	
F. Researcher of social and psychological problems of youth				X		
G. Contract manager of the secondary healthcare purchase of a healthcare insurer					X	
H. Representative Public Mental Health Care or the Center for Youth and Families		X				
I. A Municipality officer, responsible for the care in the DAL-municipalities	X					
J. An education officer within the DAL-municipalities	X	X				

Of the functions presented, the functions A, B, C, D, and E were present at the focus group session. After the focus group session, in the first round of feedback on the focus group report, the function B agreed with the report, and C returned additional insights. In the second round of feedback, the function G responded with additional feedback.

4.3.3. The results: The subjects of the focus group

At the beginning of the focus group, participants were asked to put on paper what problems they see in the DAL municipalities among the youth. It came to the following points:

- Unemployment/financial problems (3x)
- Divorces
- Domestic Violence and Child Abuse (2x)
- Youth crime (2x)
    - Drug problems (as a part of youth crime)
- Truancy / School leavers (2x)
- Teen pregnancies (3x)
- Not talking about their problems / introvert
- Inadequate signalling by schools
- Unhealthy lifestyle
- Young informal caregivers
- Ageing and depopulation
- Psychological problems (low motivation, depression, no future perspective)

During the focus group, not all topics stated above, although present, were discussed in-depth due to time limitations during the focus group. The topics that were discussed, were selected on the basis of recognition of the problem from two or more participants in the focus group. Together with topics about problems and solutions regarding policy within the DAL-municipalities, the subjects that were discussed were summarized in codes after analyzing the transcriptions of the focus group. Throughout the transcription of the focus group, two main themes could be discovered: the problems that are at play in the DAL-municipalities, and the policies (and its problems and solutions) that are in effect in the DAL-municipalities. Therefore, two main codes were made, the first was divided in five sub-codes, whereas the second main code was divided in four sub-codes:

Problems in the DAL-municipalities:

- Cultural problems
- Poverty, unemployment and financial problems
- Domestic violence and child abuse
- Youth crime
- Teen pregnancies

Problems and solutions regarding policy in the DAL municipalities:

- Policy for youth crime
- Transition problems youth care
- Organization of care
- Problems and costs in GP referrals to secondary mental healthcare

4.3.4. The results: Problems in the DAL-municipalities

Since renting houses in the DAL-municipalities is relatively cheap compared to other regions in the Netherlands, many migrants from problematic families out of urban regions and migrants from outside the Netherlands settled here. This population starts cohabiting in the same neighborhoods, influencing the culture of the DAL-municipalities.

"In the entire Netherlands, it is known that housing can easily be found within the DAL-municipalities. Therefore, people without jobs, with allowances, and a lot of problems come to live here." (Social worker for youth)

Unfortunately, no records could be found on migration patterns from the western urban regions towards the province of Groningen to support this statement.

Additionally, there are relatively many families within the DAL municipalities that have to deal with several problems that all seem to connect with each other: the multi-problem families. Combinations of problems were identified in the focus group as: mental health problems, financial problems, domestic violence and abuse, divorces, youth crime, motivational problems and a lack of future perspective.

These multi-problem families seem to match the results from the second research method: an accumulation of (background) problems may cause the burden of the problems to become heavier than the strength to carry this burden, expressing in mental health problems of youth. This is also found by Hermanns, (2001) and Van den Broek et al. (2012), to which both added that the more problems a family faces, the risk substantially increased of developing problems in children. Especially problems such as psychological problems, behavioral problems, problems in the development of intelligence, and youth crime (Broek, Kleijnen, & Bot, 2012).

Van den Broek et al. (2012) chartered risk factors of which is known that they could contribute to a negative development in children:

- Socio-Economic status (SES):
    - Low education level of parents
    - Poverty
    - Unemployment of parents
    - Living in an unfavorable neighborhood (on the basis of neighborhood's SES)
- Composition of family:
    - Single parenthood
    - Teen motherhood
    - Being of non-western ethical background
    - Unfavorable raising behavior
    - Domestic Violence
- Health and addiction of parents
    - Long-term disease or handicap

    - Emotional problems
    - Addiction problems (alcohol, drugs, or gambling addictions)
- Health and temperament of children
    - Long-term disease or handicap
    - Mental retardation
    - Low birth weight
    - Difficult temperament

Of these risk factors were also named by the participants in the focus group. These risk factors will be elaborated on below.

There are little jobs offered, especially for high educated people. Therefore, the higher educated people leave the DAL-municipalities which results in (an enforcement of) the depopulation and problems in the DAL-municipalities. Unemployment of parents, and other people present in the area of youth, may enhance the amount of school dropouts.

> *"There is a lot of unemployment among parents. And that is not just because there are no jobs available. It is a bit of a culture that is present there. I can imagine that this culture is again transferred towards the children." (Social worker youth)*

This is a problem that is present for several generations already, which demotivates the children and diminishes the feeling of a necessity of getting a diploma and a future. It is believed in certain groups that people can make ends meet on an alimony solely. Youth crime, mental health problems, hopelessness, motivation problems and the like, can be a result of unemployment prevailing in the DAL municipalities.

The numbers of domestic violence and child abuse are increasing every year in the province of Groningen. Since the reporting code was introduced in 2013, even a very strong increase has become visible. The increased preventive handling of cases of domestic violence can be the explanation of this increase in reports of domestic violence; a case is reported in a much earlier stadium than before. Yet, this does not explain the annual increases in its entirety.

> *"What becomes visible, is that the number of cases of domestic violence have not dropped since the year 2005; only increased. Additionally, a growth in the number of reports of domestic violence is increasing every year. (…) [The introduction of the Reporting code for domestic violence in 2013] led to a further increase of cases. Professionals were increasingly taking their responsibilities." (Care coordinator youth)*

"I believe that these numbers of increasing domestic violence reflect the reality. More financial problems lead to more domestic violence." (Social worker for youth)

The financial problems present in families might be an explanation for this annual rise in domestic violence. This opinion is also supported in the literature. A strong connection is found by MacKenzie et al. (2011) between unemployment, a low income, and financial worries at the one hand, and abuse at the other hand. However, this is not always the case: self-efficacy of the parents in a situation with financial problems seems to be a pretective factor for abuse (Slack, et al., 2011). Of course, according to literature, there are many other risk factors for parents that increase the risk of domestic violence and child abuse. Berger et al. (2004) name three categories:

1. The personal functioning of the parents
2. The parents' beliefs about their child and about raising
3. The parents' own developmental history

Youth crime is also a major problem in the DAL municipalities; especially in Delfzijl and Appingedam. The drugs problems are also severe.

"Youth criminality is a major problem. I already hoped it would be discussed here, since there is a lot of nuisance of youth criminals in Appingedam and Delfzijl. (…) There are very close youth gangs of which the members have been stimulated by their parents to join. Because their parents have been in a youth gang too in the past. " (Care coordinator youth)

Social workers have great difficulty to reach this youth because of the closed systems these children are in. And in the past the municipalities may have neglected this problem to some extent. These problems also causes fear: parents are sending their children to schools outside of the areas that deal with youth crime, in order to let their children go to school safely. In order to be able to go to these schools, children are even picked up by special buses. Until the year 2012, some schools were performing badly in the DAL-municipalities. After 2012, a number of schools have merged into the better performing Eemsdelta College. This may explain a part of the dropouts before the year 2012. In the past, teen pregnancies have also been a (cultural) problem in the DAL-municipalities. It has been very popular being a teen-mom among 16 year olds.

"Being a teen-mom has been a trend [in the DAL-municipalities]. You fitted in when you were pregnant." (Care coordinator youth and Social worker for youth)

"I don't think they even saw the consequences of being pregnant and having children. But it was popular being pregnant." (Care coordinator youth)

As mentioned earlier within this results section, the focus group mentioned more problems than discussed here. These were 'Divorces', 'Not talking about their problems / introvert', 'Unhealthy lifestyle', 'Young informal caregivers', and 'Ageing and depopulation'. In addition, the problems that were named during the interview in the second research method, are also not all discussed, although they may be present within the DAL-municipalities too.

4.3.5. The results: Constraints and solutions for multi-problem families regarding policy in the DAL municipalities

Municipalities should act in a more preventive way on, as part of multi-problem families, youth crime, in which the municipality may have lacked in the past.

> *"There have been conversations with the parents [of the delinquents] and the mayor in the past. The parents were called to account for their children. Some parents came in 'laughing', and returned 'laughing' home. Nothing happened. They had a good conversation, and the mayor thought that it would have any effect. It didn't." (Care coordinator youth)*

> *"I would say: cut in [the parents'] allowances. Tackle them where it hurts most. And look from there what the possibilities are [for a solution]." (Care coordinator youth)*

'Solely tapping on the fingers', such as has happened in the past, does not work in these cases. A structural plan must be formed, in which cutting the allowance may be effective as a method to get the attention of the target group.

As a part of a structural plan, according to several participants (the Representative Public Mental Health Care or the Center for Youth and Families, and the Social worker for youth), neighborhood initiatives would be a good method to reach multi-problem families, by focusing on self-management, according to the Care coordinator youth, the Prevention officer of a mental healthcare facility, and the Social worker for youth. The method of self-management is already being used successfully in a community center in Delfzijl, though often the hard core of the problem families cannot even be reached here.

In the literature, in order to motivate multi-problem families to accept care, it is advised to build a good relationship between the care provider and the family (De Graaf, 2010). Drost (2010) also provided an overview on how motivation to cooperate from a family can be reached:

- Show the family they are worth the effort
- Show real concern with the situation

- Show respect for the perspective of the family
- Provide knowledge and information
- Give trust and show confidence the situation can be changed
- Respond to the strengths of the family
- Look at a fallback as a necessary reorientation on the goals and methods.

Working together with the client/problem youth is overall mentioned in the focus group as 'the key to success'. The client may not have a direct request for help, but there is always something they could use some help with where care providers can connect with. The youth will not always seek help themselves, even if care providers have a fitting care program in their portfolio. The older youth will not be found at the Center for Youth and Families, but gets in contact with the youth services. From this point it is very difficult to transfer them to the social work: they have much resistance.
This aligns also with the literature. In a case where multi-problem families do not have a direct request for help and do not want involvement from the social care workers, a case-manager can be appointed. This case-manager will keep in contact according the '*Vinger aan de pols*' model, to stand by when a real problem develops to which help can be offered (Steketee & Vandenbroucke, 2010).

Recently, in the city of Groningen, an intervention focused on the most severe cases of multi-problem families has been pronounced 'successful'. The intervention is called '*De Ploeg*' and was applied in different neighborhoods in Groningen:

Per family, a plan was prepared with overarching goals, together with (sub)goals per field of attention and the corresponding instruments and timeframe. In the plan, all care providers and family members are mentioned. A coach is appointed, whom organizes different multi-disciplinary counsels, which includes the family itself.
The approach of the coach is directive, transparent and pertinacious, in which to coach tries to connect to the social environment of the family and its problems. Additionally, the direction of the family lies with the coach, whereas the coach connects different care providers to come up with a consistent family plan, which will be executed by the coach. When necessary, the coach is able to force the family to cooperate.

At the base measurement before the start of the intervention, on average the participating families had problems on 7 fields. After the intervention, the average was down to problems on 5 fields. None of the families were problem-free after the intervention, but on every field, progression was made, especially on the field of housing and income. The least progression was made in the fields of free time and health.
In 12 out of 15 families, the independence had increased. In 3 of the families, no progression was made. In some cases, growth in the independence is possible, whereas in other cases, a stabilization of the current situation is the highest reachable. With these last cases it is possible that, without help, the problems will return.

Adapted from: Bieleman, Boendermaker, Nijkamp, & Snippe (2012).

4.3.6. The results: Other policy constraints and solutions in the DAL-municipalities

A change is taking in place within the healthcare sector, shifting care more and more from secondary care towards primary care, and from primary care towards preventive care. The reason for this is cost saving. However, this shift in practice is not always found easy.

> *"I heard from Menzis (a healthcare insurer, red.), that substitution from secondary to primary care is made difficult. They do not succeed well in removing money from financing the secondary care to deploy in primary care. This impedes the substitution. It takes time [to succeed in the substitution]. But it is also a power play." (External advisor of a primary care advisory organization)*

It becomes visible that some institutions through financial incentives try to retain their staff and try to maintain their granted budget instead of reorganizing. This retention can occur through, among other things, looking at new markets. However, the question rises whether this movement comes at the expense of better and/or cheaper care.

"Looking at healthcare in a commercial way, may mean that healthcare Institutions are seeking: 'From where can I get money without having to reorganize? How can we keep our personnel at work, whilst keeping our revenues, that we don't have to make cuts and don't have to fire staff.' (…) And then question the rises: is this thinking resulting in cheaper healthcare, in better healthcare, or is this just a way to maintain the organization as it is?" (External advisor of a primary care advisory organization)

Not only between the organization of secondary and primary healthcare there are some struggles. Between, and within, the primary care facilities there are some struggles too. The alignment within the Center for Youth and Families still needs to get on stream for primary psychological care for the ages 12-18. The provision of primary mental health care assistance up to 12 year olds is possibly to a lesser extent available at the Youth Care Agency than for other age groups. The possibility exists that the whole range of primary mental health care assistance for youth aged 0-12 in the whole area is less available. Having this hypothetical lack of basic mental health care, 0-12 year olds will, in order to still meet the demand for care, be referred more often to secondary mental healthcare / Specialist mental healthcare. This could be an explanation for the high costs in secondary mental health assistance for children in the DAL-municipalities to the age of 12.

Since the transition of January 1, 2015, the municipalities have become responsible for the social domain. This allows the municipalities to take on another role, which necessitates them to seek more cooperation with healthcare facilities. At this time, such cooperation must still be optimized in some areas. This reflects in, for instance, that some young people want to better themselves after admission in a juvenile institution. They want to leave their old negative environment, but this is held back by financial problems between municipalities.

"Some juveniles from the DAL-municipalities are institutionalized in the city of Groningen. After they are institutionalized, some want to live on their own in the city of Groningen with extra assistance. But there is a financing problem between the municipalities, where is being said: 'The municipality of Groningen won't pay for your housing with the extra assistance, so you will be sent back to the DAL-municipalities'. But the juveniles don't want to come back, it's better for them to stay in Groningen. They stepped out of their old unhealthy environments. But they are forced to return." (Confidential counselor for youth of Youth Care)

Some of the GPs within the DAL-municipalities seem to refer rather easily towards secondary mental healthcare, when mental health problems are suspected.

"*It depends on a GP's abilities, what he knows, and what he can do himself. And that really differs per GP. But we know, that, especially in these areas, there are GPs that refer children*

immediately towards secondary mental healthcare institutions [if mental health problems are suspected]. And then [the care] becomes expensive." (External advisor of a primary care advisory organization)

Next to that, it occurs that children are referred rather easily towards secondary mental healthcare on the basis of a parent's indication, while the actual problem can be found with the parent and not with the child.

"It occurs that parents suspect that their child has ADHD, or another disorder. But after investigation, their child is sent back from the secondary mental healthcare institution to social work with the message: 'there is nothing wrong with the child. The mother is the one with the problems'." (Social worker for youth)

In order to better institutionalize mental healthcare within the primary care, nurse practitioners specialized in mental healthcare are positioned in some general practices. This nurse practitioner is deployed on all mental health care needs with the exception of psychological disorders. However, the nurse practitioner focuses mainly on adults instead of youth.

"There are some projects where a nurse practitioner is deployed for youth. It works very well in lowering the costs." (External advisor of a primary care advisory organization)

Where in most cases a nurse practitioner for mental healthcare for youth is missing in practice, the Center for Youth and Families also provides care for youth. In addition, the Center for Youth and Families does not deal directly with mental health problems, but problems within families and problems concerning education. The contacts between the Center for Youth and Families and the GPs can be improved, however, on this area.

"We were trying to get GPs to refer to the Center for Youth and Families [in cases of problems within families and for problems with raising the children]. (…) However, we are still working on it ." (Social worker for youth)

It needs to be analyzed whether a nurse practitioner for mental healthcare for youth can be financed within the general practice – in accordance with the GPs and the municipalities, since the latter are responsible for care for youth –, or whether the Center for Youth and Families can take on more tasks of mental healthcare for youth, of course depending on the nature of the problem.

A better triage of mental health problems could result in patients arriving directly at the proper care. This can avoid that the "lighter problems" are being dealt with by specialized mental healthcare institutions (formerly secondary mental healthcare) or by the basic mental health care institutions

(primary care psychologists), but also '(very) serious problems' are prevented of being treated by primary care psychologists or even within GP care. This may have implications for the organizations that provide or facilitate care:

- It is possible that the pressure on the GP / nurse practitioner of mental health care or the Center for Youth and Families increases when more clients are treated in a lighter echelon. It is important to make good agreements and a proper division of labor of the issues which the Center for Youth and Families or GPs/the nurse practitioner mental healthcare for youth will treat. This may have implications for the financing of care, where originally costs of the Center for Youth and Families will be paid by the municipality and the cost of a nurse practitioner for mental healthcare for adults have to be paid for by the GP (or another health care institution that facilitates the nurse practitioner). However, the latter does not count for the provision of care by a nurse practitioner for mental healthcare for youth, since the mental healthcare for youth is paid for by the municipality.
- Since the transitions from 1 January 2015 in the social domain, municipalities became responsible for the youth. This means that mental health care until the age of 18 is funded by the municipality. It is known that the 'lighter problems' within mental healthcare probably were referred to secondary mental healthcare by some GPs too soon in some cases. The relocation of the mental health care towards the GP care or the Center for Youth and Families will prevent clients from care which is intended for the more serious problems. This might allow the municipality to save costs.

Depending on the profitability of a nurse practitioner for mental healthcare which will treat the youth, and the number of tasks that Centers for Youth and Families will take on themselves regarding mental health of youth, a municipality can decide to offer mental health assistance in the general practice by a nurse practitioner for mental healthcare for youth.

5. Conclusion

In this chapter, the conclusions of the report are listed as an answer to the sub-question. Therefore, each sub-question will form its own paragraph in order to make the chapter organized. After the answering of the sub-questions, an answer will be provided towards the main research question.

5.1. Which populations in North East Groningen are most in need for healthcare improvement?

As found within this research, the population that is most in need for healthcare improvement, was first demarcated by analyzing the expense items as provided by the Vektis database. The expense item that was most remarkable, was the '*costs of secondary mental healthcare'*. The average expenses that were made in this expense item stood most out in the age categories 0-5 and 6-15 year. After a further demarcation, the highest deviations could be found among boys until the age of 13 years, whereas the costs for secondary mental healthcare for girls peaked on a higher age. This phenomenon was also found in literature. After this age, the outcomes became more fickle and unsteady, but still alleviated in most ages.

An explanation could be found after conducting the interviews and the focus group: an accumulation of (social or mental health) problems can cause the burden of the problems becoming higher than the strength to carry this burden. When this goes on chronically, mental health problems can be developed that need attention from secondary mental healthcare. Especially when families are facing multiple problems. The population that therefore is most in need for healthcare improvement, are the so-called multi-problem families with children. These findings are corresponding with the JvEI (2014) stating that the population with the highest-risk is accounting for the highest costs within healthcare, and McGinnis et al. (2002) stating that even 40% of early deaths are caused by their behavioral patterns, and for 15% by their social circumstances.

When evaluating the gravity of healthcare demand according to the population determinants as found by Elissen et al. (2014), in particular the e*nabling variables* score low within this population; from the focus group it became clear that some multi-problem families score low in income or employment. Also, depopulation is partially being caused by high-educated people leaving the region (referring to the region of habitat), leaving the people with a lower social economic status behind.

Furthermore the emotional worries of the population, as part of the *pre-disposing variables*, are high: for generations unemployment prevails. The youth experiences a lack of prospects and does not feel the need to get a diploma, resulting in school dropouts and its consequences.

5.2. Which health problems are at play in these populations?

A broad range of problems were already found during the second research method, which were provided in a table. The third research method, the focus group, added some problems to the list. Therefore, the table from the second research method is complemented with the results of the focus group:

Table 3: An overview of problems and issues present in the DAL-municipalities, as found during the interviews and the focus group, divided over four categories

	Manager Internal Affairs Mental Healthcare Facility	**Care Coordinator DAL-municipalities**	**The focus group**
Education & Employment			
School dropouts / truancy	X	X	X
Inadequate signaling by schools			X
Low educated people	X		
Unemployment	X	X	X
Lack of future perspective		X	
Financial problems	X		X
Psychological issues			
Addiction problems	X		
Psychological problems	X	X	X
Introvert			X
Pregnancy & Birth			
Teen pregnancies	X		X
Infant mortality		X	
Other issues			
Depopulation		X	X
Cultural problems		X	
Domestic violence		X	X
Divorces			X
Youth crime			X
Drugs problems			X
Unhealthy lifestyles			X
Young informal caregivers			X

The multi-problem families encounter combinations of these problems, of which the focus group identified the following combinations that occur: financial problems, domestic violence and abuse, divorces, youth crime, mental health problems, motivational problems and having no future perspective.

5.3. Which bottlenecks in the current healthcare provision need to be altered?

More and more, the healthcare sector is being pushed to make care more affordable. This manifests itself in the trend of shifting care from secondary institutions towards primary care organizations. However, this shift is not taking place without a struggle. Some secondary care organizations try as much as possible to maintain their budget and revenues, and to retain their staff. This may not benefit in a decrease of costs within the healthcare, or a rise in the quality of care. However, it may only take time to reach change within this issue.

Next to the trend of substituting secondary care with primary care, more change occurred within the healthcare sector since January 1, 2015: the municipalities have become responsible for the social domain and (mental) healthcare for under-aged children. This new role necessitates municipalities to cooperate more with healthcare facilities. However, this cooperation needs to become better in some areas.

Not only the municipalities need to seek more cooperation. Also the healthcare facilities themselves need to cooperate and align themselves with each other more. This is also the case for Center for Youth and Families, which might be able to provide more primary psychological care for the ages of 12-18, but still needs to get on stream. They are getting not as much referred to as may be optimal. Instead, more referrals from GPs might be made towards the more expensive, secondary mental health care. This happens even though in more and more general practices a specialized nurse practitioner for mental healthcare is operating, who can help children with minor mental healthcare problems. However, these nurse practitioners do not treat children in most cases, while some projects where children were treated by nurse practitioners for mental health, have proven successful. Furthermore, the possibility exists that primary mental healthcare for 0-12 year-olds is only available to a small extent, which may lead to more referrals towards the expensive secondary mental healthcare for this age category.

It is found difficult by (social) care providers to reach the youth that is the most problematic, such as gang members and some multi-problem families. When being able to contact this population, it is perceived difficult by care providers to transfer them to social work in order to be able to really help them.

5.4. What are potential solutions or interventions that can attack these bottlenecks?

As said in the previous paragraph, the substitution of secondary care with primary care takes time to settle and for healthcare organizations to act on it.

Change can be achieved in multi-problem families and youth criminals. As suggested by the focus group, neighborhood initiatives may be helpful in treating this category of clients, together with a focus on self-management. Although with this method, the hard core may not be reached. In order to reach these 'hard core' clients, the literature provides an approach that may work (Drost, 2010):

- Show the family they are worth the effort
- Show real concern with the situation
- Show respect for the perspective of the family
- Provide knowledge and information
- Give trust and show confidence the situation can be changed
- Respond to the strengths of the family
- Look at a fallback as a necessary reorientation on the goals and methods.

Furthermore, the literature and effectiveness research provides an intervention that is rated 'successful' within the city of Groningen. This intervention, called 'De Ploeg', has reached positive results in all families, and in most families a decrease of problems, especially in the field of 'housing' and 'income'. However, not all families may be able to manage themselves after the intervention, in order to prevent new problems from stacking up again.

The alignment between different healthcare organizations within the mental healthcare, is said to not work very well. The fact that the participants of the focus group interview were not well aware of the presence of primary mental healthcare organizations for 0-12 year-olds, emphasizes this. Furthermore, the Center for Youth and Families provides care for troubled families, but the GPs are not often referring towards this institution. Also, almost no use is being made of nurse practitioners for mental healthcare for children. Instead, some GPs are being said to refer towards secondary mental healthcare by any suspicion of mental health problems, which may increase the healthcare costs.

It is very important that a clear division of labor is made between the various care providers - this also accounts for mental healthcare for youth, where a proper division of labor should occur between the Center for Youth and Families, the nurse practitioner for mental health care, and other mental healthcare facilities. Good coordination ensures that the best possible care connects to each other for people with a demand for care, resulting in the client finding the best way towards health. However,

since the healthcare for youth is funded by the municipalities, the municipalities should also – at least – be included in the negotiations.
In addition, it needs to be analyzed whether a nurse practitioner for mental healthcare for youth can be financed within the general practice - in accordance with the GPs, or whether the Center for Youth and Families can take on more tasks of mental healthcare for youth, of course depending on the nature of the problem.

5.5. Conclusion

This thesis had the purpose to research in which form the Triple Aim ideology could be applied in a depopulating area. Therefore, the following main research question was asked:

'In which form can the Triple Aim ideology contribute to an improvement of the health of a population, an improvement in the experience of healthcare and to a reduction of the per capita costs, in depopulating areas?'

In order to help answer the main research question, the theoretical framework provided several guidelines to implement Triple Aim in practice. The first aspect of these guidelines focused on the search for a mediator, who was found in the organization of the Health Innovation Forum (ZIF) in Groningen. Next, with the help of the Vektis database, the interviews and the focus group, a population was found to focus a Triple Aim intervention on: the multi-problem families. These families are persistently coping with multiple problems, transforming their non-complex cases of mental health problems into complex cases. When taking away these problems, the costs of care for these families may decline, according to the theory of the JvEI (2014).
However, there are barriers existing that may prevent a well-organized, integrated provision of care on an overall level. These barriers take the form of a bad alignment between healthcare organizations and between the municipalities and healthcare organizations when attacking the problems of the multi-problem families individually. It seems not all healthcare providers are aware of each other and of the care that can be provided within the DAL-municipalities, such as in the case of the Center for Youth and Families. Furthermore, the GPs seemed to refer rather easily towards secondary mental healthcare, whereas the cheaper primary mental healthcare organizations may also be effective in some cases. Furthermore, nurse practitioners for mental healthcare for youth may also be very effective in the treatment of minor mental health problems for youth. However, they are not yet widely applied within the DAL-municipalities in the treatment for youth. In order to improve this, the

coordination of the care and the communication between all different actors involved with the care for youth may need to improve.

Instead of focusing on each problem of a multi-problem family individually, there are extensive interventions available that are especially designed for helping multi-problem families. An intervention that was proven successful in the city of Groningen, called ‘de Ploeg’, may also be successful when applied in the DAL-municipalities. Especially since the problem-family itself is involved in the care they receive, whereas the professionals make themselves available for the family in order to improve the experience of care for the multi-problem families. Next to this, because of reaching an increase in health, and possibly a decline in the costs of care by taking away health risks in this population, this intervention connects well to the ideology of Triple Aim.

6. Discussion

At the start of this research, it was expected that the focus would lie on complex cases of a single disease that needed an improvement of the healthcare supply. However, the research took another course when the cooperation of healthcare providers was asked for, but could not be provided. The original method for collecting the data for this research was focused on interviewing primary care providers; it was not found feasible to look into actual health records of patient populations due to privacy sensitivity of the health records. In order to do so, GPs were interviewed in order to approach researching actual healthcare records. Of the 24 GPs that were approached for an interview, none wanted to cooperate. An employee of a primary care advisory organization was able to provide three explanations for the lack of willingness to cooperate:

1. There is already a lot of research being executed for which they are asked to participate
2. They do not see the added value for themselves when cooperating with this research
3. They do not have time to cooperate

Next to the GPs, a health insurer that is active within the DAL-municipalities was asked to provide data or insights (through an interview) in the diseases that are occurring the most in the DAL-municipalites. However, from this insurer too, no response was gathered. This lack of response from both the GPs and the insurer, made it necessary to look for other ways for data collection. The lack of response may also be a sign of low support among healthcare organizations within the DAL-municipalities, which may be a sign of resistance towards change. This may hold back the necessary changes that need to be made throughout the healthcare system within the DAL-municipalities – not only as a result of this research, but also the governmental imposed changes that need to be made.

For the gap in data collection, the database of Vektis was found, showing data of the year 2012. However, since the year 2012, reformations have taken place within the healthcare sector, among which the transfer of the responsibility for the care for youth since the year 2015. Through these reformations, the numbers that are shown within this database may not reflect the current reality since they may be changed due to other policies. However, no more recent figures could be found that could be used for this research. Furthermore, in cases of too low numbers of people of certain ages living in a postal code making the individuals traceable, the data was omitted from the database (which was reflected in the dropping of the sixth pattern found in chapter 4.2). This resulted in impairs of the validity of the data. Furthermore, in the cases that the data was not omitted but the number of people in a data collection is low, the validity of the dataset may also be decreased. This can be reflected in single cases of high costs having a large effect on the average costs of the population. The interviews and the focus group that were conducted, could however support the results and increase the validity.

The results that were retrieved from the focus group, were in some cases eye-openers. It was not expected that some of the social problems in the DAL-municipalities were this extensive, such as the youth gangs and the yearly increase in child abuses, as much as the teen pregnancies. From the analysis of the Vektis database, one of the patterns that were found showed high deviations from the national average in the expense items 'Costs of maternal care' and 'Costs of obstetric care' in the ages 16-25. Remarkably, both the manager of internal affairs of a local mental healthcare facility and the focus group stated teen-pregnancies were observed as often occurring in the past, which might be an explanation for the high costs in this age category for these expense items.
Furthermore, it was not expected that healthcare organizations were in some cases unaware of each other, or even neglecting each other's existence (such as some GPs towards primary mental healthcare organizations). In order to rectify this, healthcare organizations need to cooperate more and need to become more aware of each other. In order to do so, a coordinator on a regional level may need to be installed, since the care coordinator for youth only focusses on individual cases. Since municipalities are responsible for the care for youth, this coordinator may be found in the municipalities.

As a future recommendation, the opinions of civilians or the target population could be involved more. This may be done in a further stadium when applying the recommendations of this research in practice. The importance of involving the population the new initiative is targeted at is also underlined in the literature (Berwick, Nolan, & Whittington, 2008; Jan van Es Instituut, 2014). This involvement may hold interesting findings.

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8. Appendices

8.1. Appendix 1: Interview guide

INLEIDING

Datum en tijd

dag: .....
maand: .....
jaar: 2015
uur: .....
minuten: .....
Soort interview: face to face

Ik ben een student van de Universiteit Twente en doe mijn afstudeeropdracht bij het Zorginnovatie Forum in Groningen. Het doel van mijn research is het onderzoeken van mogelijkheden voor betere integrale zorgverlening voor mensen met een hoog-risico profiel, middels de Triple Aim ideologie.

In mijn vooronderzoek ben ik opvallende hoge zorgkosten tegengekomen op het gebied van tweedelijns GGZ bij de jeugd in de DAL-gemeenten in Groningen. Deze hogere kosten kunnen mogelijk worden veroorzaakt door achterliggende problematiek, te denken aan financiële problemen, werkeloosheid, jeugdzwangerschappen, verslavingsproblematiek, e.d. Graag zou ik u willen interviewen om te kunnen achterhalen wat er zich afspeelt onder de jeugd die mogelijk terecht komt bij de tweedelijns GGZ. De informatie die u verstrekt zal vertrouwelijk behandeld worden.

Ik zou dit gesprek graag willen voeren in de vorm van een interview, zodat ik dit makkelijker op een wetenschappelijke manier kan verwerken in mijn resultaten rapport. En om er zeker van te zijn dat ik uw antwoorden goed overneem zou ik graag het gesprek opnemen. Gaat u hiermee akkoord?

**Zet opnameapparatuur aan*

Voordat ik begin, heeft u nog vragen?

INTRODUCTIE

Ik heb begrepen dat u zorgcoördinator bent in de DAL-gemeenten, waarbij u de coördinatie heeft over zorgverleners die betrokken zijn bij jeugd met veel problematiek.

- Hoe komen de zorgverlening of welzijnsorganisaties in contact met de geproblematiseerde jeugd?
    - Welke actoren zijn hier precies bij betrokken?
    - Hoe gaan de doorverwijzingen?
    - Op welke plaats binnen de gezondheidszorg komen de patiënten voor het eerst binnen met de aandoening?
- Hoe oud is de jeugd voor wie u de zorg coördineert?
- Heeft u de achtergrond problematiek – die kan leiden tot een verminderde (geestelijke) gezondheidstoestand van de jeugd van […] jaar in de DAL-gemeenten – goed in beeld?

In het kader van de opvallend hoge kosten van de tweedelijns GGZ die mogelijk veroorzaakt wordt door achterliggende problematiek heb ik een aantal vragen voor u.

- Welke problematiek speelt zoal in deze regio?
    - Kunt u hiervan voorbeelden geven?
- Is de problematiek die hier onder de jeugd speelt opvallend?
    - Wat is hier precies opvallend aan?
- Komt een bepaalde problematiek in deze gemeenten meer voor dan in andere gemeenten?
    - Welke problematiek denkt u dat in dit gebied meer voorkomt dan in andere gebieden?
- Wat zou volgens u een verklaring kunnen zijn voor een verhoogde prevalentie/incidentie van deze problematiek?
- Welke problematiek zou volgens u kunnen leiden tot een verminderde (geestelijke) gezondheid?
    - Hebben veel jongeren met deze problematiek te maken?
- Komt deze problematiek voor in bepaalde wijken, of eerder verspreid over de regio?
- Hoe kan het zorgpad voor jongeren met deze problematiek verlopen?
    - Welke actoren zijn hier precies bij betrokken?
- Is er een speciaal beleid, of zijn er speciale protocollen ingericht om beter sturing te kunnen geven aan de begeleiding of behandeling van jongeren met veel problemen?
    - Wat is dit voor een beleid/protocollen?
    - Wat was de doelstelling van het beleid/de protocollen?
    - Welke actoren zijn er bij dit beleid/deze protocollen betrokken?
    - Wat vind u van dit beleid/deze protocollen?
    - Bent u het eens met het beleid dat hier wordt gevoerd?
    - Zou dit beleid ook anders/beter kunnen?

HOOFDGEDEELTE

Eerder noemde u dat de […] problematiek veel voorkomt in de DAL-gemeenten. In dit gedeelte wil ik specifieker ingaan op dezeproblematiek en de zorg die hiermee gemoeid is.

DE GEZONDHEID VAN DEZE POPULATIE

- De gezondheidseffecten van de problematiek:
    - Betreft deze aandoening een hoge mortaliteit in deze regio? (levensverwachting, aantal potentieel verloren levensjaren, e.d.)
    - Wat is de status van functioneren van deze populatie?
    - Is er in grote mate sprake van verminderde gezondheid gedurende de resterende levensjaren?
- Ziektelast van de aandoening:
    - Heeft deze problematiek, als gekeken wordt naar de rest van Nederland, een relatief hoge incidentie en/of prevalentie?
    - Op welke leeftijd krijgt de jeugd voor het eerst (voelbaar) te maken met de problematiek?

- *Gedrags- en Fysiologische factoren:*
    - Loopt de jeugd die te maken heeft met deze problematiek een hoog gezondheidsrisico, doordat zij bijvoorbeeld vaker roken, ongezonder eten, minder bewegen of meer alcohol nuttigen?
    - Is deze jeugd vaak lichamelijk ook ongezonder?(Hebben ze vaker een hogere bloeddruk, een hoger BMI, hoger cholesterol, of een hoger glucosegehalte in het bloed?)
    - Kan dit verklaard worden vanuit het beeld van de problematiek, of verwacht u dat andere factoren meespelen?

DE ZORGERVARINGEN VAN DE POPULATIE

- Hoe schat u de ervaring van de populatie met de zorg die wordt geleverd?
    - Vind u de huidige geleverde zorg veilig?
    - Bereikt de huidige geleverde zorg een hoge mate van effect?
    - Wordt de huidige zorg tijdig geleverd?
        - Krijgt de patiënt te maken met wachtlijsten gedurende het zorgproces?
        - kunnen alle betrokken zorgverleners snel een afspraak met de patiënt inplannen?
    - Is volgens u de zorg die geleverd wordt efficiënt?
        - Wordt er soms ook onnodige zorg verleend door één van de betrokken zorgverleners?
    - Is de zorg die voor deze problematiek aangeboden wordt aan de jongere voor alle jeugdmet dezelfde problematiek gelijk?
        - Zit er veel differentiatie in de geleverde zorg?
        - Zijn er protocollen en standaarden betrokken bij het zorgproces?

ZORGKOSTEN VAN DE POPULATIE

- Schat u dat de ziektekosten van dezejeugd relatief hoog zijn, als vergeleken wordt met de zorg die jeugd met andere problematiek krijgen?
- Is er binnen deze jeugd relatief vaak sprake van crisisopnames of spoed hulp?

AFSLUITING

Dit is het laatste gedeelte van het interview. Hier wil ik u de ruimte geven voor het maken van opmerkingen die u van belang acht voor het onderzoek.

Wilt u nog opmerkingen maken met betrekking tot het interview die van pas kunnen komen?

Gaat u akkoord dat indien ik nog essentiële informatie mis, ik telefonisch of mailcontact met u opneem? (Email adres, telefoonnummer)

En tot slot: Na het analyseren van de interviews zal een focusgroep worden gehouden met de bij de aandoening betrokken zorgverleners voor het vormen van een Triple Aim beleid: het verbeteren van de gezondheid van een populatie, het verbeteren van de zorgervaring van de patiënt en het verlagen van de per capita kosten. Zou u willen deelnemen aan deze focusgroep?

Zou u ook graag het resultatenrapport ontvangen?

Ik wil u graag hartelijk bedankt voor dit gesprek!

Noteer de tijd (24-uursklok). Interview geëindigd om:
A uur: .....
B minuten: .....

8.2. Appendix 2: Focus group manual

The presentation as made with the tool Prezi, can found via the following link:
https://prezi.com/v3hihjyidhnb/probleemverkenning-en-triple-aim-in-de-dal-gemeenten/

CENTRALE VRAAGSTELLING: *"Hoe is de zorg rondom jeugd georganiseerd, waar zitten eventueel knelpunten en wat zijn mogelijke oplossingsrichtingen hiervoor?"*	
INTRODUCTIE	
Welkom	- Welkom heten - Deelnemers bedanken voor hun komst - Voorstellen van gespreksleiders - Voorstellen van het Zorg Innovatie Forum - Vanuit het ZIF is een afstudeeronderzoek voor de Universiteit Twente opgesteld, met als onderwerp 'Triple Aim' (niet te verwarren met Triple P); een nieuwe ideologie met betrekking tot het ontwerpen van beleid rondom zorgbehoevenden met een hoge, specifieke zorgvraag. Op dit onderwerp zal later ingegaan worden.
Introductie van het onderwerp	- Onderwerp: • Hoe is de zorg rondom jeugd georganiseerd? • Waar bevinden zich knelpunten binnen de zorgverlening? • Wat zijn eventuele oplossingsmogelijkheden? - De reden van de focusgroep: ideeën over deze onderwerpen verzamelen vanuit verschillende gezichtspunten voor de zorgverlening voor jeugd, en tegelijkertijd zoveel mogelijk kwalitatieve informatie verzamelen door de discussie tussen deze groepen te faciliteren. (Door een gezamenlijke denkrichting te produceren het draagvlak voor verandering in de zorgverlening te vergroten.) - Hoe ziet de bijeenkomst eruit?*(agenda tonen)* • Programma: bijeenkomst duurt twee uur, tussentijds zal een maaltijd worden aangeboden, bestaande uit soep en broodjes. • Twee delen: Introductie van Triple Aim en de discussie over de praktijk waarbij het vooronderzoek ook ter sprake zal komen.
Regels van een focusgroep	- Wij stellen u vragen en af en toe is er een korte onderbreking. Maar het gaat vooral om het praten met elkaar over het onderwerp. - Tijdens de focusgroepen bent u vrij om te zeggen wat uw wilt. Het gaat erom wat u vindt en waarom u dat vindt. - Praat vooral vanuit uw eigen ervaringen en achtergrond en toon respect voor elkaars mening. - U hoeft het niet eens met elkaar te zijn of te worden. - Het is alleen belangrijk om niet door elkaar heen te praten. Dit is belangrijk omdat ik het gesprek graag wil opnemen, zodat ik in staat ben het gesprek terug te luisteren en kan gebruiken als resultaten in mijn onderzoek. - Ik moet hiervoor toestemming vragen aan u om dit gesprek op te nemen. (Daarvoor deel ik zo meteen toestemmingsverklaringsformulieren uit die u door kunt lezen en vervolgens kunt tekenen.) - Daarna zet ik de camera en recorder aan. U hoeft hier tijdens het gesprek niet op te letten of bijvoorbeeld in de camera te kijken. Het is voor mij een houvast zodat ik weet wie wat heeft gezegd. - U krijgt binnen twee weken een samenvatting thuis van het gesprek. U mag daarin schrappen, verbeteren of juist dingen toevoegen. Het is een weergave

	van wat u graag gezegd wilt hebben. Dus als u zo de deur uitloopt en denkt: "Dit ben ik nog vergeten", dan kunt u dit dus altijd aanvullen. APPARATUUR AANZETTEN
Voorstellen	- Voorstelronde • Wie bent u? • Wat is uw functie? • Wat heeft u met de DAL-gemeenten?
PRESENTATIE	
Triple Aim	1. De zorgkostentrend in Nederland 2. Bent u bekend met Triple Aim – waar bent u dit tegen gekomen? 3. De Triple Aim ideologie 4. Uitgangspunten Triple Aim a.d.h. van het JvEI (7 stappen onderweg naar Triple Aim) 5. Triple Aim in de Praktijk
VRAGENRONDE	
De praktijk	1. Wat ziet u bij de jeugd in de DAL-gemeenten? 2. Waar komt dit beeld vandaan? 3. Wat zijn de achterliggende factoren/ wat veroorzaakt dit?
PRESENTATIE	
Resultaten vooronderzoek	1. De cijfers van Vektis i.c.m. de bevindingen vanuit de interviews en gesprekken 2. De oorzaak-gevolg relaties van verschillende risicofactoren
VRAGENRONDE	
	1. Wat kunnen we met deze oorzaak-gevolg relaties? 2. Waar zitten gaten of knelpunten binnen de zorgverlening? 3. Wat wordt er op dit moment gedaan op het gebied van de aangeduide problematiek? 4. Hoe matcht dit met Triple Aim? 5a. Doen we de goede dingen? 5b. Wat is er extra nodig?
Samenvatting en conclusie	
	- Samenvatting van de focusgroep - Hebben we u iets niet gevraagd vandaag? Heeft u nog toevoegingen?
Dankwoord	
	- Binnen twee weken ontvangt u een samenvatting van dit gesprek. Heeft u op-, aanmerking of toevoegingen, dan kunt u mij mailen ofbellen.

8.3. Appendix 3: deviating patterns within the Vektis database

The tables below show the results of the analysis of the Vektis database. Any positive deviation from the national average is marked red. The deviating patterns are circled by a red line.

0 tot 5 jaar*	Kosten medisch specialistische zorg	Kosten farmacie	Kosten tweedelijns GGZ	Kosten huisarts inschrijfarief	Kosten huisarts consult	Kosten huisarts overig	Kosten hulpmiddelen	Kosten mondzorg (basis verzekering)	Kosten paramedische zorg fysiotherapie	Kosten paramedische zorg overig	Kosten ziekenvervoer zittend	Kosten ziekenvervoer liggend	Kosten kraamzorg	Kosten verloskundige zorg	Kosten eerstelijns psychologische zorg	Kosten grensover-schrijdende zorg	Kosten eerstelijns ondersteuning	Kosten overig	
990	73,26828	6,57510	3,17184	3,24039	1,56509	3,04473	1,04735	1,83324	2,15862	2,44614	0,22040	1,29969	0,00000	0,00000	0,00970	0,03594	0,00209	0,02097	100,0
Nederland	68,41329	6,44048	2,78886	4,13433	2,10599	4,50875	2,46866	2,33313	1,93200	2,88330	0,21400	0,82105	0,00002	0,00016	0,05239	0,50382	0,00460	0,39516	100,0
Afwijking	4,85498	0,13462	0,38298	-0,89394	-0,54090	-1,46401	-1,42131	-0,49989	0,22663	-0,43716	0,00639	0,47864	-0,00002	-0,00016	-0,04269	-0,46788	-0,00252	-0,37420	0,0
991	60,39271	8,43768	3,89329	5,07126	2,85568	4,56192	3,86085	2,26772	4,10895	3,34520	0,00000	0,91041	0,00000	0,00000	0,02741	0,16119	0,00445	0,00121	100,0
Nederland	68,41329	6,44048	2,78886	4,13433	2,10599	4,50875	2,46866	2,33313	1,93200	2,88330	0,21400	0,82105	0,00002	0,00016	0,05239	0,50382	0,00460	0,39516	100,0
Afwijking	-8,02058	1,99720	1,10442	0,93693	0,74968	0,05317	1,39219	-0,06540	2,17696	0,46191	-0,21400	0,08935	-0,00002	-0,00016	-0,02498	-0,34263	-0,00015	-0,39396	0,0
993	76,45642	4,07724	4,15998	2,48275	1,46835	2,99783	2,17399	1,22296	2,64515	1,58125	0,01103	0,61692	0,00000	0,00000	0,04512	0,00746	0,00071	0,00624	100,0
Nederland	68,41329	6,44048	2,78886	4,13433	2,10599	4,50875	2,46866	2,33313	1,93200	2,88330	0,21400	0,82105	0,00002	0,00016	0,05239	0,50382	0,00460	0,39516	100,0
Afwijking	8,04313	-2,36324	1,37112	-1,65158	-0,63764	-1,51092	-0,29467	-1,11017	0,71315	-1,30205	-0,20297	-0,20413	-0,00002	-0,00016	-0,00727	-0,49636	-0,00389	-0,38893	0,0
994	65,26032	6,15761	9,74093	3,21386	1,71506	3,54267	1,15063	1,42751	2,55773	4,22504	0,00000	0,81668	0,00000	0,00000	0,08462	0,00579	0,00480	0,03738	100,0
Nederland	68,41329	6,44048	2,78886	4,13433	2,10599	4,50875	2,46866	2,33313	1,93200	2,88330	0,21400	0,82105	0,00002	0,00016	0,05239	0,50382	0,00460	0,39516	100,0
Afwijking	-3,15297	-0,28287	6,95206	-0,92047	-0,39093	-0,96607	-1,31803	-0,90562	0,62573	1,34174	-0,21400	-0,00437	-0,00002	-0,00016	0,03223	-0,49803	0,00019	-0,35778	0,0
999	68,60105	6,85294	1,96401	5,48928	2,32852	4,64460	1,91405	2,12458	3,01371	1,02259	0,17783	1,19592	0,00000	0,00000	0,00000	0,34410	0,00408	0,21843	100,0
Nederland	68,41329	6,44048	2,78886	4,13433	2,10599	4,50875	2,46866	2,33313	1,93200	2,88330	0,21400	0,82105	0,00002	0,00016	0,05239	0,50382	0,00460	0,39516	100,0
Afwijking	0,18776	0,41247	-0,82485	1,35495	0,22253	0,13585	-0,55461	-0,20855	1,08171	-1,86071	-0,03617	0,37486	-0,00002	-0,00016	-0,05239	-0,15972	-0,00053	-0,17674	0,0

6 tot 15 jaar*	Kosten medisch specialistische zorg	Kosten farmacie	Kosten tweedelijns GGZ	Kosten huisarts inschrijfarief	Kosten huisarts consult	Kosten huisarts overig	Kosten hulpmiddelen	Kosten mondzorg (basis verzekering)	Kosten paramedische zorg fysiotherapie	Kosten paramedische zorg overig	Kosten ziekenvervoer zittend	Kosten ziekenvervoer liggend	Kosten kraamzorg	Kosten verloskundige zorg	Kosten eerstelijns psychologische zorg	Kosten grensover-schrijdende zorg	Kosten eerstelijns ondersteuning	Kosten overig	
990	28,12636	6,382561	39,15831	4,637819	1,592459	2,315374	3,666981	8,062081	3,018122	1,916948	0,229201	0,328033	0	0	0,19106	0,24815	0,002211	0,041208	100,0
Nederland	32,74415	7,108989	26,05672	5,232784	1,644264	2,767382	3,153295	12,39845	2,979336	3,722722	0,356552	0,414277	0,001516	0,001032	0,636761	0,376017	0,005666	0,4001	100,0
Afwijking	-4,61779	-0,72643	13,10159	-0,59497	-0,0518	-0,45201	0,513686	-4,33637	0,038786	-1,80577	-0,12735	-0,08624	-0,00152	-0,00103	-0,4457	-0,12787	-0,00346	-0,35889	
991	31,68369	10,44658	24,82518	6,173387	1,985719	2,70219	5,709706	9,905995	3,297457	1,86823	0	0,485321	0	0	0,482977	0,283472	0,006989	0,031519	100,0
Nederland	32,74415	7,108989	26,05672	5,232784	1,644264	2,767382	3,153295	12,39845	2,979336	3,722722	0,356552	0,414277	0,001516	0,001032	0,636761	0,376017	0,005666	0,4001	100,0
Afwijking	-1,06045	3,337594	-1,23153	0,940603	0,341456	-0,06519	2,556412	-2,49245	0,318121	-1,85449	-0,35655	0,071044	-0,00152	-0,00103	-0,15378	-0,09255	0,001323	-0,36858	
993	34,4665	5,533083	33,52616	4,651557	1,668718	3,086452	2,557507	7,472048	2,564811	2,49648	0,911927	0,634322	0	0	0,141516	0,175336	0,001987	0,027576	100,0
Nederland	32,74415	7,108989	26,05672	5,232784	1,644264	2,767382	3,153295	12,39845	2,979336	3,722722	0,356552	0,414277	0,001516	0,001032	0,636761	0,376017	0,005666	0,4001	100,0
Afwijking	1,722356	-1,57591	7,46944	-0,58123	0,024454	0,31907	-0,59579	-4,9264	-0,41452	-1,22624	0,555375	0,220045	-0,00152	-0,00103	-0,49525	-0,20068	-0,00368	-0,37252	
994	29,47916	7,933702	27,8732	4,523505	1,775922	3,569833	6,278734	7,283972	4,718819	5,387309	0,087571	0,663078	0	0	0,24606	0,071441	0,003606	0,022804	100,0
Nederland	32,74415	7,108989	26,05672	5,232784	1,644264	2,767382	3,153295	12,39845	2,979336	3,722722	0,356552	0,414277	0,001516	0,001032	0,636761	0,376017	0,005666	0,4001	100,0
Afwijking	-3,26498	0,824714	1,816484	-0,70928	0,131658	0,80245	3,12544	-5,11447	1,739483	1,664587	-0,26898	0,248801	-0,00152	-0,00103	-0,3907	-0,30458	-0,00206	-0,3773	
999	27,90671	7,725521	39,78553	4,694754	1,11069	2,245873	1,574688	8,92607	2,301343	1,859608	0,214569	0,504753	0	0	0,149332	0,807603	0,006606	0,099975	100,0
Nederland	32,74415	7,108989	26,05672	5,232784	1,644264	2,767382	3,153295	12,39845	2,979336	3,722722	0,356552	0,414277	0,001516	0,001032	0,636761	0,376017	0,005666	0,4001	100,0
Afwijking	-4,83744	0,616533	13,72881	-0,53803	-0,53357	-0,52151	-1,57861	-3,47238	-0,67799	-1,86311	-0,14198	0,090477	-0,00152	-0,00103	-0,48743	0,431586	0,00094	-0,30012	

*** Afwijkingen van uitgaven t.o.v. Nederland in percentages van het totaal**

16 tot 25 jaar*	Kosten medisch specialistische zorg	Kosten farmacie	Kosten tweedelijns GGZ	Kosten huisarts inschrijftarief	Kosten huisarts consult	Kosten huisarts overig	Kosten hulpmiddelen	Kosten mondzorg (basis verzekering)	Kosten paramedische zorg fysiotherapie	Kosten paramedische zorg overig	Kosten ziekenvervoer zittend	Kosten ziekenvervoer liggend	Kosten kraamzorg	Kosten verloskundige zorg	Kosten eerstelijns psychologische zorg	Kosten grensoverschrijdende zorg	Kosten eerstelijns ondersteuning	Kosten overig	
990	44,5397	7,563223	27,10967	4,253351	2,058455	2,585979	1,422053	2,514748	1,334939	0,171452	0,297312	1,149254	2,153893	1,832087	0,481494	0,373509	0,001139	0,080355	100
Nederland	45,2674	8,489168	23,35049	4,826466	2,184908	2,967717	2,169524	3,522397	1,508936	0,260516	0,272178	1,006409	1,454252	1,226426	0,490565	0,587177	0,004522	0,410944	
Afwijking	-0,7277	-0,92594	3,759179	-0,57311	-0,12645	-0,38174	-0,74747	-1,00765	-0,174	-0,08906	0,025134	0,142845	0,699641	0,605661	-0,00907	-0,21367	-0,00338	-0,33059	
991	45,39447	6,885433	15,30121	4,445968	2,209718	2,548345	8,4201	3,308383	0,782932	0,211279	0	5,040213	2,621184	2,056897	0,333206	0,281206	0,003668	0,074569	100
Nederland	45,2674	8,489168	23,35049	4,826466	2,184908	2,967717	2,169524	3,522397	1,508936	0,260516	0,272178	1,006409	1,454252	1,226426	0,490565	0,587177	0,004522	0,410944	
Afwijking	0,127072	-1,60373	-8,04929	-0,3805	0,02481	-0,41937	6,250576	-0,21401	-0,726	-0,04924	-0,27218	4,033805	1,166932	0,830471	-0,15736	-0,30597	-0,00085	-0,33638	
993	51,57552	11,03063	13,89415	4,294814	2,253658	3,185172	2,334351	2,91429	0,934533	0,217992	0	1,487121	2,96732	2,379183	0,243901	0,151633	0,000989	0,056634	100
Nederland	45,2674	8,489168	23,35049	4,826466	2,184908	2,967717	2,169524	3,522397	1,508936	0,260516	0,272178	1,006409	1,454252	1,226426	0,490565	0,587177	0,004522	0,410944	
Afwijking	6,308122	2,541464	-9,45635	-0,53165	0,06875	0,217455	0,164827	-0,60811	-0,5744	-0,04252	-0,27218	0,480712	1,513067	1,152757	-0,24666	-0,43554	-0,00353	-0,35431	
994	51,74103	7,395028	15,38272	5,128467	2,820221	4,04564	2,261787	3,374402	1,285161	0,195443	0	1,602733	2,010933	1,392442	0,677878	0,386704	0,001178	0,206225	100
Nederland	45,2674	8,489168	23,35049	4,826466	2,184908	2,967717	2,169524	3,522397	1,508936	0,260516	0,272178	1,006409	1,454252	1,226426	0,490565	0,587177	0,004522	0,410944	
Afwijking	6,473629	-1,09414	-7,96777	0,302001	0,635313	1,077923	0,092263	-0,148	-0,22378	-0,06507	-0,27218	0,596324	0,55668	0,166016	0,187314	-0,20047	-0,00334	-0,20472	
999	45,48637	8,726513	18,06871	6,35242	2,209528	2,85782	1,919259	5,119783	1,79396	0,114999	0	1,484033	1,890331	1,6197	0,697738	1,345809	0,002612	0,190682	100
Nederland	45,2674	8,489168	23,35049	4,826466	2,184908	2,967717	2,169524	3,522397	1,508936	0,260516	0,272178	1,006409	1,454252	1,226426	0,490565	0,587177	0,004522	0,410944	
Afwijking	0,218967	0,237345	-5,28179	1,525954	0,02462	-0,1099	-0,25027	1,597386	0,285023	-0,14552	-0,27218	0,477624	0,436079	0,393274	0,207174	0,758632	-0,00191	-0,22026	

26 tot 35 jaar*	Kosten medisch specialistische zorg	Kosten farmacie	Kosten tweedelijns GGZ	Kosten huisarts inschrijftarief	Kosten huisarts consult	Kosten huisarts overig	Kosten hulpmiddelen	Kosten mondzorg (basis verzekering)	Kosten paramedische zorg fysiotherapie	Kosten paramedische zorg overig	Kosten ziekenvervoer zittend	Kosten ziekenvervoer liggend	Kosten kraamzorg	Kosten verloskundige zorg	Kosten eerstelijns psychologische zorg	Kosten grensoverschrijdende zorg	Kosten eerstelijns ondersteuning	Kosten overig	
990	58,3749	9,056119	9,987223	3,143351	1,863013	1,982098	1,293632	0,035431	0,455358	0,044974	0,072303	0,865779	7,107838	4,848278	0,560892	0,115224	0,001248	0,13524	100
Nederland	51,09221	8,821046	16,47354	3,507133	1,824128	2,177309	1,728193	0,275223	0,522666	0,096703	0,190828	0,736101	6,582468	4,508443	0,457543	0,587974	0,003592	0,414895	100
Afwijking	7,282688	0,235073	-6,48632	-0,36378	0,038884	-0,19521	-0,43456	-0,23979	-0,06731	-0,05173	-0,11852	0,129677	0,52537	0,339835	0,103349	-0,47275	-0,00234	-0,27966	0
991	52,95801	8,749122	11,43065	3,891863	2,32479	2,441787	1,167641	0,102632	0,364785	0	0	1,044078	9,375052	5,447929	0,26117	0,02577	0,003312	0,339608	100
Nederland	51,09221	8,821046	16,47354	3,507133	1,824128	2,177309	1,728193	0,275223	0,522666	0,096703	0,190828	0,736101	6,582468	4,508443	0,457543	0,587974	0,003592	0,414895	100
Afwijking	1,865795	-0,07192	-5,0429	0,384731	0,500661	0,264477	-0,56055	-0,17259	-0,15788	-0,0967	-0,19083	0,307977	2,792584	0,939486	-0,19637	-0,5622	-0,00028	-0,07529	0
993	59,41214	9,285531	11,93067	2,708314	1,851799	2,293269	3,025631	0,181316	0,159433	0,0168	0,082992	0,794923	4,153502	3,19618	0,396318	0,349076	0,000987	0,111389	100
Nederland	51,09221	8,821046	16,47354	3,507133	1,824128	2,177309	1,728193	0,275223	0,522666	0,096703	0,190828	0,736101	6,582468	4,508443	0,457543	0,587974	0,003592	0,414895	100
Afwijking	8,31993	0,464484	-4,54288	-0,79882	0,02767	0,11596	1,297438	-0,09391	-0,36323	-0,0799	-0,10784	0,058822	-2,42897	-1,31226	-0,06122	-0,2389	-0,00261	-0,30351	0
994	53,6274	8,341039	19,4085	3,021143	1,930538	2,256452	1,388895	0,26107	0,262072	0,026166	0	0,638355	4,944441	3,52626	0,162665	0,014001	0,001841	0,134443	100
Nederland	51,09221	8,821046	16,47354	3,507133	1,824128	2,177309	1,728193	0,275223	0,522666	0,096703	0,190828	0,736101	6,582468	4,508443	0,457543	0,587974	0,003592	0,414895	100
Afwijking	2,535188	-0,48001	2,934954	-0,48599	0,10641	0,079142	-0,3393	-0,01415	-0,26059	-0,07054	-0,19083	-0,09775	-1,63803	-0,98218	-0,29488	-0,57397	-0,00175	-0,28045	0
999	57,62184	6,367208	10,7245	4,247781	1,792593	1,89882	0,925137	0,039317	0,057944	0,059432	0	0,535476	8,4073	5,63636	0,427346	0,800498	0,001332	0,368995	100
Nederland	51,09221	8,821046	16,47354	3,507133	1,824128	2,177309	1,728193	0,275223	0,522666	0,096703	0,190828	0,736101	6,582468	4,508443	0,457543	0,587974	0,003592	0,414895	100
Afwijking	6,529634	-2,45384	-5,74905	0,740648	-0,03153	-0,27849	-0,80306	-0,23591	-0,46472	-0,03727	-0,19083	-0,20062	1,824832	1,127918	-0,0302	0,212523	-0,00226	-0,0459	0

*** Afwijkingen van uitgaven t.o.v. Nederland in percentages van het totaa**

36 tot 45 jaar	Kosten medisch specialistische zorg	Kosten farmacie	Kosten tweedelijns GGZ	Kosten huisarts inschrijftarief	Kosten huisarts consult	Kosten huisarts overig	Kosten hulpmiddelen	Kosten mondzorg (basis verzekering)	Kosten paramedische zorg fysiotherapie	Kosten paramedische zorg overig	Kosten ziekenvervoer zittend	Kosten ziekenvervoer liggend	Kosten kraamzorg	Kosten verloskundige zorg	Kosten eerstelijns psychologische zorg	Kosten grensoverschrijdende zorg	Kosten eerstelijns ondersteuning	Kosten overig	
990	62,89089	13,89943	6,488541	3,819852	2,398061	2,320975	3,154162	0,614531	0,925209	0,017945	0,332266	0,998898	0,463877	0,335391	0,580976	0,262374	0,001961	0,42541	100
Nederlan	54,50394	13,40824	14,91051	3,705926	2,01343	2,164826	2,633301	0,541804	0,812205	0,106399	0,296287	0,815612	1,437752	0,889033	0,452	0,67222	0,003908	0,632607	100
Afwijking	8,38694	0,491198	-8,42197	0,113926	0,384631	0,15615	0,520861	0,072727	0,113004	-0,08845	0,035979	0,183287	-0,97387	-0,55364	0,128976	-0,40985	-0,00195	-0,2072	0
991	62,92967	12,993	6,46656	3,990718	2,211151	2,002982	3,591504	0,416614	0,519093	0,067954	0,409348	1,091635	1,634422	0,917775	0,248584	0,041325	0,003809	0,391186	100
Nederlan	54,50394	13,40824	14,91051	3,705926	2,01343	2,164826	2,633301	0,541804	0,812205	0,106399	0,296287	0,815612	1,437752	0,889033	0,452	0,67222	0,003908	0,632607	100
Afwijking	8,425723	-0,41523	-8,44395	0,284791	0,197721	-0,16184	0,958204	-0,12519	-0,29311	-0,03844	0,113061	0,276023	0,19667	0,028742	-0,20342	-0,63089	-9,8E-05	-0,24142	0
993	57,56518	13,48325	13,54116	3,358978	2,203849	2,379053	3,293314	0,489426	0,323026	0,018976	0,061109	1,1523	0,649673	0,470258	0,356126	0,083331	0,00169	0,508277	100
Nederlan	54,50394	13,40824	14,91051	3,705926	2,01343	2,164826	2,633301	0,541804	0,812205	0,106399	0,296287	0,815612	1,437752	0,889033	0,452	0,67222	0,003908	0,632607	100
Afwijking	3,061235	0,07501	-1,36935	-0,34695	0,19042	0,214228	0,660013	-0,05238	-0,48918	-0,08742	-0,23518	0,336688	-0,78808	-0,41877	-0,09587	-0,58889	-0,00222	-0,12433	0
994	60,02232	13,91109	8,387609	3,497267	2,17638	2,78475	3,64664	0,787383	0,452052	0,050741	0	0,657178	1,706822	0,827423	0,302923	0,277686	0,002174	0,446709	100
Nederlan	54,50394	13,40824	14,91051	3,705926	2,01343	2,164826	2,633301	0,541804	0,812205	0,106399	0,296287	0,815612	1,437752	0,889033	0,452	0,67222	0,003908	0,632607	100
Afwijking	5,518371	0,50285	-6,5229	-0,20866	0,16295	0,619924	1,013339	0,245579	-0,36015	-0,05566	-0,29629	-0,15843	0,26907	-0,06161	-0,14908	-0,39453	-0,00173	-0,1859	0
999	56,76955	13,90562	7,015979	5,746207	2,162594	2,541838	1,641966	0,187569	0,723714	0,021664	0,016801	0,960461	2,337275	1,524358	0,64984	3,061315	0,005044	0,607544	100
Nederlan	54,50394	13,40824	14,91051	3,705926	2,01343	2,164826	2,633301	0,541804	0,812205	0,106399	0,296287	0,815612	1,437752	0,889033	0,452	0,67222	0,003908	0,632607	100
Afwijking	2,265605	0,497385	-7,89453	2,040281	0,149165	0,377013	-0,99133	-0,35423	-0,08849	-0,08473	-0,27949	0,144849	0,899523	0,635325	0,19784	2,389095	0,001136	-0,02506	0

46 tot 55 jaar	Kosten medisch specialistische zorg	Kosten farmacie	Kosten tweedelijns GGZ	Kosten huisarts inschrijftarief	Kosten huisarts consult	Kosten huisarts overig	Kosten hulpmiddelen	Kosten mondzorg (basis verzekering)	Kosten paramedische zorg fysiotherapie	Kosten paramedische zorg overig	Kosten ziekenvervoer zittend	Kosten ziekenvervoer liggend	Kosten kraamzorg	Kosten verloskundige zorg	Kosten eerstelijns psychologische zorg	Kosten grensoverschrijdende zorg	Kosten eerstelijns ondersteuning	Kosten overig	
990	60,56883	15,18342	8,206943	2,8853	1,982948	1,756494	3,798981	1,638933	1,055373	0,032634	0,241882	1,468515	0	0	0,32795	0,072683	0,001288	0,725562	100
Nederlan	58,5237	15,17113	10,57466	2,932448	1,833293	1,767403	3,455352	1,100774	1,121971	0,109088	0,385183	1,005609	0,004746	0	0,285542	0,686744	0,002888	1,037208	100
Afwijking	2,045129	0,012286	-2,36772	-0,04715	0,149655	-0,01091	0,343628	0,538159	-0,0666	-0,07645	-0,1433	0,462906	-0,00475	0	0,042409	-0,61406	-0,0016	-0,31165	0
991	58,46614	20,11752	5,883897	3,498095	2,323873	1,800527	3,01464	0,804283	0,744324	0,001809	0,141826	1,542095	0,047301	0,023131	0,298604	0,093032	0,002716	1,133076	100
Nederlan	58,5237	15,17113	10,57466	2,932448	1,833293	1,767403	3,455352	1,100774	1,121971	0,109088	0,385183	1,005609	0,004746	0,00225	0,285542	0,686744	0,002888	1,037208	100
Afwijking	-0,05756	4,946385	-4,69077	0,565648	0,490581	0,033124	-0,44071	-0,29649	-0,37765	-0,10728	-0,24336	0,536486	0,042555	0,020881	0,013062	-0,59371	-0,00017	0,095869	0
993	60,07961	16,92771	6,878489	2,609687	1,898161	1,916216	4,250018	1,079702	0,70065	0,07354	0,396593	1,360786	0	0	0,236887	0,44679	0,000773	1,097096	100
Nederlan	58,5237	15,17113	10,57466	2,932448	1,833293	1,767403	3,455352	1,100774	1,121971	0,109088	0,385183	1,005609	0,004746	0,00225	0,285542	0,686744	0,002888	1,037208	100
Afwijking	1,55591	1,756571	-3,69617	-0,32276	0,064869	0,148813	0,794665	-0,02107	-0,42132	-0,03555	0,01141	0,355178	-0,00475	-0,00225	-0,04866	-0,23995	-0,00212	0,059888	0
994	65,95478	12,37461	6,772792	2,8649	2,027148	2,39094	3,511304	0,786918	0,440362	0,003884	0,149546	1,354776	0	0	0,184121	0,021751	0,001987	1,108704	100
Nederlan	58,5237	15,17113	10,57466	2,932448	1,833293	1,767403	3,455352	1,100774	1,121971	0,109088	0,385183	1,005609	0,004746	0,00225	0,285542	0,686744	0,002888	1,037208	100
Afwijking	7,431079	-2,79653	-3,80187	-0,06755	0,193855	0,623536	0,055952	-0,31386	-0,68161	-0,1052	-0,23564	0,349168	-0,00475	-0,00225	-0,10142	-0,66499	-0,0009	0,071496	0
999	60,55665	14,18095	7,491722	4,123542	1,894497	1,948346	3,427233	0,816933	0,448007	0,045358	0,747627	0,969957	0	0	0,642906	1,720944	0,002515	0,899026	100
Nederlan	58,5237	15,17113	10,57466	2,932448	1,833293	1,767403	3,455352	1,100774	1,121971	0,109088	0,385183	1,005609	0,004746	0,00225	0,285542	0,686744	0,002888	1,037208	100
Afwijking	2,032944	-0,99018	-3,08294	1,191094	0,061204	0,180942	-0,02812	-0,28384	-0,67396	-0,06373	0,362445	-0,03565	-0,00475	-0,00225	0,357365	1,0342	-0,00037	-0,13818	0

*** Afwijkingen van uitgaven t.o.v. Nederland in percentages van het totaa**

56 tot 65 jaar*	Kosten medisch specialistische zorg	Kosten farmacie	Kosten tweedelijns GGZ	Kosten huisarts inschrijftarief	Kosten huisarts consult	Kosten huisarts overig	Kosten hulpmiddelen	Kosten mondzorg (basis verzekering)	Kosten paramedische zorg fysiotherapie	Kosten paramedische zorg overig	Kosten ziekenvervoer zittend	Kosten ziekenvervoer liggend	Kosten kraamzorg	Kosten verloskundige zorg	Kosten eerstelijns psychologische zorg	Kosten grensoverschrijdende zorg	Kosten eerstelijns ondersteuning	Kosten overig	
990	62,76971	18,00694	2,58481	2,10569	1,73632	1,33426	5,61606	1,52693	1,03581	0,04732	0,14616	1,35189	0,00000	0,00000	0,13311	0,50287	0,00072	1,06401	100,0
Nederland	62,95854	15,43041	5,16505	2,09495	1,53316	1,41096	4,41861	1,73550	1,29610	0,10965	0,44597	1,12108	0,00003	0,00004	0,11875	0,69790	0,00194	1,46137	100,0
Afwijking	-0,18883	2,57654	-2,58024	0,01074	0,20315	-0,07670	1,19745	-0,20857	-0,26028	-0,06233	-0,29980	0,23080	-0,00003	-0,00004	0,01436	-0,19503	-0,00122	-0,39736	0,0
991	59,41586	21,14830	1,07388	2,42493	1,98821	1,56518	6,04724	1,68810	0,89472	0,07476	0,66517	0,73674	0,00000	0,00000	0,13156	0,35134	0,00075	1,75061	100,0
Nederland	62,95854	15,43041	5,16505	2,09495	1,53316	1,41096	4,41861	1,73550	1,29610	0,10965	0,44597	1,12108	0,00003	0,00004	0,11875	0,69790	0,00194	1,46137	100,0
Afwijking	-3,54268	5,71789	-4,09117	0,32998	0,45505	0,15422	1,62863	-0,04741	-0,40137	-0,03488	0,21920	-0,38434	-0,00003	-0,00004	0,01281	-0,34656	-0,00119	0,28924	0,0
993	62,23082	16,38066	6,07982	1,81941	1,51412	1,47817	5,04113	1,23780	0,74069	0,07605	0,13862	1,16537	0,00000	0,00000	0,07472	0,35255	0,00044	1,63744	100,0
Nederland	62,95854	15,43041	5,16505	2,09495	1,53316	1,41096	4,41861	1,73550	1,29610	0,10965	0,44597	1,12108	0,00003	0,00004	0,11875	0,69790	0,00194	1,46137	100,0
Afwijking	-0,72772	0,95026	0,91477	-0,27554	-0,01904	0,06721	0,62252	-0,49770	-0,55540	-0,03360	-0,30735	0,04428	-0,00003	-0,00004	-0,04403	-0,34535	-0,00150	0,17607	0,0
994	63,94729	19,13044	2,11157	2,15690	1,70585	1,90039	3,97061	1,76148	0,47165	0,01733	0,35988	0,73845	0,00000	0,00000	0,05747	0,02325	0,00139	1,60812	100,0
Nederland	62,95854	15,43041	5,16505	2,09495	1,53316	1,41096	4,41861	1,73550	1,29610	0,10965	0,44597	1,12108	0,00003	0,00004	0,11875	0,69790	0,00194	1,46137	100,0
Afwijking	0,98875	3,70004	-3,05348	0,06195	0,17269	0,48942	-0,44800	0,02598	-0,82445	-0,09232	-0,08609	-0,38263	-0,00003	-0,00004	-0,06128	-0,67465	-0,00055	0,14675	0,0
999	66,79455	15,53591	2,34476	2,17388	1,25337	1,07050	5,27333	2,10368	0,42957	0,04549	0,23852	1,16950	0,00000	0,00000	0,13268	0,26077	0,00050	1,13295	100,0
Nederland	62,95854	15,43041	5,16505	2,09495	1,53316	1,41096	4,41861	1,73550	1,29610	0,10965	0,44597	1,12108	0,00003	0,00004	0,11875	0,69790	0,00194	1,46137	100,0
Afwijking	3,83601	0,10550	-2,82029	0,07893	-0,27979	-0,34047	0,85472	0,36818	-0,86652	-0,06416	-0,20745	0,04842	-0,00003	-0,00004	0,01393	-0,43713	-0,00144	-0,32842	0,0

66 tot 75 jaar*	Kosten medisch specialistische zorg	Kosten farmacie	Kosten tweedelijns GGZ	Kosten huisarts inschrijftarief	Kosten huisarts consult	Kosten huisarts overig	Kosten hulpmiddelen	Kosten mondzorg (basis verzekering)	Kosten paramedische zorg fysiotherapie	Kosten paramedische zorg overig	Kosten ziekenvervoer zittend	Kosten ziekenvervoer liggend	Kosten kraamzorg	Kosten verloskundige zorg	Kosten eerstelijns psychologische zorg	Kosten grensoverschrijdende zorg	Kosten eerstelijns ondersteuning	Kosten overig	
990	63,83859	18,09143	1,90799	2,03728	1,52769	1,29495	5,21295	1,43127	0,81216	0,05223	0,35454	1,60080	0,00000	0,00000	0,03508	0,47699	0,00030	1,30053	100,00000
Nederland	65,15829	15,15944	2,60933	2,05428	1,35861	1,21827	5,14745	1,65578	1,31001	0,12443	0,45988	1,36592	0,00003	0,00001	0,03330	0,72614	0,00133	1,61751	100,00000
Afwijking	-1,31969	2,93198	-0,70134	-0,01699	0,16908	0,07668	0,06551	-0,22451	-0,49785	-0,07220	-0,10535	0,23488	-0,00003	-0,00001	0,00178	-0,24915	-0,00103	-0,31699	0,00000
991	63,64836	19,07150	2,00141	2,05637	1,71031	1,58008	4,74703	1,08800	0,87592	0,06455	0,48184	0,87427	0,00000	0,00000	0,00616	0,12014	0,00047	1,64822	100,00000
Nederland	65,15829	15,15944	2,60933	2,05428	1,35861	1,21827	5,14745	1,65578	1,31001	0,12443	0,45988	1,36592	0,00003	0,00001	0,03330	0,72614	0,00133	1,61751	100,00000
Afwijking	-1,50993	3,91206	-0,60792	0,00209	0,35170	0,36181	-0,40042	-0,56777	-0,43409	-0,05988	0,02196	-0,49166	-0,00003	-0,00001	-0,02714	-0,60600	-0,00086	0,03071	0,00000
993	69,52989	13,63319	2,77391	1,60539	1,23134	1,04409	4,53611	1,03978	0,72189	0,02798	0,28007	1,60529	0,00000	0,00000	0,01375	0,57342	0,00022	1,36382	100,00000
Nederland	65,15829	15,15944	2,60933	2,05428	1,35861	1,21827	5,14745	1,65578	1,31001	0,12443	0,45988	1,36592	0,00003	0,00001	0,03330	0,72614	0,00133	1,61751	100,00000
Afwijking	4,37160	-1,52626	0,16458	-0,44888	-0,12727	-0,17418	-0,61134	-0,61600	-0,58811	-0,09645	-0,17981	0,23937	-0,00003	-0,00001	-0,01955	-0,15272	-0,00111	-0,25370	0,00000
994	65,17372	15,99300	0,87608	2,05487	1,66727	2,17699	6,16101	0,99483	0,38534	0,05995	0,44361	1,31629	0,00000	0,00000	0,03354	0,63621	0,00029	2,00185	100,00000
Nederland	65,15829	15,15944	2,60933	2,05428	1,35861	1,21827	5,14745	1,65578	1,31001	0,12443	0,45988	1,36592	0,00003	0,00001	0,03330	0,72614	0,00133	1,61751	100,00000
Afwijking	0,01543	0,83356	-1,73325	0,00060	0,30866	0,95872	1,01357	-0,66095	-0,92466	-0,06448	-0,01628	-0,04963	-0,00003	-0,00001	0,00024	-0,08993	-0,00104	0,38434	0,00000
999	61,47418	14,09388	8,18683	2,12599	1,09324	0,99046	5,32399	1,58337	0,86434	0,08263	0,74529	1,90509	0,00000	0,00000	0,08574	0,00000	0,00021	1,41840	100,00000
Nederland	65,15829	15,15944	2,60933	2,05428	1,35861	1,21827	5,14745	1,65578	1,31001	0,12443	0,45988	1,36592	0,00003	0,00001	0,03330	0,00003	0,00133	1,61751	100,00000
Afwijking	-3,68410	-1,06557	5,57750	0,07172	-0,26537	-0,22781	0,17655	-0,07241	-0,44567	-0,04180	0,28541	0,53917	-0,00003	-0,00001	0,05244	-0,00003	-0,00112	-0,19911	0,00000

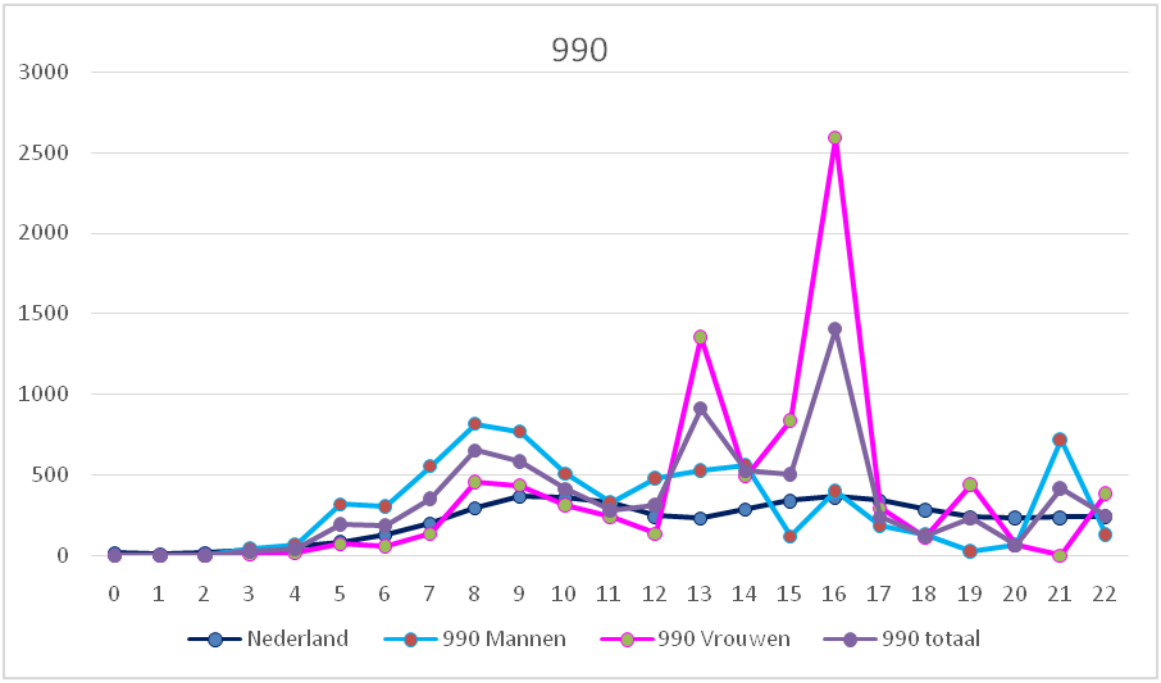
*** Afwijkingen van uitgaven t.o.v. Nederland in percentages van het totaal**

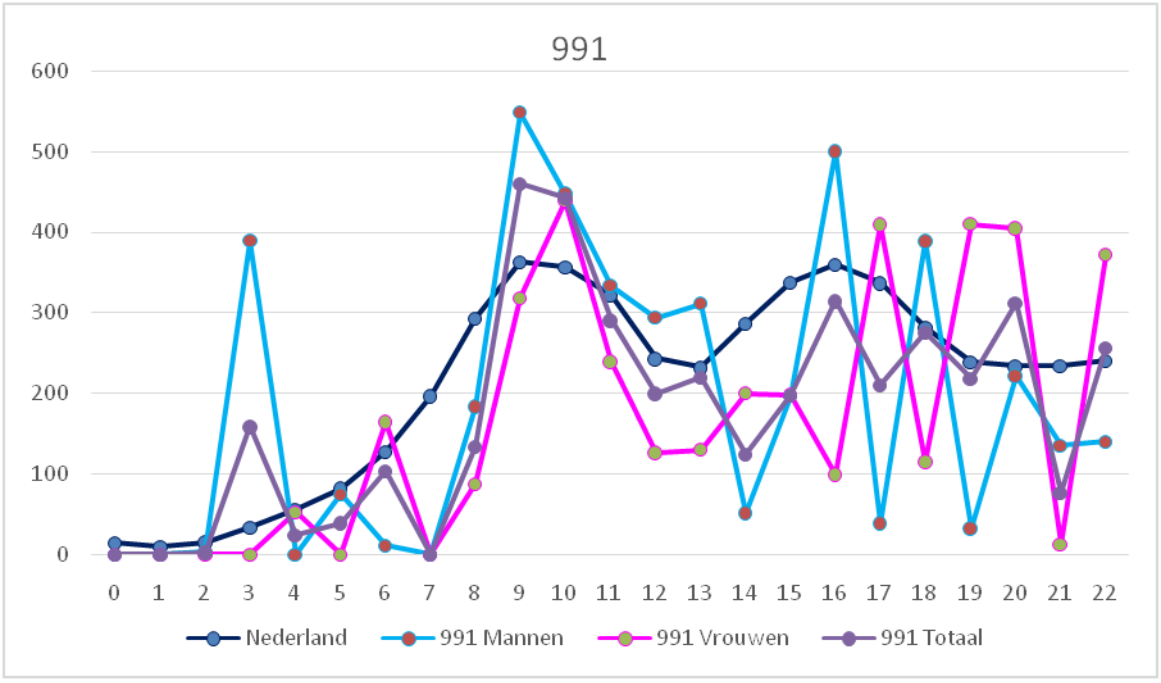
76 tot 85 jaar*	Kosten medisch specialistische zorg	Kosten farmacie	Kosten tweedelijns GGZ	Kosten huisarts inschrijftarief	Kosten huisarts consult	Kosten huisarts overig	Kosten hulpmiddelen	Kosten mondzorg (basis verzekering)	Kosten paramedische zorg fysiotherapie	Kosten paramedische zorg overig	Kosten ziekenvervoer zittend	Kosten ziekenvervoer liggend	Kosten kraamzorg	Kosten verloskundige zorg	Kosten eerstelijns psychologische zorg	Kosten grensoverschrijdende zorg	Kosten eerstelijns ondersteuning	Kosten overig	
990	63,67967	16,58984	2,28975	1,65191	1,719191	1,566415	7,086094	0,810665	0,433373	0,042479	0,296482	2,726764	0	0	0,008324	0,009959	0,000119	1,071669	100
Nederlanc	63,12475	15,68583	2,24673	1,83771	1,54930	1,37084	6,92801	1,13311	1,41547	0,20175	0,43165	2,13858	0,00005	0,00000	0,01313	0,41535	0,00095	1,50679	100
Afwijking	0,55492	0,90401	0,04302	-0,18580	0,16989	0,19557	0,15809	-0,32245	-0,98210	-0,15927	-0,13517	0,58818	-0,00005	0,00000	-0,00480	-0,40539	-0,00083	-0,43512	0
991	62,98436	16,46703	1,0076	1,613961	2,138889	1,240285	6,665119	1,750222	1,390433	0,016135	1,13101	1,670675	0	0	0	0,403184	0,000211	1,504292	100
Nederlanc	63,12475	15,68583	2,24673	1,83771	1,54930	1,37084	6,92801	1,13311	1,41547	0,20175	0,43165	2,13858	0,00005	0,00000	0,01313	0,41535	0,00095	1,50679	100
Afwijking	-0,14039	0,78121	-1,23913	-0,22375	0,58959	-0,13056	-0,26289	0,61711	-0,02504	-0,18561	0,69936	-0,46791	-0,00005	0,00000	-0,01313	-0,01217	-0,00074	-0,00250	0
993	65,32699	14,90852	2,632023	1,585496	1,418335	1,368457	6,660408	0,852784	0,55277	0,060966	0,213467	2,861315	0	0	0,00438	0,173461	3,87E-05	1,363886	100
Nederlanc	63,12475	15,68583	2,24673	1,83771	1,54930	1,37084	6,92801	1,13311	1,41547	0,20175	0,43165	2,13858	0,00005	0,00000	0,01313	0,41535	0,00095	1,50679	100
Afwijking	2,20224	-0,77730	0,38530	-0,25221	-0,13096	-0,00238	-0,26760	-0,28033	-0,86270	-0,14078	-0,21818	0,72273	-0,00005	0,00000	-0,00875	-0,24189	-0,00091	-0,14291	0
994	58,57101	16,90927	1,69387	1,808531	1,9918	2,281355	9,927101	0,79031	0,60138	0,201566	0,587202	2,585146	0	0	0,022152	0,069429	0,000122	1,941185	100
Nederlanc	63,12475	15,68583	2,24673	1,83771	1,54930	1,37084	6,92801	1,13311	1,41547	0,20175	0,43165	2,13858	0,00005	0,00000	0,01313	0,41535	0,00095	1,50679	100
Afwijking	-4,55374	1,22345	-0,55286	-0,02918	0,44250	0,91051	2,99909	-0,34280	-0,81409	-0,00018	0,15555	0,44656	-0,00005	0,00000	0,00902	-0,34592	-0,00083	0,43439	0
999	75,03334	9,913491	0,726291	1,225541	0,867564	0,775627	7,08503	0,332269	0,192481	0	0,034772	2,691638	0	0	0	0,004412	0	1,104932	100
Nederlanc	63,12475	15,68583	2,24673	1,83771	1,54930	1,37084	6,92801	1,13311	1,41547	0,20175	0,43165	2,13858	0,00005	0,00000	0,01313	0,41535	0,00095	1,50679	100
Afwijking	11,90859	-5,77234	-1,52044	-0,61217	-0,68174	-0,59521	0,15702	-0,80084	-1,22299	-0,20175	-0,39688	0,55306	-0,00005	0,00000	-0,01313	-0,41094	-0,00095	-0,40186	0

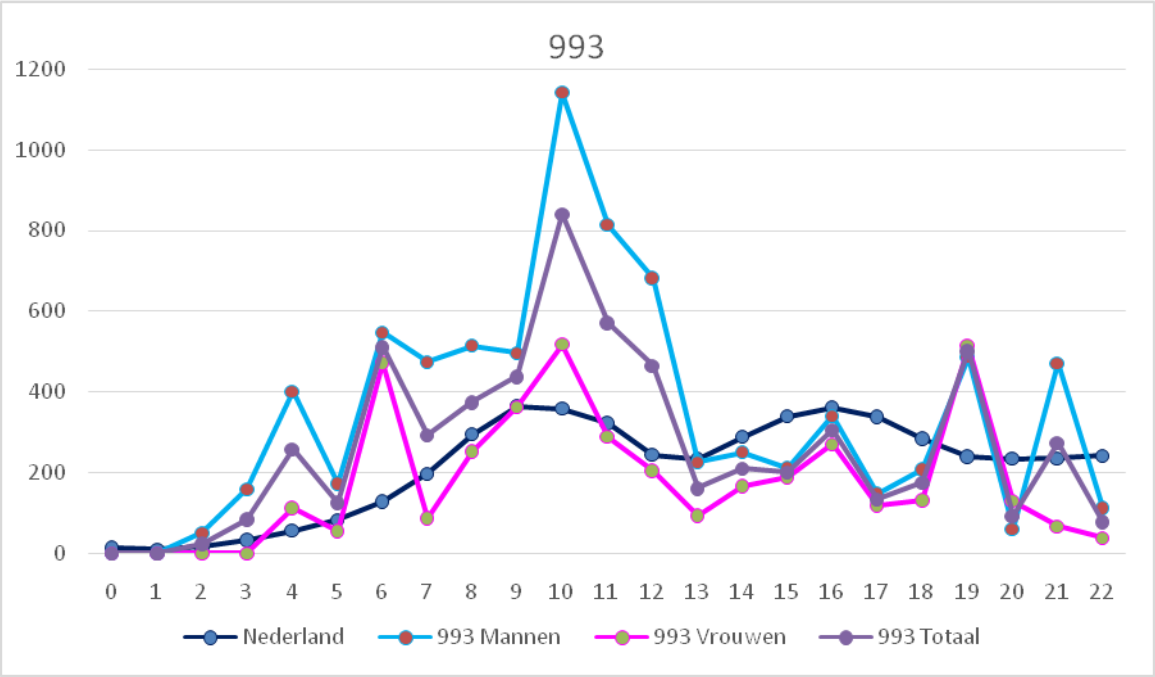
86+ jaar	Kosten medisch specialistische zorg	Kosten farmacie	Kosten tweedelijns GGZ	Kosten huisarts inschrijftarief	Kosten huisarts consult	Kosten huisarts overig	Kosten hulpmiddelen	Kosten mondzorg (basis verzekering)	Kosten paramedische zorg fysiotherapie	Kosten paramedische zorg overig	Kosten ziekenvervoer zittend	Kosten ziekenvervoer liggend	Kosten kraamzorg	Kosten verloskundige zorg	Kosten eerstelijns psychologische zorg	Kosten grensoverschrijdende zorg	Kosten eerstelijns ondersteuning	Kosten overig	
990	54,40646	16,43009	2,16452	1,86431	2,62117	2,63810	11,83819	0,63649	0,64999	0,18082	0,12037	5,20952	0,00000	0,00000	0,00968	0,00587	0,00018	1,20339	100,0
Nederlanc	54,41389	17,66932	2,15970	1,81324	2,27996	2,30220	11,49478	0,63377	1,61310	0,30194	0,22111	3,59719	0,00000	0,00005	0,00573	0,19514	0,00096	1,29792	100,0
Afwijking	-0,00743	-1,23923	0,00482	0,05107	0,34121	0,33589	0,34341	0,00272	-0,96311	-0,12112	-0,10074	1,61233	0,00000	-0,00005	0,00395	-0,18927	-0,00078	-0,09453	0,0
991	37,16711	23,40327	2,80037	1,77629	4,66197	6,85870	15,53306	0,18536	1,48838	0,41491	0,00000	4,45674	0,00000	0,00000	0,00000	0,00000	0,00000	1,23567	100,0
Nederlanc	54,41389	17,66932	2,15970	1,81324	2,27996	2,30220	11,49478	0,63377	1,61310	0,30194	0,22111	3,59719	0,00000	0,00005	0,00573	0,19514	0,00096	1,29792	100,0
Afwijking	-17,24678	5,73395	0,64067	-0,03695	2,38201	4,55650	4,03828	-0,44841	-0,12472	0,11298	-0,22111	0,85954	0,00000	-0,00005	-0,00573	-0,19514	-0,00096	-0,06225	0,0
993	53,04453	18,15600	3,81344	1,69121	1,98140	2,20383	11,62903	0,61969	0,26668	0,01870	0,07171	5,23013	0,00000	0,00000	0,00000	0,00000	0,00014	1,25394	100,0
Nederlanc	54,41389	17,66932	2,15970	1,81324	2,27996	2,30220	11,49478	0,63377	1,61310	0,30194	0,22111	3,59719	0,00000	0,00005	0,00573	0,19514	0,00096	1,29792	100,0
Afwijking	-1,36936	0,48668	1,65374	-0,12203	-0,29856	-0,09837	0,13425	-0,01408	-1,34642	-0,28323	-0,14940	1,63294	0,00000	-0,00005	-0,00573	-0,19514	-0,00082	-0,04398	0,0
994	34,12213	19,19958	1,50417	1,84511	3,26634	7,04422	25,86194	0,14151	0,20647	0,19203	0,00000	5,01437	0,00000	0,00000	0,00000	0,00000	0,00000	1,58351	100,0
Nederlanc	54,41389	17,66932	2,15970	1,81324	2,27996	2,30220	11,49478	0,63377	1,61310	0,30194	0,22111	3,59719	0,00000	0,00005	0,00573	0,19514	0,00096	1,29792	100,0
Afwijking	-20,29176	1,53026	-0,65553	0,03187	0,98637	4,74202	14,36716	-0,49226	-1,40663	-0,10990	-0,22111	1,41718	0,00000	-0,00005	-0,00573	-0,19514	-0,00096	0,28560	0,0
999	37,24840	23,44582	2,53176	2,38143	2,54957	2,09961	24,83302	0,38562	0,00000	0,00000	0,00000	2,14522	0,00000	0,00000	0,00000	0,00000	0,00000	2,35456	100,0
Nederlanc	54,41389	17,66932	2,15970	1,81324	2,27996	2,30220	11,49478	0,63377	1,61310	0,30194	0,22111	3,59719	0,00000	0,00005	0,00573	0,19514	0,00096	1,29792	100,0
Afwijking	-17,16549	5,77650	0,37206	0,56818	0,26961	-0,20259	13,33825	-0,24815	-1,61310	-0,30194	-0,22111	-1,45198	0,00000	-0,00005	-0,00573	-0,19514	-0,00096	1,05665	0,0

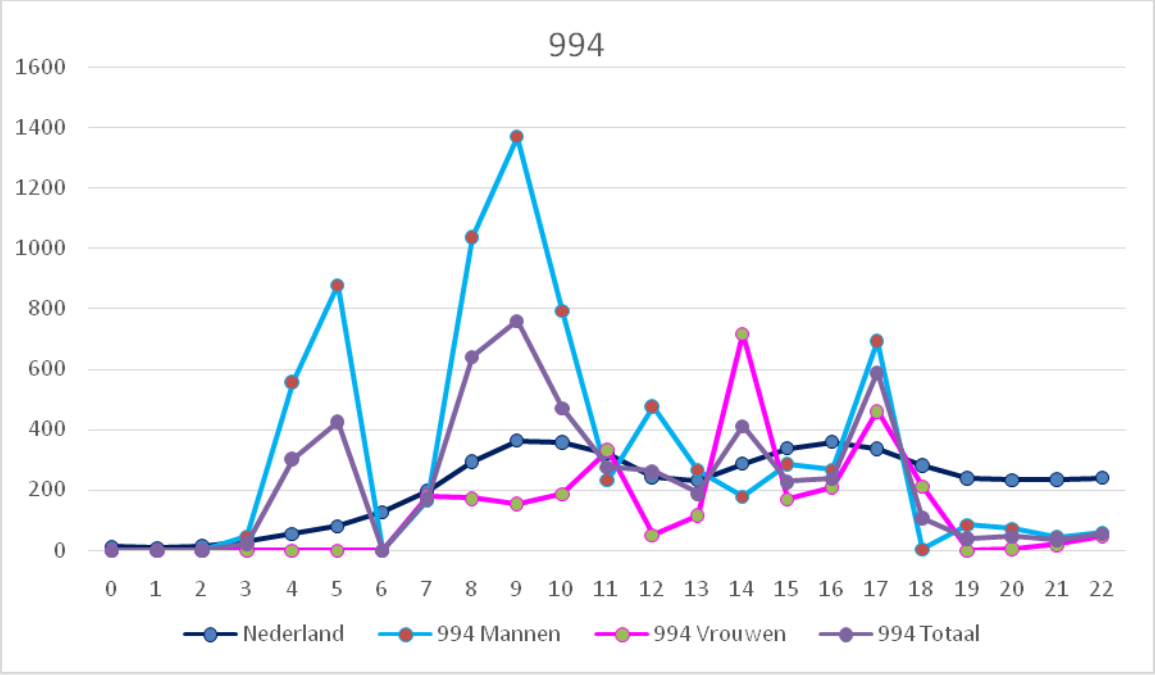
*** Afwijkingen van uitgaven t.o.v. Nederland in percentages van het totaal**

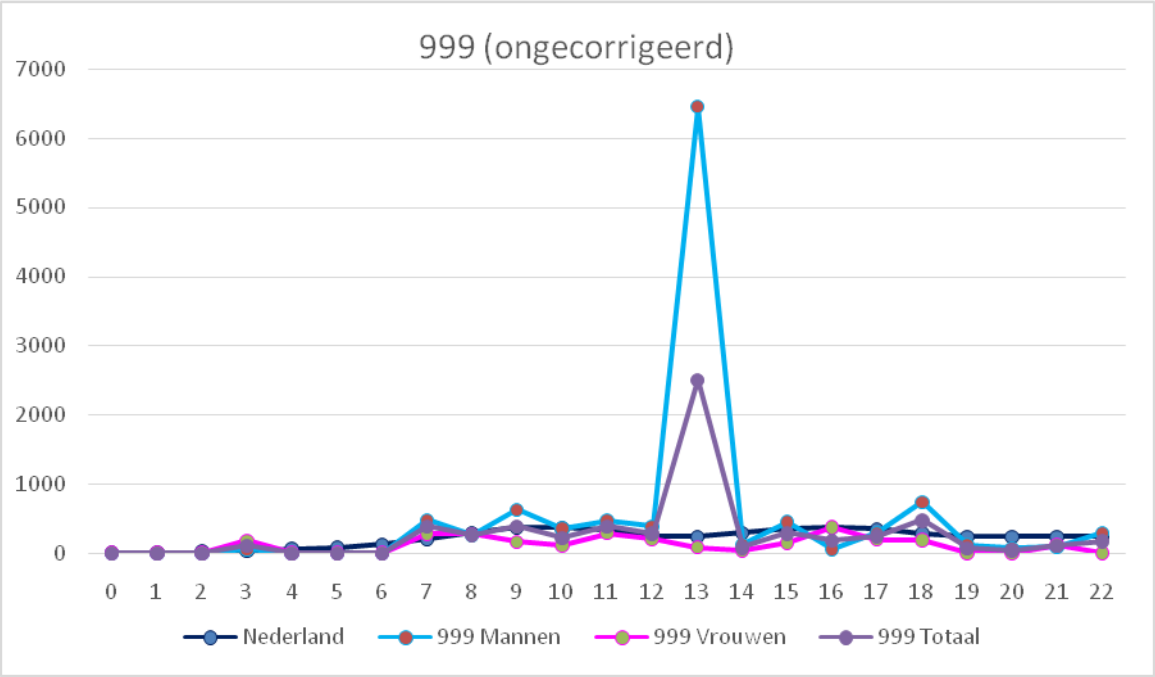
8.4. Appendix 4: Average costs per postal code region

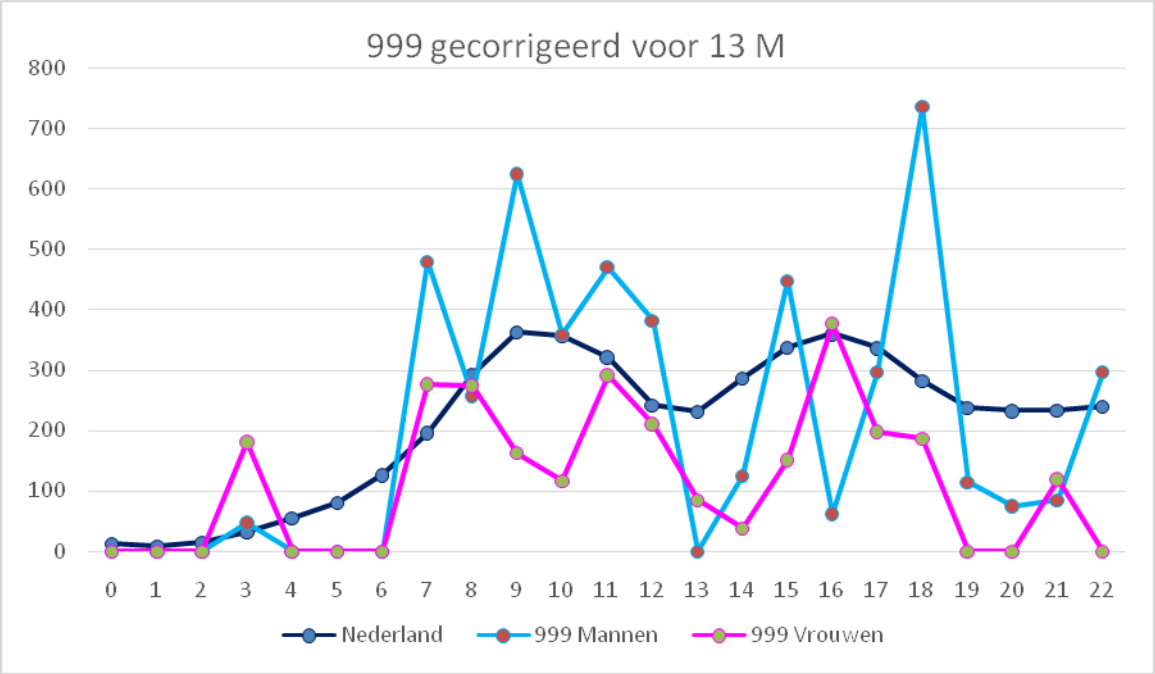





993
1200
1000
800
600
400
200
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
Nederland
993 Mannen
993 Vrouwen
993 Totaal


994
1600
1400
1200
1000
800
600
400
200
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
Nederland
994 Mannen
994 Vrouwen
994 Totaal


999 (ongecorrigeerd)
7000
6000
5000
4000
3000
2000
1000
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
Nederland
999 Mannen
999 Vrouwen
999 Totaal


999 gecorrigeerd voor 13 M
800
700
600
500
400
300
200
100
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
Nederland
999 Mannen
999 Vrouwen