Master thesis

The impact of a changing health insurance; exploring the impact on low back patients at the Rugpoli.

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Abstract

Introduction: Low back pain is an important part of the total Dutch health care costs, which are growing annually. In an attempt to tackle these rising costs, the Dutch health insurance company Achmea started with selective purchasing low back pain from the 1st of January 2014. All patients in the east of the Netherlands and insured with Achmea were send to the Rugpoli, a private hospital. The Rugpoli is specialized in non-surgical treatment of low back pain disorders. Non-surgical treatments have less economic burden compared to surgical treatments. Patients were previously send to a hospital, but are since 2014 first seen and diagnosed and treated at the Rugpoli. The case mix of patients in the hospital could differ of other patients. The goal of this research was to explore if the change in referring policy has an effect on the case mix and treatment outcomes of patients and if the Rugpoli could hold up the good results of 2012.

Method: The study design consisted of both a prospective and retrospective cohort study To study if there was an effect after the referring change, Achmea patients in 2014 were compared to a cohort of patients of all insurance companies in 2012 before the selective purchasing. Patients of the cohorts filled in questionnaires before treatment and after 3 months. Achmea patients in both 2012 and 2014 are compared with patients of other health care insurers within the same year to see if any effect was due to Achmea or other variables.

Results: When comparing the case mix variables of 2012 all with Achmea 2014 one variable was found significantly different (Gender) and several variables were close to significant (Age, Paid Job and Previous treatment). When comparing 2012 all with 2014 all paid job was also significantly different. 2012 all was compared to 2014 Achmea for baseline questionnaire outcomes, no differences were found. When comparing the complete 2012 all cohort with the 2014 all cohort afterwards one questionnaire outcome (MCS) was significantly different. Both the differences in case mix and questionnaire outcomes were not due to Achmea but found in the complete cohorts. For the 3 month follow-up 2012 all was compared to 2014 Achmea and several questionnaire outcomes were significantly different (PCS, RMDQ, Vas Back and Leg) showing worse outcomes in 2014. All outcomes show less improvement after 3 months of treatment. The differences in treatment outcomes were also not due to Achmea, the differences were found in the complete cohorts.

Discussion/Conclusion: The referring change of Achmea had no effect on the case mix or treatment outcomes at the Rugpoli. The case mix and treatment outcomes have changed over time, but not due to Achmea patients. None of the case mix variables that were different at baseline or were identified as risk factors in the literature were found to directly influence the difference in treatment outcomes. Variables as paid job or diagnose could indirectly have influenced the differences in outcomes. Because the findings in this study correspond with findings in the literature, the small sample size could have prevented the finding of significant differences. Further research is necessary to see what might caused the overall change in case mix and if this change was related to the reduced improvement.

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Research problem

Low back problems are a major burden in western countries like the Netherlands (van Tulder, Koes, & Bouter, 1995; Rotstein, et al., 1997; Achmea, 2013). The Dutch population is growing and aging, it is expected that the number of people with low back problems will increase with more than 14% between 2000 and 2020 (RIVM, 2005). Low back pain is defined by Krismer and van Tulder (2007) as pain localized between the 12th rib and the inferior gluteal folds, with or without leg pain. It can be further subdivided into the diagnoses acute, sub acute and chronic pain, but in this research no distinction will be made. This particular research project is conducted at the request of the private clinic Rugpoli in Delden, which is specialized in the treatment of low back pain.

The costs for low back pain are rising, as are the total healthcare costs. In 2007 the annual total healthcare costs in the Netherlands were € 74 billion and in 2011 already € 89 billion (Hoogendoorn, van Poppel, Bongers, Koes, & Bouter, 2000; van der Horst, van Erp, & de Jong, 2011; Sprangers & Snijders, 2013). Of the € 74 billion of annual healthcare expenses in 2007, low back problems account for € 3.5 billion, which is close to 5% (Lambeek, et al., 2011). Low back pain is one of the major occupational diseases and is the number two reason for work absence (Lambeek, et al., 2011; Geurts, Kompier, & Gründermann, 2000; Stewart, Ricci, Chee, Morganstein, & Lipton, 2003). The work absence days can be explained by the fact that most people with low back problems are working people (RIVM, 2005; Picavet, Schouten, & Smit, 1999; Scott & Huskisson, 1976; Hoogendoorn et al., 2000). According to van Tulder, Koes, & Bombardier (2002), Lambeek et al. (2011) and Maetzel & Li (2002) about 80% of all costs for low back pain are indirect costs such as; productivity loss, work absence, social insurance and administrative expenses. With the increasing of these total healthcare costs over the years, the number of surgical treatments has also increased (Andersson, 1999). Due to a quicker reduction of symptoms, surgical treatment is preferred over nonsurgical treatment (Schoenfeld & Weiner, 2010; Atlas, et al., 1996; Atlas, Keller, Robson, Deyo, & Singer, 2000). Despite the short term benefit of surgical treatment, on the long term a nonsurgical treatment provides a comparable outcome and has less economic burden (Atlas, Keller, Wu, Deyo & Singer, 2005, Schoenfeld & Weiner, 2010; van Tulder, Koes, & Bouter, 1995). The overal costs for surgical treatment are higher because screening to determine if

patients are suitable for a operation is difficult, incorrect screening can result in failure of treatment, worse outcomes and sometimes even more problems than before (Teixeira, et al., 2011; Skaf, Bouclaous, Alaraj, & Chamoun, 2005; Celestin, Edwards, & Jamison, 2009). In many cases, related problems such as mental problems are preventing the desired outcome. This can lead to more operations or non-surgical treatment afterwards (Skaf, Bouclaous, Alaraj, & Chamoun, 2005; Teixeira et al., 2011; van Buyten & Linderoth, 2010). Hence, the question arises whether nonsurgical treatment is the best option to start the treatment of low back pain (Gatchel, Brede, & Worzer, 2011). Some state that nonsurgical treatment always needs to be the first option (Gatchel, Brede, & Worzer, 2011).

In an attempt to reduce the total healthcare costs, the Dutch government emphasizes selective purchasing in the coalition agreement of 2013 (Rijksoverheid, 2013; Halbersma, van Manen, & Sauter, 2012). With selective purchasing a health care insurer is no longer obliged to contract all care. Instead an insurer can decide what care, how much care and which institution is contracted (Halbersma, van Manen, & Sauter, 2012). Selective purchasing is already possible for healthcare insurers since 2006. It was introduced to enhance quality and keep the costs under control, but until now only a minority of insurers used it (van der Horst, van Erp, & de Jong, 2011). Insurers are unsure of their role as purchasers and afraid of losing customers, because customers often experience less freedom of choice (Bes et al., 2013).

Dutch health care insurance company Achmea is now selectively purchasing a part of the care for their clients. Starting 1st of January 2014, Achmea has decided that patients in the east of the Netherlands (Twente and Achterhoek) with low back problems have to go to the Rugpoli for diagnosis and possible treatment. According to Achmea (2013), patients at the Rugpoli get a fast diagnosis and treatment due to short waiting times and a privately owned MRI. Furthermore, Achmea (2013) states that patients get treatments with demonstrably good outcomes. To prove the good outcomes, the results of the Visual Analogue Scale (VAS) and the Roland Morris Disability Questionnaire (RMDQ) after one year of treatmen are shown on the website of the Rugpoli. Achmea has partially changed the referral policy because of these good results and the fast start of the treatment.

The Rugpoli is a private hospital with three clinics throughout the Netherlands, this research is performed at the Rugpoli Delden (further mentioned as the Rugpoli). The

centers are specialized in the diagnosis and treatment of symptoms of the musculoskeletal system and particularly the spine (Rugpoli, 2014b). As selective purchasing solely does not solve the rising costs, other aspects such as the method of treatment have to be included in the search for lowering the costs as well. A nonsurgical treatment is used as a first option at the Rugpoli. When this is deemed insufficient, a patient is referred to a hospital for a surgical treatment.

Patients that need surgery differ from patients that do not need surgery on case mix characteristics, such as severity of complaints (Atlas et al., 2000). Patients that before the selective purchasing would have been treated in the hospital can therefore differ of patients known at the Rugpoli. The characteristics that possibly may differ include; age, gender, employment status, type, duration and severity of the symptoms and are called together the case mix (France, 2003; Sutherland & Botz, 2006). The characteristics of the new patient flow since the 1st of January 2014 are unknown to the Rugpoli, as is their response to the treatment.

This research project aims to determine whether the case mix of the Rugpoli's patients has changed in 2014 compared to 2012 now all people with low back pain in the east of the Netherlands insured by Achmea go to the Rugpoli. Furthermore, a second aim is to determine if the Rugpoli can maintain the good outcomes with this new large patient flow.

Main research question

What is the effect of the change in the referring policy of Achmea on the case mix and treatment outcomes of low back pain patients of the Rugpoli?

Sub questions

1. Is there a difference in case mix between 2012 and 2014?
    a. How can the case mix for 2012 and 2014 be described?
    b. To what extent is the case mix of Achmea 2014 comparable to the case mix of Achmea and other insurers in 2012?
    c. To what extent is the case mix of Achmea 2014 comparable to the case mix of other insurers 2014?

2. Is there a change in outcomes between 2012 and 2014?
    a. Are the treatment outcomes of Achmea patients in 2014 comparable with outcomes of all insurers in 2012?
    b. Are the treatment outcomes of Achmea patients in 2014 comparable with outcomes of other insurers in 2014?
    c. Does the case mix influence treatment outcomes?
    d. How does the treatment at the rugpoli affect the patients healing time?

Method

Study design

For this research a combination of a prospective and retrospective study were used. Achmea's decision of sending all patients to the Rugpoli, is largely founded on general treatment outcomes (Achmea, 2013). These outcomes were from patients off all different health care insurers in 2012. For this research project two cohorts of patients from the Rugpoli were used, to analyze the effect of the change in referring policy of Achmea.

For the retrospective part of the study, earlier collected patient data from a sample of treated patients in 2012 was used. All patients that filled in the baseline questionnaire in the first three months of 2012 were included. The patient data was collected at two moments in time: A baseline questionnaire before the treatment, and a follow-up measurement three months later.

For the prospective part, patients from 2014 were followed. All patients that completed both the baseline and follow-up questionnaire before 13th of June 2014 were included into the cohort. For comparative reasons, patients of 2014 were divided into two groups. The first group solely consists of patients insured with Achmea, while the second group comprises all patients insured by other insurance companies.

Sample

The patient data is gathered through non-probability purposive sampling. Teddlie and Yu (2006) defined non-probability purposive sampling as selecting units (e.g., individuals,

groups of individuals, institutions) based on specific purposes associated with answering a research study's question. The logic and power of purposive sampling, according to Patton, (as cited in Coyne, 1997) lies in selecting information-rich cases for study in depth.

Patient data of 2012 was collected from 15 February until 15 May. For the follow-up of 2012, all patients that started between 15 February and 15 May and have completed the 3 month follow up were included. In 2014 the Rugpoli started at 15 January, which means data was collected between 15 January and 15 April. Due to the time constraints in the prospective part of the study, all data of patients that completed the follow-up questionnaire before 13 June 2014 were used. Taking the same period of time avoids seasonal variation in patient visits (Rotstein, et al., 1997). Because of the time limitation only a relatively small sample could be collected.

Instruments

Patients were asked to participate with this research project when calling for the first appointment. When patients want to cooperate, they're asked to be present fifteen minutes before the appointment, to fill in the baseline questionnaire on a computer at the Rugpoli. From the beginning of February 2014, patients are offered the possibility to receive an email with this first questionnaire. When choosing this option, patients fill in the questionnaire at home, before the first appointment. The total population of the Rugpoli is asked for participation. Inclusion criteria to participate with the research are: being eighteen year or older, being a new patient at the Rugpoli, or an existent patient with new symptoms.

The questionnaire consisted of general questions combined with several scientific standardized questionnaires. The general questions include demographic details, e.g. name, date of birth, gender, healthcare insurance company and whether or not there is a supplementary insurance. These are followed by general questions about working disability and health status. The case mix variables; gender, age, employment status and diagnosis are of great value because several studies identified these variables as risk factors (Han, Schouten, Lean, & Seidell, 1997; Picavet, Schouten, & Smit, 1999; Krismer & van Tulder, 2007). To gather further details about health, quality of life, functionality and pain, scientific questionnaires were used. For quality of life the Short-Form 12 (SF-12) was used

(Iedema, wellink, & Campen, 2006). Functionality and pain were measured using two different questionnaires: RMDQ (Ligtenberg, Staal, van der Roer, & Heymans, 2011; Roland & Fairbank, 2000) and the VAS (Vernon, 2008; Carlsson, 1983). The Cronbach's alphas of these questionnaires are above 0.7, indicating that the questionnaires are internally consistent and therefore reliable to use (King JR, et al., 2005; Knop, et al., 2001; Roland & Fairbank, 2000). The scores are calculated as specified in the manuals of the questionnaires.

The follow-up questionnaire, which patients receive by email or post, is filled in three months after the first questionnaire. The follow-up questionnaires are linked to the general patient's data and contain questions about the symptom status and the received treatment at the Rugpoli. The questionnaires of 2012 and 2014 show minor differences only questions about education and healthcare insurance company were not included in 2012.

Since almost all questionnaires are completed online, it was expected that there is little occurrence of missing data within the questionnaires. The questionnaires online have to be filled in an automated manner, assuring that all answers need to be given before patients can send the questionnaire. The only missing data that occurred are from the few patients that have requested the questionnaire on paper. Because the diagnosis was added afterwards to the data, some information will be missing. For the 2012 cohort the diagnose was only reported for patients that were followed for one year, patients that dropped out after the 3 month follow-up were not reported. The baseline and follow-up questionnaires can be found in appendixes I and II.

The SF-12

The SF-12 is a shortened version of the SF-36, which is a 36 item questionnaire in which the patient was asked about different parts of their mental and physical condition. The SF-12 allows the researcher to obtain the same information as from the SF-36 but with less constrains for the patient and the researcher (Failde, Medina, Ramirez & Arana, 2009; Jenkinson et al., 1997). Therefore, the SF-12 is used.

The SF-12 questionnaire measures two main topics namely physical and mental functioning. Both scores are then calculated on a standardized scoring form. There is a possibility to specify the scores for eight sub-topics such as physical functioning, physical limitations, bodily pain, general health experience, vitality, social functioning, emotional

limitations and mental functioning (Iedema, wellink, & Campen, 2006). In this research only the physical and mental scores are used.

The Dutch government uses standard scores of the American general population because there are no standardized scores for the Dutch population. According to this norm rating, a score for the physical health scale (PCS) less than or equal to 50 is indicative for a less physical quality of life. A score for the mental health scale (MCS) lower than 42 indicate a reduced mental quality of life, while a higher score indicates a better quality of life (Sprangers & Snijders, 2013). For the SF-12 the scores for PCS and MCS will be collected at both the baseline and three month follow-up. The questionnaire is offered to every patient, regardless of the type of symptoms. When missing data occurs this data will be added as described by Perneger & Burnand (2005) and Liu et al., (2005). The Cronbach's alpha for reliability for this questionnaire is 0.76 (King JR, et al., 2005).

The Ronald Morris Disability Questionnaire

The RMDQ questionnaire measures health status of patients with low back pain. The RMDQ is a 24 item questionnaire where patients can indicate which daily activities are limited. Daily activities are described as personal care, sporting and grocery shopping. For each item the patient can indicate whether there is difficulty with this activity. Every difficult activity counts as one point. The functionality score outcome is between 0 and 24 points, where 0 is no limitation in daily activities and 24 is very limited in daily activities. (Roland & Fairbank, 2000). Only patients who specify having back problems are offered this questionnaire at both baseline and three month follow-up. Missing data was supplemented as described by Kent & Lauridsen (2011). The RMDQ has a Cronbach's alpha of 0.89, making it a reliable instrument (Roland & Fairbank, 2000).

VAS Score

The patients give a score for pain which is measured with an absolute type of the visual analogue scale (VAS). This instrument has scores ranging from 0 to 10, with 0 meaning no symptoms and 10 displaying unbearable pain (Carlsson, 1983; Scott & Huskisson, 1976). VAS scores were asked separately for arm, neck, leg or back pain, both at baseline and the three month follow-up. Only the VAS score for the main complaint is used. Because arm complaints cannot be a main complaint, VAS scores of this complaint are not taken into

the analysis. A Cronbach's alpha of 0,91 reflect the high reliability of the VAS. (Knop, et al., 2001).

Waiting time, work absence and referrals

In this research project waiting time and work absence are analyzed as measures to study the economic effects. Economic comparison at treatment level is virtually impossible due to the wide variety of treatments. The limited time period is another reason no simple general comparison at treatment level can be done. The questionnaire contains questions about work absence. Patients were firstly asked if they had a paid job and when having a job if there was a sickness report at work. Only when patients reported a paid job further questions were offered. The additional questions are about occupational disability and sickness benefits.

Waiting time, work absence and referrals to the hospital are taken as measures to see if the change in referring has positive economic effects. For waiting time the date of creation of the patient chart or referral and the 1st appointment date will be collected and the difference is counted as waiting time. Being reported sick at work or not and the occupational disability percentages will be used to calculate work absence. For 2012 and 2014 it will be considered for each patient whether the patient is referred to the hospital for surgery.

Literature

The literature on which this research project is based are articles found on websites for scientific literature, but also other relevant websites and articles can be used. For example websites of the Dutch government are used. To find articles on the websites different keywords are used as well as synonyms of those keywords and the Boolean operator "and". Most used key words and data sources are set out in the following table;

Table 1. Literature search

Most used key words	Data sources were key words were used
Back pain	Science direct
Low back pain	Pubmed
The Netherlands	University website search facility
Chronic pain	Scopus
Health insurance	Web of Knowledge
Case mix	Cochrane Library
Work	National Centre for Biotechnology Information (NCBI)
Absence	www.cpb.nl
Costs	www.nationaalkompas.nl
Healthcare costs	www.cvz.nl
Treatment	

In the selection of the articles the filter relevance is used and if the outcome needs to be specified another keyword is added to the search. Literature needs to be written in English, Dutch or German. The content of the abstract will then determine the relevance of the article. Other items that determine the relevance of an article are date, number of citations and quality of the journal. All these aspects are taken into consideration together, to determine whether the particular article was included or excluded.

Analysis

The variables in table 2 were obtained from the questionnaires and were used to analyze the data. The variables gender, age, employment status and diagnose were the most important variables because they were described as risk factors and possible influence on treatment outcomes in the literature (Han, Schouten, Lean, & Seidell, 1997; Picavet, Schouten, & Smit, 1999; Krismer & van Tulder, 2007). By means of the Kolmogorov-Smirnov test or the Shapiro wilk test, it is tested if normal distribution applies for this population. If the normality test outcome was significant, a histogram was used to look how skewed the data is. Only if the data was extremely skewed non-parametric tests were used. With a large sample size, normality can be assumed. Sample sizes from 30 to 40 are already large enough for assuming normality (De Veaux, Velleman, & Bock, 2008; Lumley, Diehr, Emerson, & Chen, 2002). Depending on normality and the type of data (i.e. nominal, ordinal or scale), a corresponding test for the analysis is chosen. At baseline the complete 2012 cohort with all health care insurance companies (further mentioned as 2012 All) was compared with the Achmea patient group in 2014 (further mentioned as Achmea 2014). To see how representative the Achmea patients were compared to other healthcare insurance companies at baseline, a comparison within the cohort was done. The

Achmea patients in 2012 (further mentioned as Achmea 2012) were compared to patients from other health care insurance companies (further mentioned as 2012 other). The same was done in the 2014 cohort, Achmea 2014 is compared to the patients of other health care insurers (further mentioned as 2014 other). When there were no differences found within the cohorts, the complete 2014 group with all health care insurers (further mentioned as 2014 All) and 2012 All are compared at baseline to see if the larger sample size showed not previously found differences.

Table 2. Variables

Variable	Scale	Baseline testing
Gender	Nominal	Chi-squared test
Paid Job	Nominal	Chi-squared test
Education	Ordinal	Chi-squared test
Diagnose	Nominal	To small sample only descriptive statistics
Reason visit	Nominal	Chi-squared test
Duration of symptoms	Ordinal	Chi-squared test
Previous treatment	Nominal	Chi-squared test
Age	Ratio	Independent samples t-test
Sickness reported at work	Nominal	Chi-squared test
Occupational disability	Ordinal	Chi-squared test
% Sickness benefits	Ordinal	Chi-squared test
SF-12	Interval	Independent samples t-test
RMDQ	Ratio	Independent samples t-test
VAS	Ratio	Independent samples t-test
Waiting time	Ratio	Independent samples t-test

After the baseline characteristics the follow-up data is analyzed. It is tested whether there are differences between baseline and follow-up and if there are variables that affect the outcomes. The difference score between baseline and follow-up of the SF-12, RMDQ and VAS is tested with a t-test. Here again the analysis is done with 2012 All and Achmea 2014. To test if there were differences within the cohorts, for both years the Achmea groups were again compared to the other patients within the same year. The most important treatment outcomes, the RMDQ and VAS score, are then analyzed with repeated measurements ANCOVA. For this analysis 2012 All and 2014 All are used for testing. Figure 1 shows an overview of when which group was used for the analysis. Variables that are used to control for influence on the outcome were the variables that show p-values <0.10 at baseline. Diagnose is not included for influence because of the small sample size. With the ANCOVA it is also tested if there are any interaction effects between time (the difference between baseline and follow-up) and the groups (2012 and 2014). Time*Group is used to see if the cohorts reacted differently to the treatment over time. For work status and referring chi-squared tests are used to analyze differences between groups.

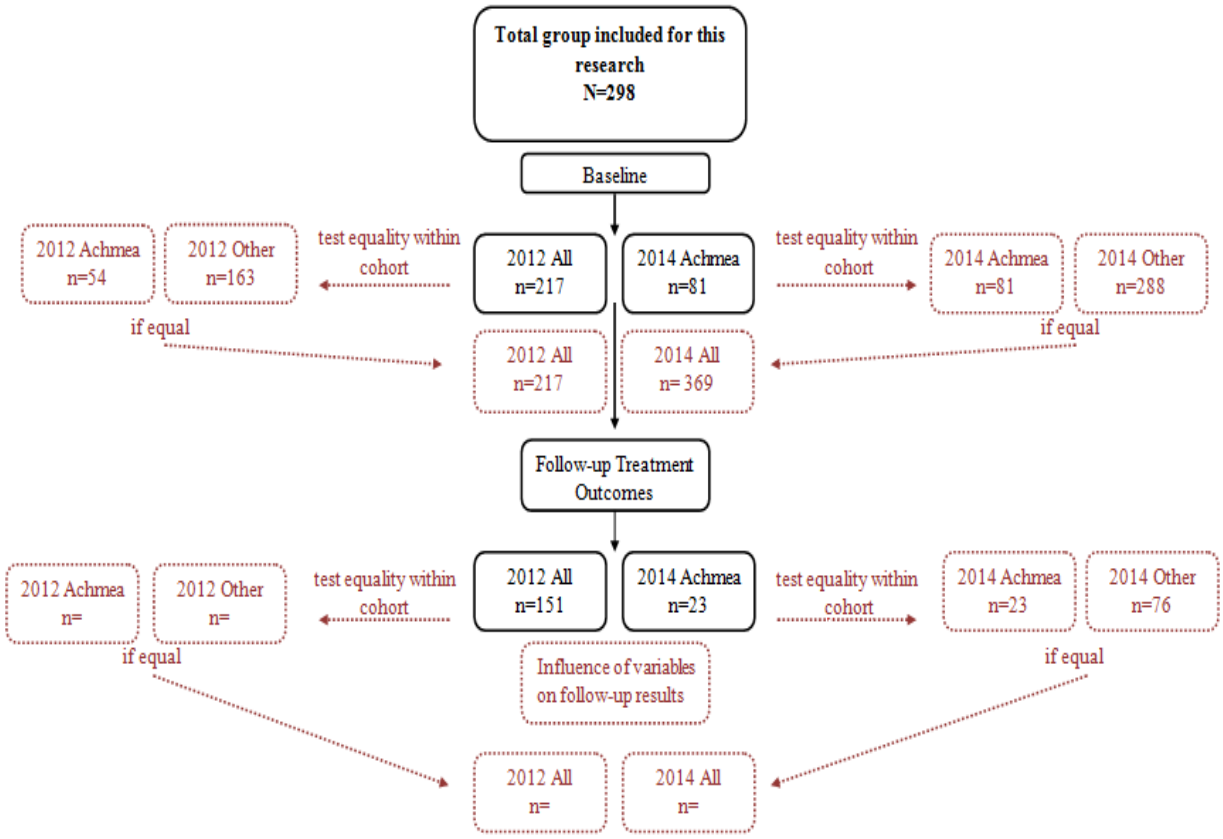

Figure 1. Overview groups

Results

Baseline results

The baseline characteristics of the patients in this research can be found in Table 3 and 4. The total sample of the baseline contained questionnaire data from 298 patients. In 2012 a total of 217 patients of all health care insurers and in 2014 a total of 81 patients of Achmea filled in the baseline questionnaire. The 2012 All cohort consisted of more male patients, while 2014 Achmea consists largely of female patients. The difference in gender between the two samples was significant (p= .013). The age of the patients was between 18 and 83 years old. In 2012 All the average age for male and female patients was equal at 46 years. In 2014 Achmea the average age was 52 years for male patients and 49 years for female patients. The found difference was not significant (p=.052). Patients were asked to report whether or not the symptoms are treated before coming to the Rugpoli. In 2012 All, 9 patients did not have previous treatment and in 2014 Achmea all patients had previous treatment. This difference was not significant (p=.063).

Tabel 3. Baseline Characteristics

Characteristics	2012 All(n=217)	2014 Achmea(n=81)	X^2	t	df	p
Gender,n (%)						
Male	121 (55.8%)	32 (39.5%)	6.24		1	**.013**
Female	96 (44.2%)	49 (60.5%)				
Age, mean (sd)						
Male	45.9 (13.6)	51.8 (16.9)		-1.948	296	.052
Female	46.4 (15.1)	48.6 (15.4)				
Back Pain as reason of visit, n (%)						
Constant pain	136 (62.7%)	54 (66.7%)	0.72		2	.699
Pain intermittently	67 (30.9%)	21 (25.9%)				
No Pain	14 (6.5%)	6 (7.4%)				
Leg pain as reason of visit, n (%)						
Constant pain	74 (34.1%)	31 (38.3%)	2.24		2	.327
Pain intermittently	76 (35.0%)	21 (25.9%)				
No Pain	67 (30.9%)	29 (35.8%)				
Neck pain a reason of visit, n (%)						
Constant Pain	25 (11.5%)	13 (16.0%)	1.31		2	.520
Pain intermittently	48 (22.1%)	19 (23.5%)				
No Pain	144 (66.4%)	49 (60.5%)				
Duration of Symptoms, n (%)						
0 to 3 months	29 (13.4%)	11 (13.6%)	1.51		4	.825
4 to 8 months	44 (20.4%)	17 (21.0%)				
9 to 12 months	19 (8.8%)	10 (12.3%)				
13 to 15 months	17 (7.9%)	4 (4.9%)				
16 months or longer	107 (49.%5)	39 (48.1%)				
Previous treatment, n (%)						
Yes	208 (95.9%)	81 (100%)	3.46		1	.063
No	9 (4.1%)	0 (0.0%)				

In table 4 the diagnosis of patients are showed. In the 2012 all cohort, patients had more discogenetic and OrthoManual (OMG) problems compared to the 2014 Achmea group with more facet and stenosis diagnoses. When controlling within the year 2012 for Achmea compared to all other insurance companies no differences were found. Complete tables can be found in appendix III.

Tabel 4. Descriptive statistics diagnosis

Characteristics	2012 All(n=81)	2014 Achmea(n=23)
Diagnose,n (%)		
Discogenetic	34 (42.0%)	4 (17.4%)
Facet	7 (8.6%)	5 (21.7%)
SI	0 (0.0%)	1 (4.3%)
HNP	11 (13.6%)	3 (13.0%)
Lat Stenose deg	5 (6.2%)	5 (21.7%)
Other	3 (3.7%)	2 (8.7%)
OMG	21 (25.9%)	3 (13.0%)

In 2012 all, 71.4% of all patients had a paid job, compared to 60.5% of the 2014 Achmea group. This difference was not significant (p=.071). In 2012 almost all patients reported either being completely occupational disabled or having no occupational disability. In 2014 Achmea the distribution between being completely, partly or not occupational disabled was almost equal among patients. The significant difference (p=.004) shows that in 2014 less Achmea patients were completely occupational disabled but more people were partly

unable to work. When looking at the sickness benefits, the most striking difference was that more people were getting no sickness benefits in Achmea 2014 compared to 2012 all (p=.026).

The data of 2012 Achmea is compared with the data of 2012 other, no significant differences were found. The table with the results can be found in appendix IV. For 2014 Achmea all variables are compared to the data of patients of all other insurance companies in 2014. Again no significant differences were found between the groups. The table with the results can be found in appendix V. This means that the patients that are insured by Achmea showed no differences in case mix at the baseline compared to other patients within that year.

Tabel 5. Baseline Characteristics work status

Characteristics	2012 All (n=217)	2014 Achmea(n=81)	X^2	df	p
Paid Job, n (%)					
Yes	155 (71.4%)	49 (60.5%)	3.27	1	.071
No	62 (28.6%)	32 (39.5%)			
Reported sick at work, n (%)*					
Completely	28 (18.2%)	13 (27.1%)			
Partly	31 (20.1%)	7 (14.6%)	2.01	2	.351
No	95 (61.7%)	28 (58.3%)			
Occupational disability, n (%)					
Completely	26 (42.6%)	4 (30.8%)			
Partly	2 (3.3%)	4 (30.8%)	10.87	2	**.004**
No	33 (54.1%)	5 (38.5%)			
Sickness benefits, n (%)**					
0%	0 (0.0%)	2 (15.4%)			
1% to 25%	10 (18.2%)	0 (0.0%)			
25% to 50%	10 (18.2%)	2 (15.4%)	11.06	4	**.026**
50% to 80%	6 (10.9%)	2 (15.4%)			
80% to 100%	29 (52.7%)	7 (53.8%)			

(*Missing n=1, ** Missing n= 6)

The average scores of the questionnaires can be found in table 6. No significant differences in outcomes were found when comparing 2012 all with 2014 Achmea. Within the years 2012 all and 2014 all no differences were found in average score outcomes.

The most striking is the significant difference (p=.000) in waiting time between the two groups. In 2012 the amount of days patients needed to wait was on average 17 days and in 2014 Achmea the waiting time was on average 12 days. This means patients had a shorter waiting time in the first three months of 2014 compared to the first three months of 2012.

Tabel 6. Questionnaire Outcomes at baseline

Characteristics	2012 All(n=217)	2014 Achmea(n=81)	t	df	p
SF-12, mean (sd)					
PCS	32.2 (8.5)	31.3 (9.1)	0.278	296	.781
MCS	50.7 (9.7)	49.3 (9.7)	1.105	296	.270
RMDQ, mean (sd)	12.7 (5.7)	13.7 (5.2)	-1.351	296	.178
VAS, mean (sd)					
Neck	5.0 (2.3)	4.9 (2.5)	0.066	95	.948
Back	6.5 (2.1)	6.4 (2.1)	0.351	261	.726
Leg	6.12 (2.2)	6.56 (2.2)	-1.257	185	.210
Waiting time in days, mean (sd)	16.8 (11.8)	11.8 (6.2)	3.644	296	**.000**

Because no differences were found between the Achmea groups and the other patients for both 2012 and 2014 the complete cohorts were compared. When comparing 2012 all with 2014 all more differences were found between the cohorts. Significant differences in paid job (p=.006) and MCS (p=.026) were found. The RMDQ is not significant (p=.054) between the two complete groups but a trend can be seen that 2014 all patients had higher scoring outcomes. The differences showed that patients in 2014 had higher scores for mental problems and more functional disability at baseline. Complete tables can be found in appendix VI.

Follow-up Results

For the follow-up results the differences in mean treatment outcomes were compared. In table 7 the results are shown. For the SF-12, the PCS was significantly different (p=.005). With a difference of more than 6 points, the improvement in 2012 all was higher compared to the 2014 Achmea group. This means that in 2012 all the physical improvement on average was better compared to the 2014 Achmea group. For the RMDQ a significant difference (p=.042) was found resembling a better outcome in 2012 all. In 2012 all the RMDQ score decreased on average 2.7 points more than with the 2014 Achmea group. With the VAS score there were significant differences found for back (p=.011) and leg (p=.022). Both show on average a greater improvement in 2012 all compared to the 2014 Achmea group.

Tabel 7 . Difference in means of treatment outcomes

Characteristics	2012 All(n=151)	2014 Achmea(n=23)	Difference in means (95% CI)	t	df	p
SF-12, mean (sd)						
PCS	7.4 (9.8)	1.2 (10.2)	6.2 (1.9 to 10.6)	0.905	172	**.005**
MCS	0.5 (8.6)	1.6 (8.7)	-1.1 (-4.9 to 2.7)	-0.569	172	.570
RMDQ, mean (sd)	-5.0 (6.0)	-2.3 (4.7)	2.7 (-5.3 to -0.1)	-2.049	172	**.042**
VAS, mean (sd)						
Neck	-2.1 (2.7)	-1.4 (1.3)	-0.7 (-2.7 to 1.2)	-0.743	48	.461
Back	-2.7 (2.9)	-1.0 (2.2)	-1.7 (-2.9 to -0.4)	-2.585	151	**.011**
Leg	-4.3 (3.1)	-1.9 (2.2)	-2.4 (-4.4 to -0.3)	-2.320	107	**.022**

The differences within year are also tested for both 2012 and 2014, no differences were found. This means that patients of Achmea have not reacted differently on the treatment compared to patients of other health care insurance companies within the year. The complete tables can be found in appendix VII.

Because no differences were found within the years at baseline and follow-up, for the analysis of covariance the complete groups of 2012 all and 2014 all were used. RMDQ found a significant difference between groups (p=.004) and an interaction effect of time*group (p=.025). This interaction effect occurs because the RMDQ score in 2012 showed a larger improvement over time compared to 2014 as can be seen in figure 2. The VAS score back pain showed a difference between groups (p=.008) and an interaction effect for time*group (p=.001). In figure 4 can be seen that the interaction effect for the VAS score for back pain has significantly more decreased in 2012 over time than in 2014. With leg pain the difference between groups was significant (p=.000) and there was also an interaction effect of time*group (p=.000). The pain score for leg has decreased more over time in 2012 compared to 2014 as seen in figure 5. All significant differences in treatment outcomes are tested for the influence of case mix variables. The variables age, gender, paid job and previous treatment are used to check whether they affect the differences between the cohorts. None of the differences found could be explained by the influence of a case mix variable.

Tabel 8 Difference in scores over time for treatment between 2012 and 2014

Variables	2012 All(n=151)	2014 All(n=91)	F	p
RMDO, mean (sd)				
RMDQ (0)	12.9 (5.5)	13.7 (4.5)		
RMDQ (3)	7.9 (6.1)	10.6 (5.2)		
Time			103.935	.000
Group			8.239	**.004**
Time*Group			5.054	**.025**
Gender			0.385	.536
Age			0.924	.337
Job			2.066	.152
Previous treatment			0.009	.925

VAS				
Neck (0)	4.8 (2.2)	4.7 (2.3)		
Neck (3)	2.7 (2.8)	3.5 (2.6)		
Time			36.398	.000
Group			0.489	.487
Time*Group			2.427	.124
Gender			0.000	.985
Age			0.021	.886
Job			0.018	.893
Previous treatment			0.169	.682
Back (0)	6.4 (2.1)	6.5 (2.2)		
Back (3)	3.7 (2.9)	5.1 (2.6)		
Time			103.893	.000
Group			7.197	**.008**
Time*Group			11.251	**.001**
Gender			0.025	.874
Age			2.595	.109
Job			1.057	.305
Previous treatment			2.958	.087
Leg (0)	6.3 (2.0)	6.3 (2.3)		
Leg (3)	2.1 (2.5)	4.9 (3.0)		
Time			125.579	.000
Group			20.950	**.000**
Time*Group			31.060	**.000**
Gender			0.037	0.037
Age			0.519	0.519
Job			0.317	0.317
Previous treatment			0.615	0.615

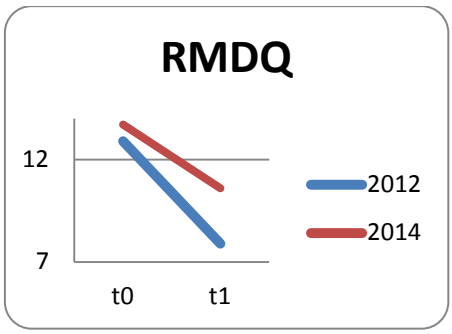

Figure 2: RMDQ over time

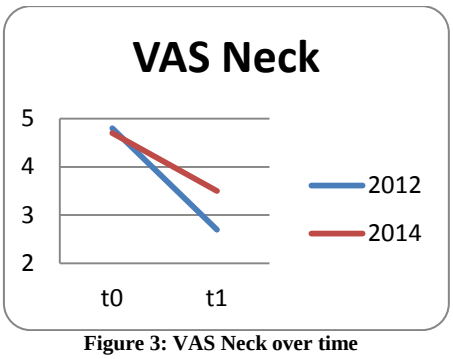

Figure 3: VAS Neck over time

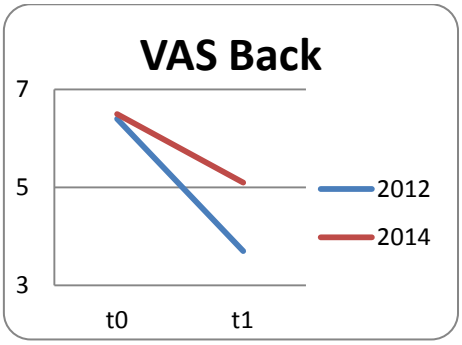

Figure 4: VAS Back over time

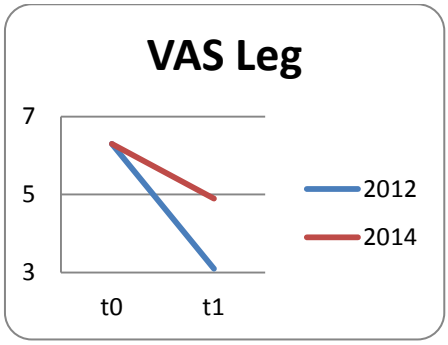

Figure 5: VAS Leg over time

For work status different aspects are tested. Having a paid job or not was not significant at baseline (p=.071) but after 3 months treatment the difference is significant (p=.004). In the 2012 all group there is almost no difference between baseline and follow-up, but for the 2014 Achmea patients at baseline only 39.5% was unemployed towards almost 61% after 3 months. The complete table with outcomes can be found in appendix VIII.

Tabel 9. Workstatus after 3 months for 2012 and 2014 Achmea

Characteristics	2012 All- 3 month (n=151)	2014 Achmea-3 month (n=23)	X^2	df	p
Paid Job, n (%)					
Yes	104 (71.2%)	9 (39.1%)	9.242	1	**.004**
No	42 (28.8%)	14 (60.9%)			

The differences within the years were also examined. In 2012 there was a significant difference in sickness report at work (p=.027) between the 2012 Achmea patients and the other patients in 2012. In the 2012 Achmea patient group were less people reported sick at work compared to the other patients in 2012. The complete tables can be found in appendix VIII.

Tabel 10. Referring for 2012 and 2014 Achmea

Characteristics	2012 All- 3 month (n=151)	2014 Achmea- 3 month (n=23)	X^2	t	df	p
Referring to the hospital for surgery, n(%)						
Yes	10 (6.6%)	1 (4.3%)	0.174		1	.676
No	141 (93.4%)	22 (95.7%)				

In table 10 the referring outcomes are shown. There are no significant differences. This means that an equal amount of patients have been send to the hospital for surgery in the 2014 Achmea group compared to 2012. The test outcomes within the years can be found in appendix IX.

Discussion and conclusion

Discussion

This study was designed to see what the effect of the new patient flow, which came to the Rugpoli after the change in referring at Achmea, was on the case mix and if these patients reacted differently to treatments. When comparing the cohorts of 2012 with 2014, the case mix has changed, not only from the Achmea patients but the complete cohort. Patients showed less improvement on the questionnaire outcomes, which could indicate that the

reaction on the treatment was not as good as in 2014 compared to 2012. Both the change in case mix and the differences in treatment outcomes were not found to be related to the change in patient flow from Achmea. The differences found in 2014 are for the complete cohort and caused by an unknown variable.

Case mix

The 2012 All cohort was compared to the 2014 Achmea cohort and significant differences for gender, occupational disability and sickness benefits were found. In the 2014 Achmea cohort were more female patients. The differences found in occupational disability and sickness benefits could be due to the very small sample size.

The found differences between the cohorts were not due to the Achmea patients. No differences were found within the years 2012 and 2014 when comparing Achmea patients to patients of other health care insurers in the same year. Because no differences were found within the years, the baseline case mix characteristics of 2012 all and 2014 all were compared. When comparing the larger samples more significant differences occurred. Baseline differences for paid job and MCS were found. Differences in RMDQ and age were just not significant. The differences showed that the 2014 all cohort had higher scores on the questionnaire outcomes, more high risk case mix characteristics at baseline and that patients were more unemployed. The found differences were not due to the change in referring policy from Achmea but due to a unknown variable.

The higher unemployment rate found in the 2014 all cohort could be the result of the ongoing economic crisis (Stuckler, Basu, Suhrcke, Coutts, & McKee, 2009). The unemployment rate in the province of Overijssel has increased from 6.4% in 2012 to 9.3% in the first quarter of 2014 (CBS, 2014). Flatau, Galea, & Petridis (2000) state that patients without a job tend to score less on the MCS. More unemployed patients in the 2014 all cohort could explain the significant lower MCS score. Unemployed patients also have the tendency to give higher pain scores because of a different pain percention compared to working patients (Sanderson, Todd, Holt, & Getty, 1995), this could be an explanation for the higher RMDQ score at baseline.

Differences in diagnosis between the 2012 all patients and the 2014 Achmea group could not be tested because of the small sample size. Nevertheless, having more

discogenetic and omg diagnosis in the 2012 all cohort, and more facet and stenosis diagnosis in the Achmea 2014 cohort could explain the higher baseline disability scores (Rugpoli, 2014a). Results of the one year treatment outcomes on the website of the Rugpoli showed that patients with a facet or stenosis diagnose had more severe baseline disability and pain scores. However, caution is needed with this statement, the baseline case mix of the 2014 cohort has changed making generalization of the results of 2012 to 2014 less valid.

The overall change in the patient type in the last two years could be caused by various reasons. All of the 2014 Achmea patients had been treated for low back problems before coming to the Rugpoli, it is a trend that patients become more assertive, seek more information and aks more for second opinions (van Dalen, et al., 2001; Nivel, 2004). Patients are not only depening on the judgement of their general practitioner anymore, but are increaslingly looking for good care on the internet. Especially among the elderly there is a large increase in the number of people searching for information on health care on the internet which could be a possbile explanation for the rising age (Nivel, 2012; CBS, 2013). The difference in aging over the two years(6 years for men and 2 for woman) is to large for natural aging (CBS, 2007). Patients use comparison websites when searching for information and are increasingly willing to travel for high quality care (NPCF, 2011). Because patients are searching in different ways and are willing to travel further for health care this might be a reason that different patients are starting to visiting the Rugpoli in 2014.

Treatment outcomes

After the case mix comparison it was examined whether the baseline and the 3 month outcomes of the disability questionnaires were comparable between the 2014 Achmea cohort and the 2012 all cohort. At baseline no differences were found but after the 3 month follow-up, differeces in outcomes of the PCS, RMDQ and VAS scores for back and leg pain were found. The differences in outcomes indicate less improvement in the 2014 Achmea cohort. The differences in outcomes were again not due to the change in referring of Achmea patients, but were found in the complete 2014 cohort. Within the years 2012 and 2014 no differences were found between patients of Achmea and other health care

insurers.

It was assessed wheter the variables that differed at baseline between the cohorts and were considered to be risk factors (gender, age, paid job and previous treatment), influenced the treatment outcomes (Han, Schouten, Lean, & Seidell, 1997; Picavet, Schouten, & Smit, 1999; Krismer & van Tulder, 2007). None of the variables found in this study proved to influence the outcome significantly. The differences between 2012 all and 2014 all were due to a unknow variable over the time of two years.

The treatment results per diagnosis after one year of treament, as shown on the website of the Rugpoli might explain baseline differences but could not explain the less improved treatment outcomes. According to the Rugpoli (2014) in 2012, patients with facet and stenosis diagnosis show a greater improvement compared to patients with discogenetic or omg diagnosis. In the 2014 Achmea group more patients had facet or stenosis diagnosis, but did not had a greater improvement in treatment outcomes. Despite the fact that the results per diagnosis seemed not to be the explanation for the differences in this study, caution is needed because the outomes of the Rugpoli are over one year of treatment and this study only took 3 months into account.

Despite the fact that the results of this study showed no direct relationship between treatment outcomes and having a paid job, the higher unemployment rate might indirectly cause worse treatment outcomes. As stated with the case mix characteristics, unemployed patients have a different pain perception and therefore give higher pain scores. Unemployment is also described as a predictor for mental disorders. Higher pain perception and more mental problems were predictors for a slower and worse recovery. (Weich & Lewis, 1998). If the higher unemployment caused a slower and worse recovery, this could be an explanation for the worse outcomes after the short time of 3 month follow-up. The type of patient filling in the follow-up questionnaire could also influence the outcomes, in the 2014 Achmea group and 2014 all, much more unemployed patients reacted. Diamon & Borenstein (2006) state that when having low back pain for more than 6 months and reported sick, the chance of getting back to work is very small. More than 85% of all patients in both year groups have chronic pain. Even more than 50% has low back pain for more than 16 months. Having more unemployed patients at baseline and follow-up with chronic low back pain this could have influenced the outcomes.

Several authors have desribed the influence of risk factores on outcomes of low back pain. McGeary, Mayer, Gatchel, Anagnostis, & Proctor (2003) state that female patients, which were more present in the 2014 cohort, score higher on mental and physical disability at baseline and seem to respond less well to the same treatment compared to men. Other possible factors found in the literature that could influence treatment outcomes are severe complaints at baseline, higher age, mental disability or poor work environment. (Hayden, Chou, Hogg-Johnson, & Bombardier, 2009; Hayden, Dunn, van der Windt, & Shaw, 2010). Many factors as desribed above, are found significantly different at baseline and after 3 months of follow-up when comparing 2012 with the 2014 Achmea group or the complete 2014 group. However, no evidence for the direct influence of these variables on the treatment outcomes could be found in the data analysis of this research project.

Waiting time and referring

For the influence of the referring change of Achmea on the healing time of patient at the Rugpoli, sickness report, occupational disability, sickness benefits, waiting time and referrals were studied. Differences were found for occupational disability, sickness benefits and waiting time between the complete cohorts of 2012 and 2014, the referring change seemed to had no effect.

Occupational disability and sickness benefits give both significant differences but with only 2 patients in the 2014 Achmea group, the sample size is too small to state any differences.

The new patient flow at the Rugpoli has not influenced the referring amount. A similar percentage of patients were referred to the hospital for surgery in both cohorts. This may indicate that patients can also be treated non-surgical because the new patient flow did not cause a higher percentage of referring. However, caution is needed since the outcomes overall have deteriorated in the overall cohort in 2 years and the sample size of the Achmea 2014 follow-up of 23 is very small.

There was a significant difference in waiting time between the first three months of 2012 all and Achmea 2014. On average Achmea 2014 patients waited 12 days before their treatment compared to 17 days for the 2012 all patients. The overall waiting time at the Rugpoli in 2014 is short when comparing with a minimal of 21 days in the same time

period at a hospital in the area (Streekziekenhuis Koningin Beatrix, 2014; MST Enschede, 2014; Stichting Ziekenhuisgroep Twente, 2014). In 2014 the waiting time was on average 5 days shorter compared to 2012. The longer waiting time in 2012 can be due to time variation in the sample collection. In 2012 the questionnaires were gathered between 15th of Februari and the 15th of May, in 2014 this was one month earlier from January until April. For the 2012 sample there were 2 holiday periods in the sampling time compared to 1 holiday period in 2014. With possible more absent days for both patients and doctors this could explain the difference in waiting time. Another explanation for the shorter waiting time in 2014 could be a higher utilization of docters. The Rugpoli expected more patients after the referring change of Achmea and because of that more docters were available in the same time period compared to 2012. However, the data for the waiting times are questionable because it was not carefully registerd.

Achmea (2014) stated that patients were send to the Rugpoli because of low waiting times, quick diagnosis and good treatment results. The claims of having a low waiting time at the Rugpoli are met and it even seems the time has shortened in 2014. The treatment outcomes are not on the same level as compared to 2012. More comprehensive research is nessecary to check what caused the differences in case mix and treatment outcomes beteween 2012 and 2014.

Limitations and strenghts

The variables gender, age, work status, severity of symptoms ant mental disability were expected to influence the outcomes (McGeary, Mayer, Gatchel, Anagnostis, & Proctor, 2003; Hayden, Chou, Hogg-Johnson, & Bombardier, 2009; Hayden, Dunn, van der Windt, & Shaw, 2010). The results of this research did not support these findings. This may be related to a number of limitations of this study.

The patients of Achmea that were visiting since the 1st of January 2014 could not be divided into patients that otherwise would have gone to the hospital and patients that would have come anyway. If this selection could have been made a more clear statement would have been possible because the case mix of the new patients could be analyzed in greater detail.

Another limitation is the self selection of the patients. When coming to the Rugpoli a

patient is asked if they are willing to participate, it could be that only specific patients want to participate. Also it is not clearly noted how many patients are not asked or did not want to participate. This self-selection could give a bias to the results. Asking every patient is also strength, because this provides a large sample size over a longer period and including all patients gives a greater chance on generalization of the results when the sample is representative for all patients. A greater sample size would have given more strength to any conclusion on generalization.

Not only the self-selection but also the sample size is a limitation. When calculation a sample size based on the prevalence of the disease a number of more than 260 for each group is necessary (Naing, Winn, & Rusli, 2006). With the fixed sample size in this research the differences may be statistically significant; it lacks power in its meaning due to the limited sample size. It is also possible that differences were not detected because the sample size was too small.

The time in which this study has been done was limited. The retrospective part of the study is not limited in time because this data is already collected, but due to the time the 2014 sample was small. Only a small part of the follow-up of the 2014 patients could be collect. With more time a better sample could have been selected and the 6 and 12 month follow-up could also be analyzed for a better understanding of the data and long term outcomes.

Work absence is in the literature noted in days or percentages of total days. Because the questionnaires were only filled in at baseline and after 3 months, no specific days can be calculated. Having the absence in days could give a more valid test result.

Only patients that are new at the Rugpoli or patients that have new symptoms can take part in the research. When patients come at the Rugpoli after a longer period with the same problems, these patients are sometimes still asked to fill in the questionnaires. The inclusion criteria were not strictly applied which reduces the validity.

For this research it is not listed which patient had which type of treatment and how many sessions. To make a real good comparison it would have been good to know the differences between the patients because this might have an effect on the differences in outcomes.

The diagnosis of the patients was only noted for the patients that filled in the baseline, 3 month, 6 month and 12 month questionnaires. All other patients were not taken into

account. Having diagnosis for all patients could have provided a better understanding of the influence of the diagnosis on the treatment outcomes. Due to the small sample of diagnosis of 2014 Achmea patients, it was not possible to test the differences between the cohorts and use diagnosis as a covariate, making the outcomes less valid.

A strong point is the questionnaires that are used. The VAS, RMDQ and the SF-12 have a good reliability and validity. The chronbach's alphas for these questionnaires are all good (King JR, et al., 2005; Roland & Fairbank, 2000; Knop, et al., 2001). In the literature several articles can be found stating that these questionnaire are good to measure pain, health status with low back pain and quality of life (Carlsson, 1983; Scott & Huskisson, 1976; Roland & Fairbank, 2000; Failde, Medina, Ramirez, & Arana, 2009; Jenkinson, et al., 1997).

Recommendations

This research could only give a first insight in the effect the change in referring policy of Achmea might have. In order to gain a proper insight, increasing the sample size by also including data of the other locations and use also the follow-up data of the 6 and 12 month questionnaires is recommended. It can thereby be examined whether the differences found at baseline, might have affected the decreased results or that other unknown variables affected the outcomes. This research might have not found significant differences because of a small sample size or the short period of time.

If future research states that the case mix change is related to the differences in treatment outcomes, than a recommendation would be to see if adjustments to the treatments could help increase the treatment outcomes to the high level of 2012.

A recommendation for an economic comparison is to compare the total treatment costs of patients at the Rugpoli and patients at a hospital. This comparison could be done with data of health care insurance companies related to the social security numbers of patients. At this point in time only a comparison of economic burden is recommended, but for the future treatment outcomes could also be included in a research to compare the burden and outcomes.

The sickness report, occupational disability and sickness benefits need better data collection. A larger sample size is recommended and if possible work absence reported in days. In this research the return to work numbers are not reported in days but only at

baseline and 3 months, in existing research return to work numbers can be found in days (Geurts, Kompier, & Gründermann, 2000). When reported in days a comparison with other research could be done. Patients could be asked at baseline to note how many work absence days they have from that moment.

Additional research is recommended to investigate what might have caused the overall change in case mix. Additional questions about how patients are referred to the Rugpoli could be added to the existing questionnaires. Interviews with patients are also possible to get a better understanding in the change of patient type. Questions about how patients know the Rugpoli and who referred them could be included. Results could be used to test the possible relationship between the changed patient type and the changed search for health care and willingness for travelling.

Conclusion

From the 1st of January 2014 Achmea has changed the referring policy. All patients with low back problems in the east of the Netherlands need to go to the Rugpoli. The Rugpoli wanted to know what the effect of the change in referring policy was on the case mix and treatment outcomes. The case mix characteristics were tested at baseline and there were significant differences between the cohorts of 2012 and 2014. Most important differences were found in gender, work status and MCS. In 2014 more female patients and unemployed patients were treated and these patients had higher MCS scores. There were also significant changes in treatment outcomes showing worse outcomes in 2014 compared to 2012. The change in referring policy has not caused significant differences in case mix or treatment outcomes among Achmea patients, the complete 2014 cohort has changed compared to 2012. Further research will be necessary to see what caused these differences over time.

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Appendixes

Appendix I **Questionnaire baseline**

STICHTING **RUGPOLI**

Welkom!

U heeft besloten mee te doen aan het onderzoek van de Rugpoli, waarvoor wij u alvast hartelijk willen danken! Onderstaand vindt u de vragenlijst, wilt u zo vriendelijk zijn **alle vragen** te beantwoorden.

De antwoorden van de vragenlijsten worden anoniem verwerkt. Uitsluitend de metingen van functionaliteit en pijn worden opgenomen in uw patiëntendossier. Bij de desbetreffende vragen staat dit aangegeven. Op deze manier is uw behandelaar op de hoogte van de mate waarin u pijn heeft en de mate waarin u hinder ondervindt van uw klachten. Uw behandelaar kan hier, indien nodig, naar handelen.

ALGEMENE PERSOONLIJKE INFORMATIE

Naam:	
Geboortedatum:	
Geslacht:	**O** Man **O** Vrouw
E-mailadres:	

Wat is uw hoogst voltooide opleiding (afgerond met diploma of voldoende getuigschrift)?

O Geen opleiding (lager onderwijs: niet afgemaakt)
O Lager onderwijs (basisschool, speciaal basisonderwijs)
O Lager of voorbereidend beroepsonderwijs (zoals LTS, LEAO, LHNO, VMBO)
O Middelbaar algemeen voortgezet onderwijs (zoals MAVO, (M)ULO, MBO-kort, VMBO-t)
O Middelbaar beroepsonderwijs en beroepsbegeleidende leerweg (zoals MBO-lang, MTS, MEAO, BOL, BBL, INAS)
O Hoger algemeen en voorbereidend wetenschappelijk onderwijs (zoals HAVO, VWO, Atheneum, Gymnasium, HBS, MMS)
O Hoger beroepsonderwijs
O Wetenschappelijk onderwijs
O Anders: _____

Bij welke zorgverzekeraar bent u verzekerd?
(Meerdere antwoorden mogelijk)

☐ Achmea Zorgverzekeringen	☐ IZZ Zorgverzekeraar
☐ AGIS Zorgverzekeringen	☐ Maatschappij voor Zorgverzekering Gouda
☐ Anderzorg	☐ Menzis Zorgverzekeraar
☐ ASR Ziektekostenverzekeringen	☐ OHRA Ziektekostenverzekering
☐ Avéro Achmea Zorgverzekeringen	☐ OHRA Zorgverzekeringen
☐ Azivo Zorgverzekeraar	☐ ONVZ Ziektekostenverzekeraar
☐ CZ Groep Zorgverzekeraar	☐ Stad Holland Zorgverzekeraar
☐ De Friesland Zorgverzekeraar	☐ Univé Zorg
☐ Delta Lloyd Zorgverzekering	☐ VGZ
☐ Eno Zorgverzekeraar	☐ Zilveren Kruis Achmea Zorgverzekeringen
☐ FBTO Zorgverzekeringen	☐ Zorgverzekeraar DSW
☐ Interpolis Zorgverzekeringen	☐ Zorgverzekeraar UMC
☐ IZA Zorgverzekeraar	☐ Zorgverzekeraar Zorg en Zekerheid

☐ Anders: _____

Bent u aanvullend verzekerd?	
O	Ja
O	Nee

KLACHTEN

Hieronder vindt u een aantal vragen die betrekking hebben tot uw pijnklachten. Wilt u alle vragen beantwoorden door het juiste hokje aan te kruisen. Wanneer u twijfelt, probeer dan het antwoord te geven dat het meeste van toepassing is.

1.	Wat is de reden voor uw komst bij de Rugpoli? *Geef aan wat voor u van toepassing is.*			
Klacht		**Ja, constant**	**Ja, met tussenpozen**	**Nee**
Rugklachten		**O**	**O**	**O**
Nekklachten		**O**	**O**	**O**
Beenklachten		**O**	**O**	**O**
Anders:	.....	**O**	**O**	**O**

2.	Bent u eerder behandeld voor de klachten waarmee u nu bij de Rugpoli komt?
O	Ja
O	Nee → **Ga door naar vraag 3**
2a.	Zo ja, bij wie? *Geef aan wat voor u van toepassing is (meerdere antwoorden mogelijk).*

☐	Huisarts	☐	Neurochirurg
☐	Fysiotherapie	☐	Orthopeed
☐	Osteopaat	☐	Revalidatiearts
☐	OMG arts	☐	Reumatoloog
☐	Neuroloog	☐	Psycholoog
☐	Anders: _____		

3.	Hoe lang heeft u de klachten waarmee u nu bij de Rugpoli komt al? *Geef aan wat voor u van toepassing is.*
O	t/m 3 maanden
O	4 t/m 8 maanden
O	9 t/m 12 maanden
O	13 t/m 16 maanden
O	16 maanden of langer

4.	Gebruikt u pijnstillers tegen de klachten waarmee u nu bij de Rugpoli komt?
O	Ja
O	Nee → **Ga door naar vraag 5**

4a. Geef in het onderstaande schema aan welke medicatie u nu gebruikt voor de klachten waarmee u nu bij de Rugpoli komt.

Medicatie		**Dosering in mg.**	**Aantal doseringen**
☐	Paracetamol		_____ per week
☐	Paracetamol/Codeine		_____ per week
☐	Diclofenac		_____ per week
☐	Ibuprofen		_____ per week
☐	Naproxen		_____ per week
☐	Arthotec		_____ per week
☐	Meloxicam		_____ per week
☐	Celebrex		_____ per week
☐	Zaldiar		_____ per week
☐	Oxycontin		_____ per week
☐	Tramadol		_____ per week
☐	Durogesic		_____ per week
☐	Anders: _____		_____ per week
☐	Anders: _____		_____ per week

5.	In welke houding en/of beweging heeft u het meeste last van de klacht waarmee u nu bij de Rugpoli bent? *Geef aan wat voor u van toepassing is (meerdere antwoorden mogelijk).*		
☐	Bukken	☐	Zitten
☐	Staan	☐	Lopen
☐	Liggen	☐	Persen
☐	Hoesten	☐	Niezen
☐	Niet van toepassing		
☐	Anders: _____		

6.	Op welk moment van de dag heeft u het meeste last van de klachten waarmee u bij de Rugpoli bent gekomen? *Geef aan wat voor u van toepassing is (meerdere antwoorden mogelijk).*		
☐	Ochtend	☐	Altijd
☐	Middag	☐	Niet van toepassing
☐	Avond		
☐	Nacht		
☐	Anders: _____		

ARBEIDSONGESCHIKT / ZIEKTEWET

7.	Heeft u in het dagelijks leven een betaalde baan?
O	Ja
O	Nee → **Ga door naar vraag 8**
7a. ziek	Heeft u zich met de klachten waarmee u bij de Rugpoli komt geheel of gedeeltelijk moeten melden bij uw werkgever?
O	Ja, geheel
O	Ja, gedeeltelijk
O	Nee → **Ga door naar vraag 8**
7b. waarmee	Bent u geheel of gedeeltelijk arbeidsongeschikt met als hoofdreden de klachten u nu bij de Rugpoli bent gekomen?
O	Ja, geheel
O	Ja, gedeeltelijk

O	Nee
7c.	Hoeveel procent zit u momenteel in de ziektewet?
O	0%
O	Tot 25%
O	25% tot 50%
O	50% tot 80%
O	80% tot 100%
O	Niet van toepassing

UW GEZONDHEID / DAGELIJKSE BEZIGHEDEN

Hieronder vindt u een aantal vragen gericht op uw gezondheid. Wilt u elke vraag beantwoorden. Wanneer u twijfelt, probeer dan het antwoord te geven dat het meeste van toepassing is.

8.	Wat vindt u, over het algemeen genomen, van uw gezondheid?			
Uitstekend **O**	Zeer goed **O**	Goed **O**	Matig **O**	Slecht **O**

9.	*De volgende vragen gaan over bezigheden die u misschien doet op een doorsnee dag.* Wordt u door uw gezondheid op dit moment beperkt bij deze bezigheden? Zo ja, in welke mate?		
	Matige inspanning, zoals een tafel verplaatsen, stofzuigen, zwemmen, of fietsen.		
Ja, ernstig beperkt **O**	Ja, een beetje beperkt **O**	Nee, helemaal niet beperkt **O**	
	Een paar trappen oplopen		
Ja, ernstig beperkt **O**	Ja, een beetje beperkt **O**	Nee, helemaal niet beperkt **O**	

10. Heeft u <u>in de afgelopen 4 weken</u>, één van de volgende problemen bij uw werk of andere bezigheden gehad, <u>ten gevolge van uw lichamelijke gezondheid</u>?

	U heeft **minder bereikt** dan u zou willen.		
	O Ja	**O**	Nee
	U was beperkt in het **soort** werk of andere bezigheden.		
	O Ja	**O**	Nee

11. uw	Heeft u <u>in de afgelopen 4 weken</u>, één van de volgende problemen ondervonden bij werk of andere dagelijkse bezigheden <u>ten gevolge van emotionele problemen</u> (zoals depressieve of angstige gevoelens)?		
	U heeft **minder bereikt** dan u zou willen.		
	O Ja	**O**	Nee
	U deed uw werk of andere bezigheden niet zo **zorgvuldig** als gewoonlijk.		
	O Ja	**O**	Nee

12. werk	In welke mate bent u <u>de afgelopen 4 weken</u> door pijn gehinderd in uw normale (zowel werk buitenshuis als huishoudelijk werk)?				
Helemaal niet	Een klein beetje	Nogal	Veel	Heel erg veel	
O	**O**	**O**	**O**	**O**	

13.	*Deze vragen gaan over hoe u zich voelt en hoe het met u ging in de <u>afgelopen 4 weken</u>. Wilt u bij elke vraag het antwoord geven dat het beste benadert hoe u zich voelde.*				
	Hoe vaak gedurende de afgelopen <u>vier</u> weken:				
	Voelde u zich kalm en rustig?				
Voortdurend	Meestal	Vaak	Soms	Zelden	Nooit
O	**O**	**O**	**O**	**O**	**O**
	Voelde u zich energiek?				
Voortdurend	Meestal	Vaak	Soms	Zelden	Nooit
O	**O**	**O**	**O**	**O**	**O**
	Voelde u zich somber en neerslachtig?				
Voortdurend	Meestal	Vaak	Soms	Zelden	Nooit
O	**O**	**O**	**O**	**O**	**O**

14.	Hoe vaak hebben uw <u>lichamelijke gezondheid</u> of <u>emotionele problemen</u> u gedurende <u>de afgelopen 4 weken</u> gehinderd bij uw sociale activiteiten (zoals vrienden of

familie bezoeken, etc.)?				
Voortdurend **O**	Meestal **O**	Soms **O**	Zelden **O**	Nooit **O**

FUNCTIONALITEIT EN PIJN

De onderstaande vragen (15 t/m 26) zijn functionaliteit- en pijnmetingen. Naast het gebruik van deze gegevens voor het onderzoek, wordt de uitkomst van deze vragen ook in uw patiëntendossier vermeld. Op deze manier is uw behandelaar op de hoogte van de mate waarin u pijn heeft en de mate waarin u hinder ondervindt van uw klachten. Uw behandelaar kan hier, indien nodig, naar handelen.

Bij vraag 1 heeft u aangegeven welke klachten de reden zijn voor uw komst bij de Rugpoli. Indien u hier heeft aangeven geen rugklachten en geen beenklachten te hebben, dan kunt u doorgaan naar vraag 16. Heeft u bij vraag 1 aangegeven dat u o.a. rugklachten of beenklachten heeft, al dan niet met tussenpozen, dan kunt u hieronder de vragenlijst vervolgen.

15. Uw rug- en/of beenklachten kunnen u belemmeren bij uw normale dagelijkse werkzaamheden. Deze vragenlijst bevat een aantal zinnen waarmee mensen met rug- en/of beenklachten zichzelf en hun situatie beschrijven. Mogelijk beschrijven deze zinnen ook situaties zoals u deze ***vandaag*** *ervaart. Als u de vragenlijst leest, denk dan aan uzelf* ***vandaag****.*

Het grootste deel van de tijd blijf ik thuis, vanwege de klachten in mijn rug of been.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been verander ik vaak van positie om een prettige houding te vinden.	**O** Ja	**O** Nee

Door de klachten in mijn rug of been loop ik langzamer dan gewoonlijk.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been kan ik de gebruikelijke werkzaamheden in en rond het huis niet doen.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been gebruik ik de trapleuning bij het naar boven lopen via een trap.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been ga ik vaker dan gewoonlijk liggen om te rusten.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been moet ik me vastpakken en optrekken om uit een leunstoel te komen.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been probeer ik andere mensen dingen voor me te laten doen.	**O** Ja	**O** Nee
Ik kleed me trager aan dan gewoonlijk vanwege de klachten in mijn rug of been.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been sta ik alleen voor korte perioden.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been vermijd ik bukken of knielen.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been is het moeilijk om van een stoel op te staan.	**O** Ja	**O** Nee
Ik heb bijna de gehele dag last van de pijn in mijn rug of been.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been kan ik me in bed moeilijk omdraaien.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been heb ik gebrek aan eetlust.	**O** Ja	**O** Nee
Ik heb moeite met het aantrekken van sokken (of kousen) vanwege de klachten in mijn rug of been.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been loop ik alleen korte afstanden.	**O** Ja	**O** Nee
Ik slaap slecht door de klachten in mijn rug of been.	**O** Ja	**O** Nee
Ik krijg hulp bij het aankleden in verband met de klachten in mijn rug of been.	**O** Ja	**O** Nee
Ik zit het grootste deel van de dag vanwege de klachten in mijn rug of been.	**O** Ja	**O** Nee
In verband met de klachten in mijn rug of been vermijd ik zwaar werk in en rond het huis.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been raak ik sneller geïrriteerd dan anders.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been loop ik de trap langzamer op dan anders.	**O** Ja	**O** Nee
Ik lig bijna de hele dag in bed in verband met de klachten in mijn rug of been.	**O** Ja	**O** Nee

Bij vraag 1 heeft u aangegeven welke klachten de reden zijn voor uw komst bij de Rugpoli. Indien u hier heeft aangeven geen nekklachten te hebben, dan kunt u doorgaan naar vraag

26. Heeft u aangegeven dat u o.a. nekklachten heeft, al dan niet met tussenpozen, dan kunt u hieronder de vragenlijst vervolgen.

De volgende tien vragen geven de dokter informatie over hoe uw nekklachten uw normale dagelijkse bezigheden belemmeren. Bij elke willekeurige vraag kan het zijn dat twee van de stellingen op u van toepassing zijn. Graag verzoeken wij u daarom het antwoord aan te kruisen dat het meeste van toepassing is.

16.	Pijn
O	Ik heb nu geen pijn
O	Ik heb nu weinig pijn
O	Ik heb nu matige pijn
O	Ik heb nu vrij hevige pijn
O	Ik heb nu zeer hevige pijn
O	Ik heb nu de slechtst denkbare pijn

17.	Persoonlijke verzorging (wassen, aan- en uitkleden)
O	Ik kan goed voor mezelf zorgen zonder dat de pijn toeneemt
O	Ik kan goed voor mezelf zorgen hoewel dat de pijn doet toenemen
O	Voor mezelf zorgen is pijnlijk en gaat langzaam en voorzichtig
O	Voor mezelf zorgen lukt goed maar vaak met enige hulp
O	Elke dag voor mezelf zorgen lukt meestal alleen met hulp
O	Ik kan mezelf niet aankleden; mezelf wassen gaat moeilijk en ik blijf in bed

18.	Tillen
O	Ik kan een zwaar gewicht tillen zonder dat de pijn toeneemt
O	Ik kan een zwaar gewicht tillen, maar dat doet de pijn toenemen
O	De pijn weerhoudt mij van het optillen van een zwaar gewicht van de grond, maar zou dat wel kunnen wanneer dat gewicht hoger (bijv. op een tafel) gelegen is
O	De pijn weerhoudt mij ervan om zware dingen op te tillen, maar het lukt me wel om lichte tot middelzware gewichten te tillen als ze makkelijk geplaatst zijn
O	Ik kan alleen zeer lichte gewichten tillen
O	Ik kan helemaal niets tillen of dragen

19.	Lezen
O	Ik kan zo veel lezen als ik wil zonder pijn in mijn nek
O	Ik kan zo veel lezen als ik wil met weinig pijn in mijn nek
O	Ik kan zo veel lezen als ik wil met matige pijn in mijn nek
O	Ik kan niet zo veel lezen als ik zou willen vanwege de matige pijn in mijn nek
O	Ik kan bijna niet meer lezen vanwege de hevige pijn in mijn nek
O	Ik kan helemaal niet meer lezen

20.	Hoofdpijn
O	Ik heb helemaal geen hoofdpijn
O	Ik heb af en toe lichte hoofdpijn
O	Ik heb af en toe matige hoofdpijn
O	Ik heb vaak matige hoofdpijn
O	Ik heb vaak hevige hoofdpijn
O	Ik heb bijna altijd hoofdpijn

21.	Concentratie
O	Ik kan mij goed concentreren zonder moeite wanneer ik dat wil
O	Ik kan mij goed concentreren met enige moeite wanneer ik dat wil
O	Het kost mij duidelijk moeite om te concentreren wanneer ik dat wil
O	Het kost mij veel moeite om te concentreren wanneer ik dat wil
O	Het kost mij zeer veel moeite om te concentreren wanneer ik dat wil
O	Ik kan mij helemaal niet concentreren

22.	Werk
O	Ik kan zo veel werk doen als ik wil
O	Ik kan alleen mijn gewone werk doen, maar niet meer
O	Ik kan het grootste deel van mijn gewone werk doen, maar niet meer
O	Ik kan mijn gewone werk niet doen
O	Ik kan bijna geen enkel werk meer doen
O	Ik kan helemaal niet meer werken

23.	Autorijden
O	Ik kan autorijden zonder enige nekpijn
O	Ik kan autorijden zo lang als ik wil met weinig pijn in mijn nek
O	Ik kan autorijden zo lang als ik wil met matige pijn in mijn nek
O	Ik kan niet autorijden zo lang als ik wil vanwege de matige pijn in mijn nek
O	Ik kan bijna niet meer autorijden vanwege de hevige pijn in mijn nek
O	Ik kan helemaal niet meer autorijden

24.	Slapen
O	Ik heb geen moeite met slapen
O	Mijn slaap is heel licht gestoord (minder dan 1 uur wakker)
O	Mijn slaap is licht gestoord (1 tot 2 uur wakker)
O	Mijn slaap is matig gestoord (2 tot 3 uur wakker)
O	Mijn slaap is fors gestoord (3 tot 5 uur wakker)
O	Mijn slaap is volledig gestoord (5 tot 7 uur wakker)
25.	Vrije tijd
O	Ik kan aan alle activiteiten meedoen zonder enige pijn in mijn nek
O	Ik kan aan alle activiteiten meedoen met enige pijn in mijn nek
O	Vanwege de pijn in mijn nek kan ik aan de meeste, maar niet alle, gebruikelijke activiteiten meedoen
O	Vanwege de pijn in mijn nek kan ik aan maar weinig gebruikelijke activiteiten meedoen
O	Vanwege de pijn in mijn nek kan ik nagenoeg aan geen activiteiten meedoen
O	Ik kan aan geen enkele activiteit meer meedoen

26.	Geef tot slot aan welk cijfer voor u van toepassing is, wanneer u uw pijn moet weergeven voor de klachten waarmee u nu bij de Rugpoli bent gekomen. Omcirkel uw antwoord. *0 is geen pijn – 10 is ondraaglijke pijn*
Nek	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
Arm	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
Rug	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

Been	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
Anders: _____	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

EINDE VRAGENLIJST

Hartelijk dank voor het invullen van deze vragenlijst. Wij zullen over 3 maanden opnieuw contact met u zoeken voor de vervolgvragenlijst. Heeft u na het invullen van deze vragenlijst nog vragen, neem dan gerust contact op met:

(researcher)		(researcher)
email@adres.nl	of	email@adres.nl
Telefoonnummer		Telefoonnummer

Namens de Rugpoli Twente, Veluwe en Brabant danken wij u hartelijk voor uw deelname aan dit onderzoek.

Met vriendelijke groet,

Directeur Rugpoli Twente, Veluwe & Brabant

Appendix II Questionnaire 3 months

STICHTING **RUGPOLI**

Drie maanden geleden heeft u besloten om deel te nemen aan het onderzoek van de Rugpoli. Hiervoor willen wij u hartelijk danken. Onderstaand vindt u de vervolgvragenlijst, wilt u zo vriendelijk zijn **alle vragen** te beantwoorden.

De antwoorden van de vragenlijsten worden anoniem verwerkt. Uitsluitend de metingen van functionaliteit en pijn worden opgenomen in uw patiëntendossier. Bij de desbetreffende vragen staat dit aangegeven. Op deze manier is uw behandelaar op de hoogte van de mate waarin u pijn heeft en de mate waarin u hinder ondervindt van uw klachten. Uw behandelaar kan hier, indien nodig, naar handelen.

ALGEMENE PERSOONLIJKE INFORMATIE

Naam:	**x**
Geboortedatum:	**0**
Geslacht:	**x**
De klacht(en) waarmee u zich 3 maanden geleden gemeld heeft bij de Rugpoli.	***Rugklachten (constant / met tussenpozen)*** ***Nekklachten (constant / met tussenpozen)*** ***Beenklachten (constant / met tussenpozen)*** ***xx klachten (constant / met tussenpozen)***

KLACHTEN

Hieronder vindt u een aantal vragen die betrekking hebben tot uw pijnklachten zoals u deze heeft aangegeven in uw eerste vragenlijst. Wilt u alle vragen naar aanleiding van deze klachten beantwoorden door het juiste hokje aan te kruisen. Wanneer u twijfelt, probeer dan het antwoord te geven dat het meeste van toepassing is.

1. Heeft u nu nog last van de klacht(en) waarmee u drie maanden geleden bij de Rugpoli bent gekomen?

O Ja
O Nee → **Ga door naar vraag 2**

1a. Zo ja, in welke mate??

Klacht	**Constant**	**Met tussenpozen**	**Niet meer**
Rugklachten	**O**	**O**	**O**

Nekklachten	**O**	**O**	**O**
Beenklachten	**O**	**O**	**O**
Xx klachten	**O**	**O**	**O**

2. Bent u momenteel nog onder behandeling bij de Rugpoli voor de klacht(en) waarmee u drie maanden geleden bij de Rugpoli bent gekomen?

O Ja → **Ga door naar vraag 3**

O Nee → **Vul hier uw reden in:**

_____ _____

_____ _____

_____ _____

3. Bent u in de afgelopen drie maanden elders onder behandeling (geweest) voor de klachten waarmee u drie maanden geleden bij de Rugpoli bent gekomen?

O Ja

O Nee → **Ga door naar vraag 4**

3a. Zo ja, bij wie?
Geef aan wat voor u van toepassing is (meerdere antwoorden mogelijk).

☐	Huisarts	☐	Neurochirurg
☐	Fysiotherapie	☐	Orthopeed
☐	Osteopaat	☐	Revalidatiearts
☐	OMG arts	☐	Reumatoloog
☐	Neuroloog	☐	Psycholoog

☐ Anders: _____

4. Gebruikt u nu (nog) pijnstillers tegen de klacht(en) waarmee u 3 maanden geleden bij de Rugpoli bent gekomen?

O Ja

O Nee → **Ga door naar vraag 5**

4a. Geef in het onderstaande schema aan welke medicatie u nu gebruikt voor de klachten waarmee u nu bij de Rugpoli komt.

Medicatie		**Dosering in mg.**	**Aantal doseringen**
☐	Paracetamol		_____ per week
☐	Paracetamol/Codeïne		_____ per week
☐	Diclofenac		_____ per week
☐	Ibuprofen		_____ per week
☐	Naproxen		_____ per week
☐	Arthotec		_____ per week
☐	Meloxicam		_____ per week
☐	Celebrex		_____ per week
☐	Zaldiar		_____ per week

☐	Oxycontin		_____ per week
☐	Tramadol		_____ per week
☐	Durogesic		_____ per week
☐	Anders: _____		_____ per week
☐	Anders: _____		_____ per week
☐	Anders: _____		_____ per week

5. In welke houding en/of beweging heeft u nu het meeste last van de klacht waarmee u drie maanden gelden bij de Rugpoli bent gekomen?
Geef aan wat voor u van toepassing is (meerdere antwoorden mogelijk).

☐	Bukken	☐	Zitten
☐	Staan	☐	Lopen
☐	Liggen	☐	Persen
☐	Hoesten	☐	Niezen
☐	Niet van toepassing		
☐	Anders: _____		

6. Op welk moment van de dag heeft u nu het meeste last van de klacht waarmee u drie maanden gelden bij de Rugpoli bent gekomen?
Geef aan wat voor u van toepassing is (meerdere antwoorden mogelijk).

☐	Ochtend	☐	Altijd
☐	Middag	☐	Niet van toepassing
☐	Avond		
☐	Nacht		
☐	Anders: _____		

7. Zijn de klachten waarmee u op de Rugpoli bent behandeld in de afgelopen drie maanden:

Verbeterd	Hetzelfde gebleven	Verslechterd
O	**O**	**O**

ARBEIDSONGESCHIKT / ZIEKTEWET

8 Heeft u in het dagelijks leven een betaalde baan?

O Ja
O Nee → **Ga door naar vraag 9**

8a. Heeft u zich nu met de klachten waarmee u drie maanden gelden bij de Rugpoli

bent gekomen geheel of gedeeltelijk ziek moeten melden bij uw werkgever?
O Ja, geheel
O Ja, gedeeltelijk
O Nee → **Ga door naar vraag 9**
8b. Bent u nu geheel of gedeeltelijk arbeidsongeschikt met als hoofdreden de klachten waarmee u drie maanden gelden bij de Rugpoli bent gekomen?
O Ja, geheel
O Ja, gedeeltelijk
O Nee

8c. Hoeveel procent zit u nu in de ziektewet door de klacht(en) waarmee u drie maanden gelden bij de Rugpoli bent gekomen?
O 0%
O Tot 25%
O 25% tot 50%
O 50% tot 80%
O 80% tot 100%
O Niet van toepassing

UW GEZONDHEID / DAGELIJKSE BEZIGHEDEN

Hieronder vindt u een aantal vragen gericht op uw gezondheid. Wilt u elke vraag beantwoorden. Wanneer u twijfelt, probeer dan het antwoord te geven dat het meeste van toepassing is.

9. Wat vindt u, over het algemeen genomen, van uw gezondheid?				
Uitstekend	Zeer goed	Goed	Matig	Slecht
O	**O**	**O**	**O**	**O**

10. *De volgende vragen gaan over bezigheden die u misschien doet op een doorsnee dag.* Wordt u door uw gezondheid op dit moment beperkt bij deze bezigheden? Zo ja, in welke mate?		
Matige inspanning, zoals een tafel verplaatsen, stofzuigen, zwemmen, of fietsen.		
Ja, ernstig beperkt	Ja, een beetje beperkt	Nee, helemaal niet beperkt
O	**O**	**O**
Een paar trappen oplopen		

Ja, ernstig beperkt	Ja, een beetje beperkt	Nee, helemaal niet beperkt
O	**O**	**O**

11. Heeft u in de afgelopen 4 weken, één van de volgende problemen bij uw werk of andere bezigheden gehad, ten gevolge van uw lichamelijke gezondheid?			
U heeft **minder bereikt** dan u zou willen.			
O	Ja	**O**	Nee
U was beperkt in het **soort** werk of andere bezigheden.			
O	Ja	**O**	Nee

12. Heeft u in de afgelopen 4 weken, één van de volgende problemen ondervonden bij uw werk of andere dagelijkse bezigheden ten gevolge van emotionele problemen (zoals depressieve of angstige gevoelens)?			
U heeft **minder bereikt** dan u zou willen.			
O	Ja	**O**	Nee
U deed uw werk of andere bezigheden niet zo **zorgvuldig** als gewoonlijk.			
O	Ja	**O**	Nee

13. In welke mate bent u de afgelopen 4 weken door pijn gehinderd in uw normale werk (zowel werk buitenshuis als huishoudelijk werk)?				
Helemaal niet	Een klein beetje	Nogal	Veel	Heel erg veel
O	**O**	**O**	**O**	**O**

14. *Deze vragen gaan over hoe u zich voelt en hoe het met u ging in de afgelopen 4 weken. Wilt u bij elke vraag het antwoord geven dat het beste benadert hoe u zich voelde.* Hoe vaak gedurende de afgelopen vier weken:					
Voelde u zich kalm en rustig?					
Voortdurend	Meestal	Vaak	Soms	Zelden	Nooit
O	**O**	**O**	**O**	**O**	**O**
Voelde u zich energiek?					
Voortdurend	Meestal	Vaak	Soms	Zelden	Nooit
O	**O**	**O**	**O**	**O**	**O**
Voelde u zich somber en neerslachtig?					
Voortdurend	Meestal	Vaak	Soms	Zelden	Nooit
O	**O**	**O**	**O**	**O**	**O**

15. Hoe vaak hebben uw lichamelijke gezondheid of emotionele problemen u

gedurende de afgelopen 4 weken gehinderd bij uw sociale activiteiten (zoals vrienden of familie bezoeken, etc.)?				
Voortdurend	Meestal	Soms	Zelden	Nooit
O	**O**	**O**	**O**	**O**

FUNCTIONALITEIT EN PIJN

De onderstaande vragen (16 t/m 27) zijn functionaliteit- en pijnmetingen. Naast het gebruik van deze gegevens voor het onderzoek, wordt de uitkomst van deze vragen ook in uw patiëntendossier vermeld. Op deze manier is uw behandelaar op de hoogte van de mate waarin u pijn heeft en de mate waarin u hinder ondervindt van uw klachten. Uw behandelaar kan hier, indien nodig, naar handelen.

Vul vraag 16 alleen in als u zich drie maanden geleden met rug- en/of beenklachten gemeld heeft bij de Rugpoli.

16. rug- zinnen uzelf

*Uw rug- en/of beenklachten kunnen u belemmeren bij uw normale dagelijkse werkzaamheden. Deze vragenlijst bevat een aantal zinnen waarmee mensen met en/of beenklachten zichzelf en hun situatie beschrijven. Mogelijk beschrijven deze ook situaties zoals u deze **vandaag** ervaart. Als u de vragenlijst leest, denk dan aan **vandaag**.*

Het grootste deel van de tijd blijf ik thuis, vanwege de klachten in mijn rug of been.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been verander ik vaak van positie om een prettige houding te vinden.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been loop ik langzamer dan gewoonlijk.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been kan ik de gebruikelijke werkzaamheden in en rond het huis niet doen.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been gebruik ik de trapleuning bij het naar boven lopen via een trap.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been ga ik vaker dan gewoonlijk liggen om te rusten.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been moet ik me vastpakken en optrekken om uit een leunstoel te komen.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been probeer ik andere mensen dingen voor me te laten doen.	**O** Ja	**O** Nee
Ik kleed me trager aan dan gewoonlijk vanwege de klachten in mijn rug of been.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been sta ik alleen voor korte perioden.	**O** Ja	**O** Nee

Vanwege de klachten in mijn rug of been vermijd ik bukken of knielen.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been is het moeilijk om van een stoel op te staan.	**O** Ja	**O** Nee
Ik heb bijna de gehele dag last van de pijn in mijn rug of been.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been kan ik me in bed moeilijk omdraaien.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been heb ik gebrek aan eetlust.	**O** Ja	**O** Nee
Ik heb moeite met het aantrekken van sokken (of kousen) vanwege de klachten in mijn rug of been.	**O** Ja	**O** Nee
Vanwege de klachten in mijn rug of been loop ik alleen korte afstanden.	**O** Ja	**O** Nee
Ik slaap slecht door de klachten in mijn rug of been.	**O** Ja	**O** Nee
Ik krijg hulp bij het aankleden in verband met de klachten in mijn rug of been.	**O** Ja	**O** Nee
Ik zit het grootste deel van de dag vanwege de klachten in mijn rug of been.	**O** Ja	**O** Nee
In verband met de klachten in mijn rug of been vermijd ik zwaar werk in en rond het huis.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been raak ik sneller geïrriteerd dan anders.	**O** Ja	**O** Nee
Door de klachten in mijn rug of been loop ik de trap langzamer op dan anders.	**O** Ja	**O** Nee
Ik lig bijna de hele dag in bed in verband met de klachten in mijn rug of been.	**O** Ja	**O** Nee

Vul vraag 17 t/m 26 alleen in als u zich drie maanden geleden met nekklachten gemeld heeft bij de Rugpoli.

De volgende tien vragen geven de dokter informatie over hoe uw nekklachten uw normale dagelijkse bezigheden belemmeren. Bij elke willekeurige vraag kan het zijn dat twee van de stellingen op u van toepassing zijn. Graag verzoeken wij u daarom het antwoord aan te kruisen dat het meeste van toepassing is.

17.	Pijn
O	Ik heb nu geen pijn
O	Ik heb nu weinig pijn
O	Ik heb nu matige pijn
O	Ik heb nu vrij hevige pijn
O	Ik heb nu zeer hevige pijn
O	Ik heb nu de slechtst denkbare pijn

18.	Persoonlijke verzorging (wassen, aan- en uitkleden)
O	Ik kan goed voor mezelf zorgen zonder dat de pijn toeneemt
O	Ik kan goed voor mezelf zorgen hoewel dat de pijn doet toenemen
O	Voor mezelf zorgen is pijnlijk en gaat langzaam en voorzichtig
O	Voor mezelf zorgen lukt goed maar vaak met enige hulp
O	Elke dag voor mezelf zorgen lukt meestal alleen met hulp
O	Ik kan mezelf niet aankleden; mezelf wassen gaat moeilijk en ik blijf in bed

19.	Tillen
O	Ik kan een zwaar gewicht tillen zonder dat de pijn toeneemt
O	Ik kan een zwaar gewicht tillen, maar dat doet de pijn toenemen
O	De pijn weerhoudt mij van het optillen van een zwaar gewicht van de grond, maar zou dat wel kunnen wanneer dat gewicht hoger (bijv. op een tafel) gelegen is
O	De pijn weerhoudt mij ervan om zware dingen op te tillen, maar het lukt me wel om lichte tot middelzware gewichten te tillen als ze makkelijk geplaatst zijn
O	Ik kan alleen zeer lichte gewichten tillen
O	Ik kan helemaal niets tillen of dragen

20.	Lezen
O	Ik kan zo veel lezen als ik wil zonder pijn in mijn nek
O	Ik kan zo veel lezen als ik wil met weinig pijn in mijn nek
O	Ik kan zo veel lezen als ik wil met matige pijn in mijn nek
O	Ik kan niet zo veel lezen als ik zou willen vanwege de matige pijn in mijn nek
O	Ik kan bijna niet meer lezen vanwege de hevige pijn in mijn nek
O	Ik kan helemaal niet meer lezen

21.	Hoofdpijn
O	Ik heb helemaal geen hoofdpijn
O	Ik heb af en toe lichte hoofdpijn
O	Ik heb af en toe matige hoofdpijn
O	Ik heb vaak matige hoofdpijn
O	Ik heb vaak hevige hoofdpijn
O	Ik heb bijna altijd hoofdpijn

22.	Concentratie
O	Ik kan mij goed concentreren zonder moeite wanneer ik dat wil
O	Ik kan mij goed concentreren met enige moeite wanneer ik dat wil
O	Het kost mij duidelijk moeite om te concentreren wanneer ik dat wil
O	Het kost mij veel moeite om te concentreren wanneer ik dat wil
O	Het kost mij zeer veel moeite om te concentreren wanneer ik dat wil
O	Ik kan mij helemaal niet concentreren

23.	Werk
O	Ik kan zo veel werk doen als ik wil
O	Ik kan alleen mijn gewone werk doen, maar niet meer
O	Ik kan het grootste deel van mijn gewone werk doen, maar niet meer
O	Ik kan mijn gewone werk niet doen
O	Ik kan bijna geen enkel werk meer doen
O	Ik kan helemaal niet meer werken

24.	Autorijden
O	Ik kan autorijden zonder enige nekpijn
O	Ik kan autorijden zo lang als ik wil met weinig pijn in mijn nek
O	Ik kan autorijden zo lang als ik wil met matige pijn in mijn nek
O	Ik kan niet autorijden zo lang als ik wil vanwege de matige pijn in mijn nek
O	Ik kan bijna niet meer autorijden vanwege de hevige pijn in mijn nek
O	Ik kan helemaal niet meer autorijden

25.	Slapen
O	Ik heb geen moeite met slapen
O	Mijn slaap is heel licht gestoord (minder dan 1 uur wakker)
O	Mijn slaap is licht gestoord (1 tot 2 uur wakker)
O	Mijn slaap is matig gestoord (2 tot 3 uur wakker)
O	Mijn slaap is fors gestoord (3 tot 5 uur wakker)
O	Mijn slaap is volledig gestoord (5 tot 7 uur wakker)

26.	Vrije tijd
O	Ik kan aan alle activiteiten meedoen zonder enige pijn in mijn nek
O	Ik kan aan alle activiteiten meedoen met enige pijn in mijn nek
O	Vanwege de pijn in mijn nek kan ik aan de meeste, maar niet alle, gebruikelijke activiteiten meedoen
O	Vanwege de pijn in mijn nek kan ik aan maar weinig gebruikelijke activiteiten

meedoen

O Vanwege de pijn in mijn nek kan ik nagenoeg aan geen activiteiten meedoen

O Ik kan aan geen enkele activiteit meer meedoen

27. Geef aan welk cijfer voor u van toepassing is, wanneer u nu uw pijn moet weergeven voor de klachten waarmee u drie maanden geleden bij de Rugpoli bent gekomen. Omcirkel uw antwoord.

0 is geen pijn – 10 is ondraaglijke pijn

Nek	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
Arm	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
Rug	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
Been	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
Anders: _____	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

PATIËNTTEVREDENHEID

27. Geef tot slot aan welk cijfer voor u van toepassing is, wanneer u uw tevredenheid moet weergeven voor de volgende aspecten.

0 is zeer ontevreden – 10 is zeer tevreden

Bejegening van het personeel van de Rugpoli	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
Deskundigheid van het personeel van de Rugpoli	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
De informatieverstrekking van de Rugpoli	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
Totale indruk van de Rugpoli	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
Anders: _____	0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

OPMERKINGEN

EINDE VRAGENLIJST

Hartelijk dank voor het invullen van deze vragenlijst. Wij zullen over 3 maanden opnieuw contact met u zoeken voor de vervolgvragenlijst. Heeft u na het invullen van deze vragenlijst nog vragen, neem dan gerust contact op met:

researcher
email@adres.nl
telefoon nummer

Namens de Rugpoli Twente, Veluwe en Brabant danken wij u hartelijk voor uw deelname aan dit onderzoek.

Met vriendelijke groet,

Directeur Rugpoli Twente, Veluwe & Brabant

Appendix III Results baseline Diagnosis

Characteristics	2012 Achmea(n=20)	2014 Achmea(n=23)	X^2	df	p
Diagnose,n (%)					
Discogeen	7 (35.0%)	4 (17.4%)			
Facet	1 (5.0%)	5 (21.7%)			
SI	0 (0.0%)	1 (4.3%)			
Discopathie	2 (10.0%)	0 (0.0%)	15.883	6	.014
HNP	1 (5.0%)	3 (13.0%)			
Lat Stenose deg	1 (5.0%)	5 (21.7%)			
Other	0 (0.0%)	2 (8.7%)			
OMG	6 (30.0%)	3 (13.0%)			
Characteristics	**2012 Achmea(n=20)**	**2012 Other (n=77)**	**X^2**	**df**	**p**
Diagnose,n (%)					
Discogeen	7 (35.0%)	27 (35.1%)			
Facet	1 (5.0%)	6 (7.8%)			
SI	0 (0.0%)	0 (0.0%)			
Discopathie	2 (10.0%)	1 (1.3%)			
HNP	1 (5.0%)	10 (13.0%)			
Lat Stenose deg	1 (5.0%)	4 (5.2%)			
Other	0 (0.0%)	3 (3.9%)	12.518	13	.405
Hip	0 (0.0%)	2 (2.6%)			
Shoulder	0 (0.0%)	1 (1.3%)			
Derangement	0 (0.0%)	1 (1.3%)			
Dysfunction	1 (5.0%)	3 (3.9%)			
Posture	0 (0.0%)	4 (5.2%)			
Non-Mechanical	1 (5.0%)	0 (0.0%)			
OMG	6 (30.0%)	15 (19.5%)			

Appendix IV Results baseline 2012 Achmea compared to 2012 all insurers

Characteristics	2012 Achmea(n=54)	2012 all (n=163)	X^2	t	df	p
Gender,n (%)						
Male	31 (57.4%)	90 (55.2%)	0.079		1	.875
Female	23 (42.6%)	73 (44.8%)				
Age, mean (sd)						
Male	44.7 (14.8)	46.3 (13.3)		-0.341	215	.734
Female	46.7 (14.5)	46.3 (15.3)				
Paid Job, n (%)						
Yes	36 (66.7%)	119 (73.0%)	0.799		1	.371
No	18 (33.3%)	44 (27.0%)				
Reported sick at work, n (%)*						
Completely	6 (17.1%)	22 (18.5%)				
Partly	4 (11.4%)	27 (22.7%)	2.427		1	.297
No	25 (71.4%)	70 (58.8%)				
Occupational disability, n (%)						
Completely	6 (60.0%)	20 (39.2%)				
Partly	1 (10.0%)	1 (2.0%)	3.779		1	.151
No	3 (30.0%)	30 (58.8%)				
Sickness benefits, n (%)						
0%	3 (30.0%)	7 (15.6%)				
1% to 25%	0 (0.0%)	10 (22.2%)	3.293		3	.349
25% to 50%	1 (10.0%)	5 (11.1%)				
50% to 80%	6 (60.0%)	23 (51.1%)				
80% to 100%						
Back Pain as reason of visit, n (%)						
Constant pain	37 (68.5%)	99 (60.7%)				
Pain intermittently	15 (27.8%)	52 (31.9%)	1..457		2	.483
No Pain	2 (3.7%)	12 (7.4%)				
Leg pain as reason of visit, n (%)						
Constant pain	13 (24.1%)	61 (37.4%)				
Pain intermittently	24 (44.4%)	52 (31.9%)	3.950		2	.139
No Pain	17 (31.5%)	50 (30.7%)				
Neck pain a reason of visit, n (%)						
Constant Pain	3 (5.6%)	22 (13.5%)				
Pain intermittently	12 (22.2%)	36 (22.1%)	2.593		2	.273
No Pain	39 (72.2%)	105 (64.4%)				
Duration of Symptoms, n (%)						
0 to 3 months	5 (9.4%)	24 (14.7%)				
4 to 8 months	14 (26.4%)	30 (18.4%)	6.295		4	.178
9 to 12 months	1 (1.9%)	18 (11.0%)				
13 to 15 months	4 (7.5%)	13 (8.0%)				
16 months or longer	29 (54.7%)	78 (47.9%)				
Previous treatment, n (%)						
Yes	51 (94.4%)	157 (96.3%)	0.359		1	.693
No	3 (5.6%)	6 (3.7%)				
SF-12, mean(sd)						
PCS	33.56 (8.3)	50.50 (8.2)		1.310	215	.191
MCS	31.91 (8.6)	50.80 (10.2)		-0.195	215	.846
RMDQ, mean(sd)	12.24 (6.2)	12.83 (5.6)		-0.662	215	.509
VAS, mean(sd)						
Neck	5.38 (2.5)	4.87 (2.3)		0.717	64	.476
Back	6.45 (2.0)	6.49 (2.1)		-0.112	189	.911
Leg	5.77 (2.2)	6.26 (2.2)		-1.152	138	.254
Waiting time in days, mean(sd)	17.1 (11.0)	16.7 (12.0)		0.176	215	.861

(* Missing n= 1)

Appendix V Results baseline 2014 Achmea compared to 2014 all insurers

Characteristics	2014 Achmea(n=81)	2014 all (n=288)	X^2	t	df	p
Gender,n (%)						
Male	32 (39.5%)	122 (42.4%)	0.212		1	0.645
Female	49 (60.5%)	166 (57.6%)				
Age, mean (sd)						
Male	51.8 (16.9)	51.3 (15.6)		-0.075	367	0.940
Female	48.6 (15.4)	49.1 (15.8)				
Paid Job, n (%)						
Yes	49 (60.5%)	172 (59.7%)	0.016		1	0.900
No	32 (39.5%)	116 (40.3%)				
Reported sick at work, n (%)*						
Completely	13 (27.1%)	37 (21.3%)				
Partly	7 (14.6%)	28 (16.1%)	0.617		2	0.735
No	28 (58.3%)	105 (60.3%)				
Occupational disability, n (%)**						
Completely	4 (30.8%)	15 (23.1%)				
Partly	4 (30.8%)	12 (18.5%)	0.556		2	0.757
No	5 (38.5%)	26 (40.0%)				
Sickness benefits, n (%)***						
0%	2 (15.4%)	9 (18.4%)				
1% to 25%	0 (0.0%)	5 (10.2%)				
25% to 50%	2 (15.4%)	3 (6.1%)	3.044		4	0.550
50% to 80%	2 (15.4%)	4 (8.2%)				
80% to 100%	7 (53.8%)	28 (57.1%)				
Back Pain as reason of visit, n (%)						
Constant pain	54 (66.7%)	190 (66.0%)				
Pain intermittently	21 (25.9%)	89 (30.9%)	3.382		2	0.184
No Pain	6 (7.4%)	9 (3.1%)				
Leg pain as reason of visit, n (%)						
Constant pain	31 (38.3%)	105 (36.5%)				
Pain intermittently	21 (25.9%)	89 (30.9%)	0.771		2	0.680
No Pain	29 (35.8%)	94 (32.6%)				
Neck pain a reason of visit, n (%)						
Constant Pain	13 (16.0%)	42 (14.6%)				
Pain intermittently	19 (23.5%)	60 (20.8%)	0.460		2	0.794
No Pain	49 (60.5%)	186 (64.6%)				
Duration of Symptoms, n (%)						
0 to 3 months	11 (13.6%)	62 (21.5%)				
4 to 8 months	17 (21.0%)	66 (22.9%)				
9 to 12 months	10 (12.3%)	22 (7.6%)	4.083		4	0.395
13 to 15 months	4 (4.9%)	13 (4.5%)				
16 months or longer	39 (48.1%)	125 (43.4%)				
Previous treatment, n (%)						
Yes	81 (100%)	267 (92.7%)	6.263		1	0.012
No	0 (0.0%)	21 (7.3%)				
SF-12, mean(sd)						
PCS	31.93 (9.1)	32.40 (8.1)		-0.499	366	.618
MCS	49.33 (9.7)	48.74 (9.7)		0.453	366	.651
RMDQ, mean(sd)	13.7 (5.2)	13.9 (5.3)		0.270	366	.787
VAS, mean(sd)						
Neck	4.94 (2.5)	4.70 (2.2)		0.501	129	.617
Back	6.38 (2.1)	6.60 (2.1)		-0.803	332	.422
Leg	6.60 (2.2)	6.54 (2.3)		0.142	229	.887
Waiting time in days, median(range)	11.8 (6.2)	11.1 (6.8)		0.881	366	.379

(* Missing n= 1, ** Missing n= 7, * Missing n= 7)**

Appendix VI Results baseline complete 2012 compared to complete 2014

Characteristics	2012 All(n=217)	2014 All (n=369)	X^2	t	df	p
Gender,n (%)						
Male	121 (55.8%)	153 (41.6%)	11.030		1	**.001**
Female	96 (44.2%)	215 (58.4%)				
Age, mean (sd)						
Male	45.9 (13.6)	51.4 (15.8)		-2.964	583	.083
Female	46.4 (15.1)	48.9 (15.7)				
Paid Job, n (%)						
Yes	155 (71.4%)	220 (59.8%)	8.046		1	**.006**
No	62 (28.6%)	148 (40.2%)				
Reported sick at work, n (%)*						
Completely	28 (18.2%)	49 (22.6%)				
Partly	31(20.1%)	35 (16.1%)	1.653		2	.438
No	95 (61.7%)	133 (61.3%)				
Occupational disability, n (%)**						
Completely	26 (42.6%)	19 (29.2%)				
Partly	2 (3.3%)	16 (24.6%)	12.006		2	**.002**
No	33 (54.1%)	30 (46.2%)				
Sickness benefits, n (%)***						
0%	0 (0.0%)	11 (18.0%)				
1% to 25%	10 (18.2%)	5 (8.2%)				
25% to 50%	10 (18.2%)	5 (8.2%)	14.458		4	**.006**
50% to 80%	6 (10.9%)	6 (9.8%)				
80% to 100%	29 (52.7%)	34 (55.7%)				
Back Pain as reason of visit, n (%)						
Constant pain	136 (62.7%)	243 (66.0%)				
Pain intermittently	67 (30.9%)	110 (29.9%)	1.835		2	.399
No Pain	14 (6.5%)	15 (4.1%)				
Leg pain as reason of visit, n (%)						
Constant pain	74 (34.1%)	135 (36.7%)				
Pain intermittently	76 (35.0%)	110 (29.9%)	1.659		2	.436
No Pain	67 (30.9%)	123 (33.4%)				
Neck pain a reason of visit, n (%)						
Constant Pain	25 (11.5%)	55 (14.9%)				
Pain intermittently	48 (22.1%)	79 (21.5%)	1.360		2	.507
No Pain	144 (66.4%)	234 (63.6%)				
Duration of Symptoms, n (%)						
0 to 3 months	29 (13.4%)	72 (19.6%)				
4 to 8 months	44 (20.4%)	83 (22.6%)				
9 to 12 months	19 (8.8%)	32 (8.7%)	6.462		4	.167
13 to 15 months	17 (7.9%)	17 (4.6%)				
16 months or longer	107 (49.5%)	164 (44.6%)				
Previous treatment, n (%)						
Yes	208 (95.9%)	347 (94.3%)	0.682		1	.445
No	9 (4.1%)	21 (5.7%)				
SF-12, mean(sd)						
PCS	32.2 (8.5)	32.3 (8.5)		-0.074	583	.941
MCS	50.7 (9.7)	48.9 (9.7)		2.236	583	**.026**
RMDQ, mean(sd)	12.7 (5.7)	13.5 (4.9)		-1.932	583	.054
VAS, mean(sd)						
Neck	5.0 (2.3)	4.8 (2.3)		0.618	195	.537
Back	6.5 (2.1)	6.6 (2.1)		-0.380	523	.704
Leg	6.1 (2.2)	6.6 (2.2)		-1.766	369	.078
Waiting time in days, median(range)	16.8 (11.8)	11.8 (6.7)		7.327	583	**.000**

Appendix VII Results treatment outcomes tested within year

Characteristics	2012 Achmea(n=32)	2012 Other (n=117)	Difference in means (95% CI)	t	df	p
SF-12, mean (sd)						
PCS	9.0 (9.5)	7.0 (9.9)	2.0 (1.9 to -1.9)	1.030	147	.305
MCS	-0.2 (8.2)	0.7 (8.8)	-0.9 (-4.3 to 2.6)	-0.496	147	.621
RMDQ, mean (sd)	-5.5 (5.6)	-4.8 (6.1)	-0.7 (-3.1 to 1.7)	-0.585	147	.559
VAS, mean (sd)						
Neck	-2.7 (2.7)	-2.0 (2.7)	-0.7 (-3.1 to 1.7)	-0.578	39	.566
Back	-3.2 (3.3)	-2.5 (2.7)	-0.7 (-1.9 to 0.5)	-1.210	127	.228
Leg	-4.3 (3.4)	-4.3 (3.1)	0.0 (-1.5 to 1.5)	-0.020	96	.984

Characteristics	2014 Achmea(n=23)	2014 Other (n=76)	Difference in means (95% CI)	t	df	p
SF-12, mean (sd)						
PCS	1.2 (10.2)	3.8 (8.9)	-2.6 (-7.0 to 1.8)	-1.187	97	.238
MCS	1.6 (8.7)	0.8 (10.1)	0.8 (-3.8 to 5.4)	0.354	97	.724
RMDQ, mean (sd)	-2.3 (4.7)	-3.4 (6.4)	1.1 (-1.7 to 4.0)	0.793	90	.430
VAS, mean (sd)						
Neck	-1.4 (1.3)	-1.2 (2.2)	-0.2 (-1.9 to 1.5)	-0.223	32	.825
Back	-1.0 (2.2)	-1.5 (3.0)	0.5 (-0.9 to 1.8)	0.668	85	.506
Leg	-1.9 (2.2)	-1.3 (3.1)	-0.6 (-2.6 to 1.5)	-0.548	56	.586

Appendix VIII Results work status

Tabel 7. Workstatus after 3 months for 2012 and 2014 Achmea

Characteristics	2012 All- 3 month (n=151)	2014 Achmea-3 month (n=23)	X^2	df	p
Paid Job, n (%)					
Yes	104 (71.2%)*	9 (39.1%)	9.242	1	**.004**
No	42 (28.8%)	14 (60.9%)			
Reported sick at work, n (%)					
Completely	18 (17.3%)	0 (0.0%)			
Partly	19 (18.3%)	3 (33.3%)	2.530	2	.282
No	67 (64.4%)	6 (66.7)			
Occupational disability, n (%)					
Completely	16 (45.7%)	0 (0.0%)			
Partly	0 (0.0%)	2 (100%)	37.000	2	**.000**
No	19 (54.3%)	0 (0.0%)			
Sickness benefits, n (%)					
0%	0 (0.0%)	1 (50.0%)			
1% to 25%	9 (29.0%)	0 (0.0%)			
25% to 50%	8 (25.8%)	0 (0.0%)	18.948	4	**.001**
50% to 80%	10 (32.3%)	0 (0.0%)			
80% to 100%	4 (12.9%)	1 (50.0%)			

(* Missing n=5)

Characteristics	2012 Achmea- 3 month (n=32)	2012 other-3 month (n=119)	X^2	df	p
Paid Job, n (%)					
Yes	22 (68.8%)	86 (73.5%)*	0.444	1	.505
No	10 (31.3%)	31 (26.5%)			
Reported sick at work, n (%)					
Completely	3 (13.6%)	15 (18.8%)**			
Partly	0 (0.0%)	18 (22.5%)	7.239	2	.027
No	19 (86.4%)	47 (58.8%)			
Occupational disability, n (%)					
Completely	1 (33.3%)	15 (48.4%)			
Partly	0 (0.0%)	0 (0.0%)	0.249	1	.618
No	2 (66.7%)	16 (51.6%)			
Sickness benefits, n (%)					
0%	0 (0.0%)	0 (0.0%)			
1% to 25%	0 (0.0%)	8 (28.6%)	4.286	3	.232
25% to 50%	0 (0.0%)	8 (28.6%)			
50% to 80%	2 (100%)	8 (28.6%)			
80% to 100%	0 (0.0%)	4 (14.3%)			

(* Missing n=2) (** Missing n=6)

Characteristics	2014 Achmea- 3 month (n=23)	2014 other-3 month (n=76)	X^2	df	p
Paid Job, n (%)					
Yes	9 (39.1%)	43 (57.3%)	2.342	1	..126
No	14 (60.9%)	32 (42.7%)			
Reported sick at work, n (%)					
Completely	0 (0.0%)	8 (18.6%)			
Partly	3 (33.3%)	5 (11.6%)	3.964	2	.138
No	6 (66.7%)	30 (69.8%)			
Occupational disability, n (%)					
Completely	0 (0.0%)	1 (12.5%)	3.750	2	.153
Partly	2 (100%)	2 (25.0%)			
No	0 (0.0%)	5 (62.5%)			
Sickness benefits, n (%)					
0%	1 (50.0%)	4 (50.0%)			
1% to 25%	0 (0.0%)	1 (12.5%)			
25% to 50%	0 (0.0%)	1 (12.5%)	0.833	3	.841
50% to 80%	0 (0.0%)	0 (0.0%)			
80% to 100%	1 (50.0%)	2 (25.0%)			

Characteristics	2012 All- 3 month (n=151)	2014 All-3 month (n=99)	X^2	df	p
Paid Job, n (%)					
Yes	110 (72.8%)	57 (57.6%)	6.288	1	**.012**
No	41 (27.2%)	42 (42.4%)			

Appendix IX Referring

Characteristics	2012 Achmea-3 month (n=32)	2012 other- 3 month (n=117)	X^2	df	p
Referring to the hospital for surgery, n(%)	1 (3.1%)	9 (7.7%)	0.837	1	.360
Yes	31 (96.9%)	108 (92.3%)			
No					
Characteristics	**2014 Achmea-3 month (n=23)**	**2014 other- 3 month (n=76)**	**X^2**	**df**	**P**
Referring to the hospital for surgery, n(%)	1 (4.3%	6 (7.9%)	0.338	1	.561
Yes	22 (95.7%)	70 (92.1%)			
No					