Validity of the Dutch physiotherapy diagnosis system to classify nonspecific low back pain in primary care

Master thesis

Physiotherapy Science
Program in Clinical Health Sciences
Utrecht University

Name student:	Koen (A.C. Verburg)
Student number:	5528118
Date:	02 juni
Internship supervisors:	Dr. Simone A. van Dulmen, Guus A. Meerhoff MSc, Dr. Philip J. van der Wees
Internship institute:	Radboud Institute for Health Sciences, Scientific Institute for Quality of Healthcare, Radboud University Medical Center, Geert Grooteplein 21, 6525 EZ Nijmegen, The Netherlands
Lecturer/supervisor Utrecht University:	Dr. M.F. Pisters

“ONDERGETEKENDE”

Arie Cornelis Verburg

“Bevestigt hierbij dat de onderhavige verhandeling mag worden geraadpleegd en vrij mag worden gefotokopieerd. Bij het citeren moet steeds de titel, auteur en jaar van de verhandeling worden vermeld.”

Examiner:
Dr. M.F. Pisters

Assessors:
Dr. Philip J. van der Wees

Dr. J. van der Net

Abstract

Background Efficiency and effectiveness are key measures in quality of healthcare. Stratified care can be helpful to provide insight into efficiency and effectiveness for subgroups on an aggregate level across therapists, practices or even across regions in the country. Dutch physiotherapists in primary care use the "Diagnose Classificatie Systeem Paramedische Hulp*"* (DCSPH) to classify patients. The question is whether the long-standing DCSPH is a valid system to allocate patients in relevant categories. To further investigate this, patients with nonspecific low back pain (NSLBP) were selected to study the added value of DCSPH.

Aim The primary goal of this study is to evaluate the inter-rater reliability of the Dutch Diagnosis Classification System Paramedical Help (DCSPH) in comparison with an eligible alternative classification system.

Method This study used a retrospective mixed method design. First, a literature search was performed to search for potential classification methods based on prognostic factors in NSLBP. Second, we used a database to explore how the DCSPH and an alternative classification method are used in classifying patients with NSLPB in current practice. Third, we explored the inter-rater reliability of the DCSPH and the alternative classification method using data of sixty patients to score the agreement between six physiotherapists. Finally, stakeholders in the field were asked to give their opinion about the alternative classification method.

Results We designed an alternative classification system that consists of four prognostic profiles, based on several aspects of ten identified treatment guidelines and fourteen systematic reviews. The Cohen's kappa tests for the DCSPH ranged between .006 and .133 and the overall Fleiss kappa test was .002. The Cohen's kappa tests of the alternative classification ranged between .184 and .557 and the overall Fleiss was .291. Experts indicated the alternative classification system as useful in daily practice.

Conclusion The inter-rater reliability was poor for the DCSPH and fair to moderate for the alternative classification system in classifying patients with NSLBP. It seems promising to classify patients in subgroups based on prognostic factors. Future research should focus on establishing a more accurate tool to define subgroups in NSLBP.

Keywords: non specific low back pain, prognosis, classification, subgroups

Background

The Institute of Medicine (IOM) in the United States defines quality of care as follows: *"doing the right thing, at the right time, in the right way, for the right person, and having the best possible results*."[1] The IOM emphasizes that quality of care consists of the following six components: safety, time, equitably, effectiveness, efficiency and patient-centeredness.[1] This study will focus on efficiency and effectiveness as important aspects in quality of care. The term efficiency means in this case that care must avoid any kind of misuse, including misuse of administration, treatments and energy.[1] Effectiveness is described as care based on scientific evidence, which is more beneficial than care that is not evidence based.[1]

Randomised trials often include a heterogeneous population that responds differently to treatment, which could be a reason that healthcare might still not always seem beneficial.[2] An approach to address heterogeneity in evaluating efficiency and effectiveness of healthcare more accurately, is the stratification of patients in subgroups. Foster et al (2013) describes that stratified care involves targeting treatment to patient subgroups based on key characteristics.[2,3] Nonspecific low back pain (NSLBP) is an example of a heterogeneous patient group, whereby stratified care could result in more accurate subgroups.[3,4] In the Netherlands, 27% of the patients visiting a physiotherapist in primary care are diagnosed with NSLBP.[5] The variation in recovery time differs between one day and multiple years, depending on many different prognostic patient characteristics.[6] There is an increasing popularity for stratification of NSLBP patients based on prognostic factors.[2,7,8] Besides treatment benefits for individual patients, stratified care can be helpful to provide insight into efficiency and effectiveness for subgroups on an aggregate level across therapists, practices or even across regions in the country. The method of classifying patients in diagnostic subgroups has been used in the Netherlands for many years now.

Dutch physiotherapists in primary care use the "Diagnose Classificatie Systeem Paramedische Hulp*"* (DCSPH) to classify patients after their first consultation. This system uses a four-digit coding system that classifies diagnoses in subgroups. Each digit refers to a location or pathology. Digit '1': main group, body location; digit '2': sub-group, body location; digit '3': main- group, pathology and digit '4': sub-group, pathology (Appendix A).[9] For instance, a patient with NSLBP could be classified with the code 3526 wherein/in which the first digit stands for: spine; digit 2: lumbar sacral spine; digit 3: degenerative diseases, dystrophic; and digit 4: muscle, tendon, fascia diseases.

The DCSPH coding system was originally developed to be used by general practitioners and medical specialists for referring a patient to a physiotherapist in primary care.[10] However, Zorgverzekeraars Nederland (ZN)[11], the umbrella organization of the nine health insurer concerns in the Netherlands, decided to make the physiotherapists responsible for using the DCSPH codes.[10,12] Although these codes were not intentionally developed for physiotherapists, they have been using the system for more than twenty years to diagnose and invoice their treatment sessions to health insurers.[10] The usability of his original purpose should be critically reviewed, because the four digits in the DCSPH may provide too many options in classification.[10] However, revision of the DCSPH might result in a huge impact concerning the practical use.[10] There is a gap of knowledge whether the DCSPH system is capable to evaluate efficiency and effectiveness of physiotherapists working in primary care practises.

For this reason, the primary goal of this study is to evaluate whether the DCSPH is a valid system to classify NSLBP. To achieve this goal, the following research questions are formulated:

Question 1: What is the inter-rater reliability of the Dutch "Diagnose Classificatie Systeem Paramedische Hulp" (DCSPH) to classify NSLBP?

Question 2: Can we design an alternative classification system based on the available evidence and what is the inter-rater reliability compared to the current method?

Method

Design and setting

This study used a retrospective mixed method design. First a literature search was performed to search for potential classification methods based on prognostic factors in NSLBP. Second, we used a database to explore how the DCSPH and an alternative classification method are used in classifying patients with NSLPB in current practice. Third, we explored the inter-rater reliability of the DCSPH and a selected alternative classification method. Finally, stakeholders in the field, including physiotherapists, patient representatives and policy makers, were asked to give their opinion about the alternative classification method.

Classification system based on prognostic factors

In our search for alternative classification methods all relevant national and international treatment guidelines designed for patients with NSLBP were identified and screened. We searched for classification systems based on prognostic factors for the course of recovery. Based on the identified treatment guidelines, reference tracking has been performed. We anticipated on combining relevant components in the treatment guidelines to develop an overarching classification system for patients with NSLBP. In this study referred to as 'alternative classification' for the readability.

Additionally to the guideline search, the electronic database Pubmed/MEDLINE was searched between January 2012 and January 2017 for recent relevant systematic reviews about individual prognostic factors in NSLBP. Cross-referencing was done for all relevant articles. See appendix B for all identified guidelines and the used search string.

Participants and data source

In exploring the use of the DCSPH and the alternative classification system, the target population is patients with NSLBP treated by primary care physiotherapists; see appendix C for the definition of NSLBP. The Royal Dutch Society for Physical Therapy (KNGF) developed a database for The Dutch national physiotherapy registry with data derived from electronic health records.[13] The registry was used to include files of patient cases with LBP for the current study. In 2014, the total database contained 58 physiotherapy practices, 260 physiotherapists and 7000 patient cases from which 21.8% were patients with LBP.[14]

Eligibility criteria

The physiotherapists that participated in the research project of the KNGF signed informed consent before the start of the project. Patients were asked for permission for the use of their data. All collected data was de-identified. Patient data was not extracted to the registry when patients did not want to participate in the study. The study protocol was approved by the Medical Ethical Committee of Radboud University Medical Center (Registration #2013/151)

The current study included patients aged 18 years and older with LBP, based on the DCSPH codes in the electronic health record, see table 1. We included all DCSPH codes that are related to LBP (codes 3300 – 4000), according to appendix A, using the first two codes of the DCSPH. Potential patient cases were found not eligible when two out of three patient characteristics were missing. The three features were: physiotherapeutic diagnosis, goal of treatment and patient request. These characteristics consist of highly valuable information to be able to classify patients properly.

Table 1 Included DCSPH codes for LBP

Included DCSPH codes for NSLBP			
Head location	**Sub location**	**Head pathology**	**Sub-pathology**
3 spine	3 Thoracic-lumbar spine	0 With surgery	0 variable per head pathology
	4 Lumbar spine	1 Orthopaedic without surgery	1 Variable per head pathology
	5 Lumbar-sacral spine	2 Degenerative/surmenage	2 Variable per head pathology
	6 Sacral and S.I. joint	3 Trauma	3 Variable per head pathology
	7 Coccyges	4 Heart and lymfe diseases	4 Variable per head pathology
	9 Combined/ total spine	5 Lung diseases	5 Variable per head pathology
		6 Other internal diseases	6 Variable per head pathology
		7 Neurological diseases	7 Variable per head pathology
		8 Symptomatology, psychosomatic, urology, gynaecology	8 Variable per head pathology
		9 Rheumatic diseases and skin diseases	

Variables

The main endpoint of this study was to compare the inter-rater reliability of the currently used DCSPH and the inter-rater reliability of the alternative classification system, based on general features of patient cases with LBP. We were specifically interested in variables that may provide insight into diagnostic information in order to classify patients with LBP, including:

- DCSPH-codes per patient with LBP (range 3300 – 4000)
- Patient request for help (open text field)
- Physiotherapeutic diagnosis (open text field)
- Goal of the treatment (open text field)
- Gender (male/female)
- Age (based on years)

Procedures

In this study, we recruited five independent physiotherapists (WB, TF, MB, MV, RM) and researcher AV for calculation of the inter-rater reliability. The mean age of the six physiotherapists was 27.3 years (Standard Deviation 1.6), with a mean working experience of 5.5 (S.D. 2.5) years and four were men. The participants were instructed to read a guided protocol about the DCSPH system and the alternative classification system. The protocol was a guidance to classify the patient cases that facilitated the individual interpretation based on their clinical reasoning skills of the observers. After reading the protocol, the participants were asked to analyse diagnostic information of individual patient cases derived from the registry. Based on the following variables: patient request for help, physiotherapeutic diagnosis, goal of treatment, gender and age. The participants AV, WB, TF and the physiotherapists in the registry used the DCSPH system to classify the selected patient cases. The participants AV, WB, TF, MB, MV, and RM used the alternative classification system to classify LBP patient cases.

Assessment and statistical methods

Descriptive statistics were used to describe the patient population.

DCSPH

We were interested in the agreement between the classification of NSLBP patients based on the original coding of the DCSPH by physiotherapists participating in the registry and between three participating observers (AV, WB, and TF) in this study using diagnostic information from the registry. We calculated a Cohen's kappa test between all the observers.[15] Furthermore, we calculated a Fleiss' test for multiple observers to estimate the overall agreement between the three observers and the original coding of the DCSPH by physiotherapists participating in the registry.[16]

Alternative classification system

We used descriptive statistics to describe how the six observers (AV, WB, TF, MB, MV and RM) scored the alternative classification system. Cohen's kappa test was estimated between all six observers using the alternative classification system. Fleiss kappa test for multiple observers was used to determine the overall agreement between the six observes.[16]

Based on the literature, agreement between 0 and .2 is classified as poor, between .2 and .4 as fair, between .4 and .6 as moderate and between .6 and .8 as good and .8 or higher as excellent.[17]

Sample Size

No sample size calculation was needed for this retrospective observational study, based on the fact that the primary outcomes are presented using descriptive statistics. The explorative stage of this study tests no hypothesis for evaluating effects or statistically significant improvements.

Expert opinion

Experts (N=46) in the field were asked about their opinion whether the alternative classification system was suitable for daily practice via an online questionnaire (LimeSurvey). The experts consist of physiotherapists, patient representatives and policy makers. Experts were asked to score different questions about the alternative classification system, on a 9-point scale, whereby 1 was; I totally not agree and 9 was; I totally agree with the statement. Afterwards, experts had the opportunity to explain their score in open text. The experts were asked to score the following three questions:

Question 1: Do you agree with this alternative classification system?

Question 2: Do you agree with the selection of individual prognostic factors?

Question 3: Do you think that this classification system is suitable for diagnostic and prognostic use in daily physiotherapy primary care practice?

Results

Development of an alternative classification system

Of the nineteen investigated guidelines, ten describe relevant information about a classification system for NSLBP based on prognostic factors.[6,8,18–26] The remaining nine guidelines were not focused on NSLBP. To develop the alternative classification system, we combined useful components of several guidelines, where from most was based on the Dutch physiotherapy guideline from the KNGF.[6] The majority of the guidelines specified two or three prognostic profiles based on patient characteristics. Some guidelines did not provide prognostic profiles in a table, but described it narratively.[22–24] Furthermore, all guidelines described individual prognostic factors that are related with the course of recovery. See table 2 for a summary of all useful components and appendix D for the guided protocol to classify the patient cases for both classifications.

Table 2 Summary of all useful components in the guidelines for a classification system for NSLBP based on prognostic factors.

Guidelines	Year	Classification/profiles	Individual prognostic factors
American physical therapy association[21]	2012	No classification based on prognostic profiles	Depression, anxiety, catastrophizing,
A primary care back pain screening tool[26]	2008	Described three profiles based on prognostic (psychosocial) factors Low risk Medium risk High risk	Referred leg pain, comorbid pain, disability, catastrophizing, fear, anxiety, and depression
CBO guideline[24]	2003	Derived from text: 0-12 weeks acute NSLBP 12< weeks chronic NSLBP	Psychosocial factors are related with the course of recovery.
European guidelines for acute nonspecific NSLBP[19]	2006	No classification based on prognostic profiles	Described psychosocial factors are important.
European guidelines for chronic nonspecific NSLBP[20]	2006	No classification based on prognostic profiles	No advice in work-related posture, the longer someone is absent on work, the longer the re-integration, psychosocial factors are delaying recovery, heavy physique work
KNGF-guideline for low back pain[6]	2013	Described three profiles based on prognostic (psychosocial) factors Normal course of recovery Abnormal course of recovery Abnormal course of recovery (with psychosocial factors)	Many individual prognostic factors are described and focused on: back pain-related factors, individual factors, work-related factors, psychosocial factors
Ketenzorg guideline NSLBP[18]	2010	Described two profiles: Patient a <12 weeks of recovery Patient b >12 weeks of recovery	Anxiety of movement, fair avoidance, catastrophizing, passive coping strategies
NHG guideline[23]	2005	Derived from text: 6 weeks acute NSLBP 6-12 weeks sub-acute NSLBP 12 < weeks chronic NSLBP	Psychosocial factors are related with the course of recovery.
NICE[25]	2016	Advises the Start Back Screening Tool (SBT)	Avoiding normal activities based on inappropriate beliefs about their condition
Overview of clinical guidelines for NSLBP[22]	2010	Derived from text most guidelines described: 0-6 weeks acute NSLBP 6-12 weeks sub-acute NSLBP 12 < weeks chronic NSLBP	All guidelines described that psychosocial factors are related with the course of recovery.
Treatment based classification (TBC) system[8]	2015	Three treatment profiles: Medical treatment Rehabilitation treatment Self-care management	Pain catastrophizing, fear of movement, anxiety and depression

We included fourteen systematic reviews for selecting individual prognostic factors.[4,27–36] We found that catastrophizing and somatisation seems to be associated with recovery of NSLBP.[27,28] Anxiety for moving is negatively related with treatment benefits.[28–31] Patients with a high level of depression need more recovery time in comparison with people without depression.[29,31,32] Previous episodes of NSLBP may be related with delayed recovery.[30,31,33–36]

Based on the outcomes of abovementioned literature, we distinguished four prognostic profiles for LBP, all containing four characteristics. These characteristics are generally based on prognostic (psychosocial) factors. We identified prognostic factors based on: back pain-related factors, individual factors, work-related factors and psychosocial factors. The profiles are summarized in table 3, for the complete alternative classification system see appendix E.

Table 3 profiles derived from clinical guidelines

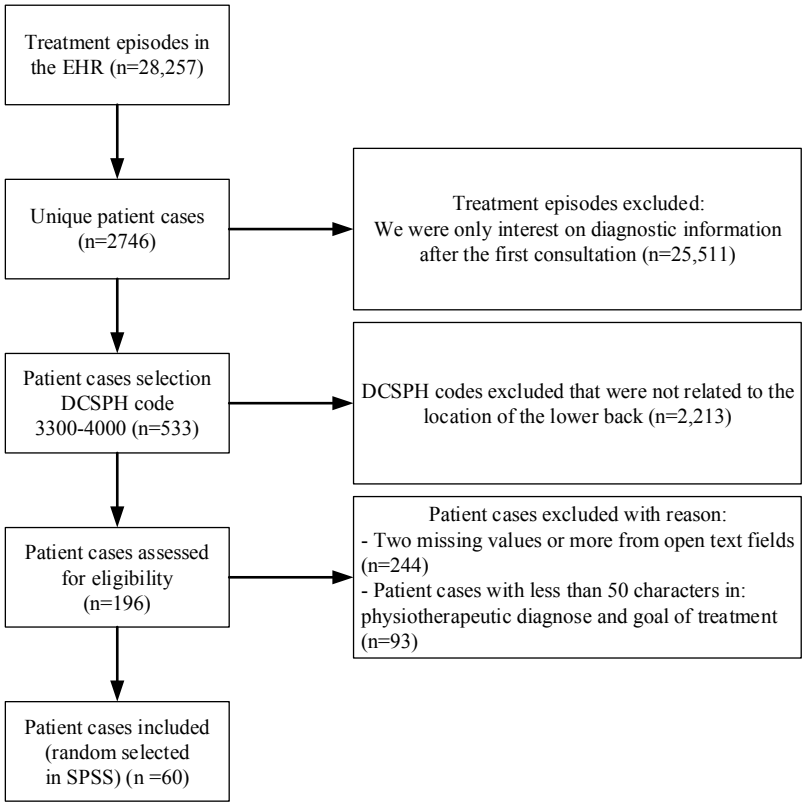
Profile A	Patients with NSLBP with a normal course of recovery. With hardly any present (psychosocial) risk factors. Normally the recovery lasts less than 6 weeks.
Profile B	Patients with NSLBP with an abnormal course of recovery. Prognostic factors could be present but often no psychosocial factors were seen. Normally the recovery lasts less than 12 weeks.
Profile C	Patients with NSLBP with an abnormal course of recovery with dominant psychosocial and/or risk factors. Normally the recovery lasts more than 12 weeks.
Profile D	This profile is for all patients with specific LBP*.

* The definition of specific LBP is described in appendix C. The selected DCSPH codes also includes patient cases with specific LBP so we included this profile.

Database

In 2014, the database included 28.257 treatment episodes from 2.746 unique patient cases, from which 36.6% was male, and the mean age was 53.7 years (S.D: 18.5 years). This is in line with the population that visited a physiotherapist in the Netherlands in 2013, namely 38.2% male and mean age 52.3 years.(9) In total 533 patient cases were related to LBP and 196 patient cases were used for a random selection of 60 patient cases (see flow-chart in figure 1).

Figure 1: Flow-chart



Descriptive statistics

The included sample consisted of 196 patient cases with a mean age of 53,7 years (S.D. 18); 80 patients (40.81%) were male. The random selection consisted of 60 patients, with a mean age of 51.5 years (S.D.17.6) and 25 (41.7%) males. The patient cases in the database were treated by 32 different physiotherapists from 12 primary care practices. See table 4 for all patient characteristics of the study population.

Table 4 Patient characteristics of the study population

Total Sample (N=196)		**Random selected Sample (N=60*)***
Gender (male)	N=80, 40.8%	N=25, 41.7%
Mean age in years	53.7 (S.D.18)	51.5 (S.D.17.6)
*Practices in the registry**	N=15	N=12
*Physiotherapists in the registry**	N=47	N=32

*Primary care practices were NSLBP patients received treatment. **Physiotherapists that treated the patient cases in the database.

Agreement DCSPH

We found that the six Cohen's kappa tests between the three observers and the DCSPH in the registry ranged between .006 and .133. The Fleiss test was .002. The agreement of all estimated kappa's can be interpreted as poor.

Agreement alternative classification system

Table 5 shows the allocation of the total study population (N=60) between the different observers using the alternative classification system. The observers were more inconsistent with profile A and B than between profile C and D.

Table 5 The allocation of the total study population (N=60) between the different observers using the alternative classification system.

	Observer 1	**Observer 2**	**Observer 3**	**Observer 4**	**Observer 5**	**Observer 6**
Profile A	17	6	22	22	26	30
Profile B	24	28	18	15	16	17
Profile C	7	12	12	13	7	5
Profile D	12	14	8	10	11	8
Total	**60**	**60**	**60**	**60**	**60**	**60**

The different profiles are presented in table 3.

The fifteen Cohen's kappa tests between the six observers ranged between .184 and .557. The agreement between the observers was mostly fair and some were moderate. The Fleiss kappa test was .291, hence the overall agreement scored fair. The overall agreement was highest for profile D (.511), followed by profile C (.324), profile A (.311) and profile B (.107).

Expert opinion

In total, 32/43 experts (response 70%) participated in the survey. The first question 'do you agree with this alternative classification system?' scored an average of 6.53 (S.D. 2.1, range 1-9), the second question 'do you agree with the selection of individual prognostic factors?') 7,31 (S.D. 1.57, range 2-9) and third question 'Do you think that this classification system is suitable for diagnostic and prognostic use in daily physiotherapy primary care practice? 6.72 (S.D. 2.11, range 1-9).

Experts could voluntarily comment to their score in open text. The following comments were given:

"Risk factors have more influence on the course of recovery than the time duration that a patient experiences pain, therefore profiles related to time duration are not adequate."

"Socioeconomic status has also a big influence on the course of recovery and treatment intensity."

"It is important to monitor whether patients are capable in self-management according to their recovery."

"It costs time and expertise to monitor risk factors in an appropriate way. That makes it hard to use in daily practice. "

"It is a useful tool, however, the individual patient is always depending the course of recovery."

"High level of restrictions during daily activities is also in possible profile 1: Patients with acute LPB pain are sometimes very immobile a few days. What is "high level" at that moment? Maybe it is not a good risk factor.

Discussion

In this study we investigated whether the DCSPH is a valid system to classify NSLBP and are the eligible alternatives. The results of our study show that the inter-rater reliability for classification of patients using DCSPH was poor. The alternative classification system based on prognostic factors scored fair to moderate. Experts indicate the alternative classification system as useful in daily practice. Therefore, the alternative classification might be more suitable for classifying of patients with NSLBP. Further research is necessary to improve the classification system based on the written feedback of the participants and test the alternative classification system in prospective studies.

This is the first scientific study that contributes to the discussions around DCSPH by investigating its reliability and validity. Recently, multiple projects started to explore eligible alternative classification methods for decreasing the administrative burden in current practice. For example, in 2016, ZN and KNGF started a project to investigate whether the DCSPH is the most suitable system in Dutch healthcare.[37]

Classification of NSLBP patients is promising for future healthcare. The Cochrane Back Review Group emphasized that identifying patient subgroups has been referred to as "the Holy Grail" of back pain.[38] Multiple researchers support this vision.[2,7,8] Additionally, the experts scored positive on the question whether the classification system was suitable for daily practice. Nevertheless, the experts could be too optimistic knowing the inter-rater agreement was fair to moderate in this study with the six observers using the alternative classification system.

Some articles in recent research suggested patient self-reported classification systems like prognostic screening instruments (PSIs).[20,25,39,40] Examples of these instruments are the STartT Back Tool (SBT) or the Örebro Musculoskeletal Screening Questionnaire (OMPSQ).[26,40] The outcome of a prognostic screening instrument will result in the allocation into subgroups based on prognostic factors. For this study, it was not possible to use prognostic screening instruments because the patient characteristics were derived from a database. Moreover, cautiousness is required with respect to interpretation of prognostic tools in primary care at this moment. In line with the conclusions of this study, Karran et al. (2017) concluded in their systematic review that PSI's in primary care scored poorly at assigning higher risk scores to individuals who develop chronic pain, than those who do not developed chronic pain.[7]

Strengths and Limitations

It should be noted that this is the first study that had the opportunity to derive important open text fields of existing patients in an electronic health record to interpret the agreement of the DCSPH system and the alternative classification system. The study population was comparable to the total population that visited a physiotherapist in the Netherlands.[9] We found a total of six physiotherapists to examine the agreement of the alternative classification system. In total, 32 physiotherapists collected the patient cases in the registry. This may result in missing relevant information, as seeing the patient in real life could provide more information and therefore be a more accurate method to classify patients.

Furthermore, it remains questionable if the DCSPH can be compared with the alternative classification system by calculating the kappa between the observers. The DCSPH counts many options in comparison with the four options in the alternative classification. Hence, it is plausible that the DCSPH will provide a lower kappa than the alternative classification.

The protocol to guide the classification of patient cases with the alternative classification system facilitated individual clinical reasoning skills of the observers. Therefore, the observers could interpret the patient cases differently from each other, which could have influenced the results. In this current study, we deliberately chose to give this room for interpretation.

Conclusion

To conclude, the inter-rater reliability was poor for the DCSPH and fair to moderate for the alternative classification system in classifying patients with NSLBP. Experts in the field were positive about the alternative classification system. It seems promising to classify patients in subgroups based on prognostic factors. Future research should focus on establishing an accurate tool to define subgroups in NSLBP.

Acknowledgements

We acknowledge colleagues, Wytse Brongers (WB), Thierry Franke (TF), Marjon Brinkman (MB), Michiel Vader (MV), Renske van Maris (RM) who participated in our study as independent observers for estimating the inter-rater reliability.

We also like to acknowledge internship supervisors dr. Simone A. van Dulmen, Guus A. Meerhof MSc and Dr. Philip J. van der Wees, for their guidance during the project.

References

1. Richardson WC. Crossing the quality chasm: a new health system for the 21th century. Inst Med. 2001;(March):1–8.
2. Foster NE, Hill JC, Doyle C, Young J. Effect of Stratified Care for Low Back Pain in Family. Ann Fam Med. 2014;12(2):102–11.
3. Foster NE, Hill JC, O'Sullivan P, Hancock M. Stratified models of care. Best Pract Res Clin Rheumatol. 2013;27(5):649–61.
4. Fagundes FRC, de Melo do Espírito Santo C, de Luna Teixeira FM, Tonini TV, Cabral CMN. Effectiveness of the addition of therapeutic alliance with minimal intervention in the treatment of patients with chronic, nonspecific low back pain and low risk of involvement of psychosocial factors: a study protocol for a randomized controlled trial (T. Trials [Internet]. 2017;18(1):49. Available from: http://trialsjournal.biomedcentral.com/articles/10.1186/s13063-017-1784-z
5. Dekker-van Weering MGH, Vollenbroek-Hutten MMR, Hermens HJ. A pilot study - the potential value of an activity-based feedback system for treatment of individuals with chronic lower back pain. Disabil Rehabil [Internet]. 2015;37(24):2250–6. Available from: http://www.ncbi.nlm.nih.gov/pubmed/25738912
6. Staal JB, Hendriks EJM, Heijmans M, Kiers H, Lutgers-Boomsma G, Rutten G, et al. KNGF-richtlijn Lage rugpijn Verantwoording en toelichting. KNGF. 2013;21.
7. Karran EL, McAuley JH, Traeger AC, Hillier SL, Grabherr L, Russek LN, et al. Can screening instruments accurately determine poor outcome risk in adults with recent onset low back pain? A systematic review and meta-analysis. BMC Med. 2017;15(1):13.
8. Alrwaily M, Timko M, Schneider M, Stevans J, Bise C, Hariharan K, et al. Treatment-Based Classification System for Low Back Pain: Revision and Update. Phys Ther [Internet]. 2016;96(7):1057–66. Available from: http://www.ncbi.nlm.nih.gov/pubmed/26637653
9. Barten D, Koppes LLJ. NIVEL Zorgregistraties - Zorg door de fysiotherapeut; jaarcijfers 2015 en trendcijfers 2011-2015. Niv Utr. 2016;1–31.
10. Stadt R. Extra controle DCSPH (Diagnose Codering Systeem Paramedische Hulp) door verzekeraars. 2013.
11. Zorgverzekeraars Nederland - Home [Internet]. [cited 2016 Dec 18]. Available from: https://www.zn.nl/
12. Beeston S. Healthcare in the Netherlands. Compet Law Insight [Internet]. 2012;11–2. Available from: http://login.westlaw.co.uk/maf/wluk/ext/app/document?sp=at24c8d4a84c-55123&crumb-action=reset&docguid=I53BCFA71837D11E19FF0EE56C38D6DB2
13. Meerhoff, Guus A. van Dulmen, Simone A. Maas, Marjo J.M. Heijblom, Karin. Nijhuis-van der, Sanden, Maria W.G. van der Wees PJ. Development and Evaluation of an Implementation Strategy for Collecting Data in a National Registry and the Use of Patient Reported Outcome Measures (PROMs) in Physical Therapy Practice: A Quality Improvement Study. Phys Ther. 2017;1–46.
14. Wees P Van Der, Dulmen S Van, Cruijsberg J, Nijhuis-van der Sanden R. Onderzoeksprogramma Kwaliteit in beweging Interim rapportage september 2014.
15. Cohen J. A coefficient of agreement for nominal scales. Educ Psychol Meas. 1960;20:37–46.
16. Fleiss JL. Measuring nominal scale agreement among many raters. Psychol Bull [Internet]. 1971;76(5):378–82. Available from: http://content.apa.org/journals/bul/76/5/378
17. Vocht de A. Basishandboek SPSS 22. Bijleveld Press; 2014. 256 p.
18. Tulder MW Van, Custers JWH, Bie R a. De, Hammelburg R, Kolhaar BGM, Kuijpers T, et al. Ketenzorgrichtlijn Aspecifieke Lage Rugklachten. CBO-richtlijn lage rugklachten [Internet]. 2010;61. Available from: https://www.nhg.org/themas/publicaties/ketenzorgrichtlijn-aspecifieke-lage-rugklachten
19. Van Tulder M, Becker A, Bekkering T, Breen A, Del Real MTG, Hutchinson A, et al. Chapter 3: European guidelines for the management of acute nonspecific low back pain in primary care. Eur Spine J. 2006;15(SUPPL. 2):169–91.
20. Airaksinen O, Brox JI, Cedraschi C, Hildebrandt J, Klaber-Moffett J, Kovacs F, et al. Chapter 4: European guidelines for the management of chronic nonspecific low back pain. Eur Spine J. 2006;15(SUPPL. 2):192–300.
21. ANTHONY DELITTO, STEVEN Z. GEORGE, LINDA VAN DILLEN, JULIE M. WHITMAN, GWENDOLYN SOWA, PAUL SHEKELLE, MD, THOMAS R. DENNINGER JJG. Low Back Pain Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. J Orthop Sport Phys Ther [Internet]. 2012;42(4):A1–57. Available from: http://www.jospt.org/doi/10.2519/jospt.2012.0301
22. Koes BW, van Tulder M, Lin C-WC, Macedo LG, McAuley J, Maher C. An updated overview of clinical guidelines for the management of non-specific low back pain in primary care. Eur Spine J

[Internet]. 2010;19(12):2075–94. Available from: http://link.springer.com/10.1007/s00586-010-1502-y
23. NHG-standaard aspecifieke lagerugpijn [Internet]. 2005. Available from: https://www.nhg.org/standaarden/volledig/nhg-standaard-aspecifieke-lagerugpijn
24. CBO richtlijn aspecifieke lage rugpijn [Internet]. 2003. Available from: http://www.kwaliteitskoepel.nl/assets/structured-files/NOV/Aspecifieke lage rugklachten 2003.pdf
25. NICE. Low back pain and sciatica in over 16s: assessment and management. 2016;
26. Hill JC, Dunn KM, Lewis M, Mullis R, Main CJ, Foster NE, et al. A primary care back pain screening tool: Identifying patient subgroups for initial treatment. Arthritis Care Res. 2008;59(5):632–41.
27. Momsen AMH, Jensen OK, Nielsen CV, Jensen C. Multiple somatic symptoms in employees participating in a randomized controlled trial associated with sickness absence because of nonspecific low back pain. Spine J [Internet]. 2014;14(12):2868–76. Available from: http://dx.doi.org/10.1016/j.spinee.2014.01.062
28. Wertli MM, Rasmussen-Barr E, Weiser S, Bachmann LM, Brunner F. The role of fear avoidance beliefs as a prognostic factor for outcome in patients with nonspecific low back pain: A systematic review. Spine J [Internet]. 2014;14(5):816–36. Available from: http://dx.doi.org/10.1016/j.spinee.2013.09.036
29. George SZ, Beneciuk JM. Psychological predictors of recovery from low back pain: a prospective study. BMC Musculoskelet Disord [Internet]. 2015;16(1):49. Available from: http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=4357055&tool=pmcentrez&rendertype=abstract
30. Janwantanakul P, Sitthipornvorakul E, Paksaichol A. Risk factors for the onset of nonspecific low back pain in office workers: A systematic review of prospective cohort studies. J Manipulative Physiol Ther [Internet]. 2012;35(7):568–77. Available from: http://dx.doi.org/10.1016/j.jmpt.2012.07.008
31. Ramond-Roquin A, Bouton C, Bègue C, Petit A, Roquelaure Y, Huez J-F, et al. Psychosocial Risk Factors, Interventions, and Comorbidity in Patients with Non-Specific Low Back Pain in Primary Care: Need for Comprehensive and Patient-Centered Care. Front Med [Internet]. 2015;2(October):73. Available from: http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=4597113&tool=pmcentrez&rendertype=abstract
32. Pinheiro MB, Ferreira ML, Refshauge K, Ordo JR, Machado GC, Prado LR, et al. Symptoms of Depression and Risk of New Episodes of Low Back Pain : A Systematic Review and Meta - Analysis. Arthritis Care Res (Hoboken). 2015;67(11):1591–603.
33. Harms MC, Peers CE, Chase D. Low back pain: what determines functional outcome at six months? An observational study. BMC Musculoskelet Disord [Internet]. 2010;11(1):236. Available from: http://www.biomedcentral.com/1471-2474/11/236
34. Helmhout PH, Staal JB, Heymans MW, Harts CC, Hendriks EJM, De Bie RA. Prognostic factors for perceived recovery or functional improvement in non-specific low back pain: Secondary analyses of three randomized clinical trials. Eur Spine J. 2010;19(4):650–9.
35. Hill JC, Fritz JM. Psychosocial influences on low back pain, disability, and response to treatment. Phys Ther. 2011;91(5):712–21.
36. Ramond A, Bouton C, Richard I, Roquelaure Y, Baufreton C, Legrand E, et al. Psychosocial risk factors for chronic low back pain in primary care-a systematic review. Fam Pract. 2011;28(1):12–21.
37. Werkgroep administratieve lasten paramedie [Internet]. Available from: http://www.minderlastenmeerzorg.nl/paramedie/gemaakte-afspraken/
38. Bouter LM, Pennick V, Bombardier C and the EB of the BRG. Cochrane Back Review Group. Spine (Phila Pa 1976). 2003;28:1215–8.
39. Hill JC, Whitehurst DGT, Lewis M, Bryan S, Dunn KM, Foster NE, et al. Comparison of stratified primary care management for low back pain with current best practice (STarT Back): A randomised controlled trial. Lancet [Internet]. 2011;378(9802):1560–71. Available from: http://dx.doi.org/10.1016/S0140-6736(11)60937-9
40. Linton SJ, Nicholas M, MacDonald S. Development of a Short Form of the Örebro Musculoskeletal Pain Screening Questionnaire. Spine (Phila Pa 1976) [Internet]. 2011;36(22):1891–5. Available from: http://content.wkhealth.com/linkback/openurl?sid=WKPTLP:landingpage&an=00007632-201110150-00013

Appendix A DCSPH

DiagnoseCoderingsSysteem Paramedische Hulp DCSPH

SITIE I OFDGROEP CHAAMSLOKALISATIE	POSITIE II SUBGROEP LICHAAMSLOKALISATIE	POSITIE III HOOFDGROEP PATHOLOGIE	POSITIE IV SUBGROEP PATHOLOGIE	POSITIE III HOOFDGROEP PATHOLOGIE	POSITIE IV SUBGROEP PATHOLOGIE
OOFD	0 Achterzijde hoofd	0 CHIRURGIE	0 Amputatie	5 LONG	0 Cara
ALS	1 Aangezicht	BEWEGINGSAPPARAAT	1 Gew richten, uitgezonderd w ervelkolom, meniscectomie	AANDOENINGEN	1 Aangeboren afw ijkingen tractus res
	2 Regio buccalis inclusief de kaak		synovectomie		2 Pneumothorax / longoedeem
	3 Regio cervicalis (oppervlakkige w eke delen)		2 Botten, uitgezonderd w ervelkolom		3 Luchtw eginfecties
	9 Gecombineerd **		3 Meniscectomie, synovectomie		4 COPD
HORAX	0 Regio thoracalis anterior (oppervlakkige w eke delen)		4 Pees, spier, ligament		5 Emfyseem
JIK	1 Regio thoracalis dorsalis (oppervlakkige w eke delen)		5 Wervelkolom		6 Interstitiële longaandoeningen incl. s
WENDIGE ORGANEN	2 Ribben I Sternum		6 Verw ijderde osteosynthese materiaal	6 OVERIGE INTERNE	0 Diabetes mellitus
	3 Regio abdominalis (oppervlakkige w eke delen)		8 Postoperatieve contractuur / atrofie	AANDOENINGEN,	1 Immuniteitsstoornissen
	4 Regio lumbalis (oppervlakkige w eke delen)		9 Overige chirurgie van het bew egingsapparaat	NIEUW VORMINGEN,	2 Spastisch colon
	5 Inw endige organen thorax		(incl. nieuw vormingen)	CHIRURGIE NIET	4 Adipositas
	6 Inw endige organen abdomen	1 ORTHOPEDISCHE	0 Aseptische botnecrose	BEWEGINGSAPPARAAT	5 Overige-, erfelijke aandoeningen
	9 Gecombineerd **	AANDOENINGEN	1 Afw ijkingen w ervelkolom / bekken		8 Chirurgie niet bew egingsapparaat (r
ERVELKOLOM	0 Cervicale w ervelkolom	ZONDER	2 Skeletafw ijkingen (aangeboren)		9 Nieuw vormingen zonder chirurgie
	1 Cervico-thoracale w ervelkolom	CHIRURGIE	3 Ossificatiestoornis	7 NEUROLOGISCHE	0 Perifere zenuw aandoening
	2 Thoracale w ervelkolom		4 Ontstekingen / nieuw vormingen in het skelet	AANDOENINGEN	1 Cerebellaire aandoeningen / enceph
	3 Thoraco-lumbale w ervelkolom		5 Pseudo-arthrose / epiphysiolysis / apofysitiden		2 Cerebrovasculair accident / centrale
	4 Lumbale w ervelkolom		6 Standsafw ijkingen extremiteiten		3 Multiple sclerose / ALS / spinale spie
	5 Lumbo-sacrale w ervelkolom		7 Afw ijkingen gew richten, uitgezonderd w ervelkolom /		4 Parkinson / extrapyramidale aandoe
	6 Sacrum en S.I. gew richten		bekken		5 HNP met radiculair syndroom
	7 Coccygis		8 Overige orthopedische aandoeningen zonder chirurgie		6 Dw arslaesie (incl. traumatisch en pa
	9 Gecombineerd / totale w ervelkolom **		9 Dupuytren		7 Neurotraumata
CHOUDER	0 Art. humeri (inclusief w eke delen)	2 SURMENAGE	0 Epicondylitis / tendinitis / tendovaginitis		8 Overige neurologische aandoeninge
VENARM	1 Regio clavicularis (incl. aangrenzende gew richten)	DEGENERATIEVE	1 Bursitis (niet traumatisch) / capsulitis		ziekten van neurologische oorsprong
	2 Regio scapularis	AANDOENINGEN	2 Chondropathie / arthropathie / meniscuslaesie		9 Psychomotore retardatie / ontw ikkeli
	3 Bovenarmregio	DYSTROFIE	3 Arthrose	8 SYMPTOMATOLOGIE	0 Symptomatologie (nog zonder aanw
	9 Gecombineerd **		4 Osteoporose	PSYCHOSOMATIEK	1 Psychosomatische aandoeningen
LLEBOOG	0 Art. cubiti (inclusief w eke delen)		5 Syndroom van Costen	UROLOGIE	2 Hyperventilatie zonder longpathologi
DERARM	1 Onderarmregio		6 Spier-, pees- en fascie aandoeningen	GYNAECOLOGIE	3 proctologie (anus-endeldarm)
ND	2 Handw ortel / polsgew richt (inclusief w eke delen)		7 Discusdegeneratie, coccygodynie / HNP		4 MDL (maag-darm-lever)
	3 Middenhandregio (inclusief w eke delen)		8 Sudeckse a(dys)trofie		5 Seksuologie
	4 Vingers	3 TRAUMATISCHE	1 Gew richtscontusie / -distorsie		6 Urine incontinentie, incontinentia urin
	5 Duim	AANDOENINGEN	2 Luxatie (sub-)		7 Fecale incontinentie, incontinentia al
	9 Gecombineerd **	UITGEZONDERD	3 Spier-, peesruptuur / haematoom		8 Urologie
EKKEN	0 Bekkenregio	CHIRURGIE,	4 Hydrops / haemarthros / traumatisch oedeem		9 Gynaecologie
VENBEEN	1 Liesregio	NEUROTRAUMATA	5 Myositis ossificans / adhaesies / traumatische bursitis	9 REUMATISCHE	0 Reumatoïde arthritis, chronische reu
	2 Art. coxae (inclusief w eke delen)	EN DWARSLAESIE	6 Fracturen	AANDOENINGEN	1 Juveniel reuma
	3 Bovenbeenregio (inclusief w eke delen)		7	HUIDAANDOENINGEN	2 (Poly-) arthritis
	4 Bekkenbodemregio (incl organen kleine bekken)		8 Whiplash injury (nektrauma)		3 Spondylitis ankylopoetica / ankylose
	9 Gecombineerd **		9 Status na brandw onden		4 Overige reumatische- en collageena
NIE	0. Art. genus (inclusief patella en w eke delen)	4 HART- VAAT- EN	0 Hartaandoeningen (niet genoemd onder 41 t/m 49)		5 Littekenw eefsel
DERBEEN	1 Onderbeenregio	LYMFEVATAANDOENINGEN	1 Myocard-infarct (AMI)		6 Sclerodermie
ET	2 Bovenste spronggew richt (inclusief w eke delen)	(INCLUSIEF	2 Status na coronary artery bypassoperatie (CABG)		7 Psoriasis
	3 Onderste spronggew richt (inclusief w eke delen)	CARDIOCHIRURGIE)	3 Status na percutane transluminale coronair		8 Hyperhydrosis
	4 Voetw ortel		angioplastiek (PTCA)		9 Overige huidaandoeningen
	5 Middenvoet		4 Status na hartklepoperatie		
	6 Voorvoet (tenen)		5 Status na operatief gecorrigeerde congenitale		
	9 Gecombineerd **		afw ijkingen		
IET IN GEBRUIK			6 Lymfevataandoeningen / oedeem		
EER DAN ÉÉN	0 Eén lichaamszijde		7 Ulcus / decubitus / necrose		
OFDGROEP	1 Bovenste lichaamshelft		8 Algemeen vaatlijden, circulatiestoornissen		
	2 Onderste lichaamshelft		9		
	3 Gegeneraliseerd				
	4 Meer lokalisaties				

ecombineerd: een combinatie van lichaamslokalisaties binnen een hoofdgroep

Appendix B

Search
(nonspecific low back pain) AND (prognostic factors AND "last 5 years"[PDat])
(nonspecific low back pain) AND (risk factors AND "last 5 years"[PDat])

Filter: review

Websites searched for relevant guidelines:
www.fysionet.nl - www.nhg.nl - richtlijnendatabase.nl - www.nice.org.uk - www.sign.ac.uk - www.nhs.uk - www.apta.org - www.oecd.org - ichom.org - www.aezq.de - www.qualitymeasures.ahrq.gov - www.aqua-institut.de - www.qualityforum.org - www.productivity.nhs.uk - www.indicators.scot.nhs.uk/Reports/Published.html - www.chi.nhs.uk/ratings/ - www.rand.org/ - www.guidelines.gov – http://www.jospt.org/

Appendix C

Nonspecific NSLBP pain

Definition nonspecific low back pain; back pain between the lowest ribs and the buttock (potentially with spread pain down the leg), for which no specific physical cause is found in a valid matter[1(staal)]

Specific NSLBP

Definition specific low back pain; back pain with specific physical cause, which need to be found in additional diagnostics. Those additional diagnostics is beyond the scope of physiotherapists or manual therapists. Lumbosacral radicular syndrome is a shape of radicular pain in one leg, which may have neurological deficits[1(staal)]

Appendix D Guided protocol

Onderzoeksprotocol onafhankelijke onderzoekers

Inleiding

In de eerstelijns fysiotherapie in Nederland maken we op dit moment gebruik van de Diagnose Classificatie Systeem Paramedische Hulp (DCSPH) om patiënten te classificeren en te declareren naar de zorgverzekeraar. Het classificeren van patiënten in homogene groepen kan daarentegen ook inzichten geven in efficiëntie en effectiviteit van zorg. Het is echter de vraag of het huidige classificatiesysteem een valide middel is om patiënten goed te classificeren.

Een mogelijk alternatief systeem is patiënten indelen in profielen. Bijvoorbeeld bij patiënten met aspecifieke lage rugklachten (LBP) adviseert men in vele richtlijnen en wetenschappelijk onderzoek om patiëntprofielen te gebruiken in het diagnostisch proces. Dit omdat de aanwezige herstel belemmerende- en psychosociale factoren de duur en de mate van het herstel beïnvloeden. Om te komen tot goede profielen hebben we een literatuursearch uitgevoerd om richtlijnen en relevante artikelen te identificeren die kunnen helpen om tot homogene groepen te komen om kwaliteit van de fysiotherapie zorg voor patiënten met rugklachten transparant kunnen maken. Hier hebben we nationale en internationale richtlijnen gebruikt om een profielen systeem te maken om patiënten in te delen.

Definitie Aspecifieke lage rugpijn (uit KNGF richtlijn lage rugpijn)

Aspecifieke lage rugpijn (LBP) wordt gedefinieerd als rugpijn waarvoor geen aanwijsbare specifieke oorzaak voor de klachten te vinden is. Dit is het geval bij ongeveer 90% van alle patiënten met lage rugpijn. Bij deze patiënten staat pijn in de lumbosacrale regio op de voorgrond. Ook kan uitstraling in de bil en het bovenbeen optreden. De pijn kan verergeren door bepaalde houdingen, bewegingen en het tillen of verplaatsen van lasten. Er zijn geen algemene ziekteverschijnselen zoals koorts of gewichtsverlies. De pijn kan continu aanwezig zijn of in episoden optreden.

Definitie specifieke lage rugpijn (uit KNGF richtlijn lage rugpijn) :

Specifieke lage rugpijn wordt onderscheiden in de volgende kenmerken:

Het lumbosacraal radiculair syndroom: een vorm van specifieke lage rugpijn met radiculaire pijn in 1 been, die al dan niet gepaard gaat met neurologische uitvalsverschijnselen.

Rugpijn als gevolg van een mogelijk ernstige onderliggende specifieke aandoening, zoals (osteoporotische) wervelfracturen, maligniteiten, spondylitis ankylopoetica, ernstige vormen van kanaalstenose, of ernstige vormen van spondylolisthesis.

Doel

Dit protocol dient als handleiding te dienen voor een onderzoek naar het indelen van patiënten met LBP met behulp van zowel DCSPH als patiëntprofielen. We proberen hiermee inzicht te krijgen in de variatie van coderen met behulp van de DCSPH methode. Hiervoor selecteren we data van elektronische patiëntendossiers uit de landelijke database fysiotherapie (LDF). Twee of meer onderzoekers met een fysiotherapeutische achtergrond zullen onafhankelijk van elkaar patiënten indelen. Naderhand proberen we een beeld te krijgen in welke mate er overeenstemming is tussen de onderzoekers bij de twee gebruikte classificatie systemen.

Procedure
Er zijn 60 dossiers geselecteerd waar procesvariabelen van fysiotherapeuten beschreven staan. Per patiëntdossier zijn de volgende gegevens bekend:

- Geslacht (m/v)
- Geboortejaar (4 cijfers)
- Hulpvraag (open veld)
- Diagnose (open veld)
- Behandeldoel (open veld)
- Duurfunctioneringsproblemen (duur van de klacht in weken, NULL=niet bekend)
- Verwacht herstel (0= niet te bepalen, R=Reductie, S=Stabilisatie, handhaving of verminderen van progressie, V= volledig)

Het is de bedoeling u de patiënten classificeert op basis van bovenstaande procesvariabelen voor zowel de DCSPH codering als de profielenmethode. De procesvariabelen zullen per patiënt weergegeven worden in SPSS. Het gebruik van beide classificaties worden toegelicht in dit document. Tijdens het indelen is het belangrijk dat de onafhankelijke onderzoekers niet met elkaar spreken om ervoor te zorgen dat uitkomsten niet beïnvloed worden. Wij vragen u om alle 60 dossiers in één keer te lezen en classificeren. Naderhand zal gekeken worden wat de overeenstemming is tussen beide onderzoekers.
Stappenplan:

- Open het SPSS bestand.
- U ziet links een rij van patiënt 1 tot en met 60, bij iedere patiënt staan de procesvariabelen horizontaal beschreven.
- Na het lezen kunt u aan het einde van de procesvariabelen in twee aparte rijen de DCSPH code (viercijferige code) en profielen classificatie toekennen (A, B, C, of D).
- Als u twijfelt over het indelen, dient u toch een code of profiel toe te kennen. In SPSS is er een variabelen aangemaakt voor opmerkingen, zo kunt u bijvoorbeeld aangeven waarom u twijfelde.
- Als u alle patiënten heeft geclassificeerd kunt u het SPSS bestand terugsturen naar Koen Verburg

Classificeren met behulp van DCSPH codering
Het classificeren van patiënten met behulp van de DCSPH codering bestaat uit een vier codes. Twee codes refereren naar een locatie en de andere twee naar de pathologie, zegge: Code 1: Hoofdgroep lichaamslocatie Code 2: Subgroep lichaamslocatie Code 3: Hoofdgroep pathologie Code 4: Subgroep pathologie. Deze codering is waarschijnlijk wel bekend aangezien u deze in de dagelijks praktijk ook gebruikt. In bijlage 1 staat het coderingsysteem helder weergegeven.

Er kunnen dossiers bijzitten waar u twijfelt welke DCSPH codering geschikt is, of waar naar uw mening informatie mist om een code te kiezen. Als dit het geval is vragen wij u om toch een codering toe te kennen.

Classificeren op basis van patiënt profielen
In tabel 1 ziet u drie prognostische profielen met daarbij 4 kenmerken. Deze kenmerken zijn samengebracht uit nationale en internationale richtlijnen maar hoofdzakelijk uit de richtlijn van het KNGF. In tabel 2 ziet u herstelbelemmerende factoren en in tabel 3 psychosociale factoren welke u kunnen helpen tot het classificeren. Het is belangrijk om te realiseren dat deze factoren in meerdere profielen voor kunnen komen. Uiteindelijk bepaalt u op basis van uw klinische blik het totaalbeeld van de patiënt tot welk profiel een patiënt behoort.

Evenals bij de DCSPH codering dient u na het lezen van de procesvariabelen in SPSS de patiënten in te delen in profiel A,B, C of D. Wanneer u moeite heeft of twijfelt over het indelen, willen wij u vragen om toch een profiel toe te kennen. In SPSS is er een variabelen aangemaakt voor opmerkingen, zo kunt u bijvoorbeeld aangeven waarom u twijfelde.

Toelichting bij profielen

Profiel A Dit zijn patiënten met LBP die een gunstige prognose hebben, hier zijn weinig tot geen herstelbelemmerende en psychosociale factoren aanwezig, over het algemeen duren de klachten minder dan zes weken.

Profiel B heeft een afwijkend beloop met ongunstige prognostische factoren. Zo kunnen er herstelbelemmerende factoren aanwezig zijn, vaak zonder hele duidelijke psychosociale factoren. Je verwacht hierbij een langer herstel, maar vaak minder dan 12 weken.

Profiel C is een zeer afwijkend beloop met herstelbelemmerende factoren en/of duidelijke psychosociale factoren en een duur van langer dan twaalf weken.

Profiel D In dit profiel kunt u alle cases plaatsen die specifieke rugklachten betreffen. Zie hiervoor de definitie van het KNGF aan het begin van dit protocol. Er zijn echter ook uitzonderingen, wanneer bijvoorbeeld een patiënt zich meld die 10 jaar geleden geopereerd is aan zijn rug en nu met rugklachten komt, kan dit ook om aspecifieke rugpijn gaan. Het is aan u als onderzoeker en fysiotherapeut om met de gegevens die u heeft in te schatten of het specifiek of aspecifiek is.

Per kenmerk in tabel 1 zijn er verschillende procesvariabelen in het SPSS bestand te vinden die kunnen helpen bij het indelen:

Beloop: Verwacht herstel, hulpvraag, diagnose en hoofddoel

Herstelbelemmerende factoren: Hulpvraag, diagnose, hoofddoel en geboortejaar

Psychosociale factoren: Verwacht herstel, hulpvraag, diagnose, hoofddoel

Duur klachten: Hulpvraag en duur functioneren problemen in weken

Appendix E Prognostic profiles

Table 1 prognostic profile

Prognostic profiles	Course	Prognostic risk factors	Prognostic psychosocial factors	Length of recovery
Profile A	Normal course of recovery	No risk factors (see table 2)	Non dominant psychosocial factors (see table 4)	Less than 6 weeks
Profile B	Abnormal course of recovery	Risk factors often present (see table 2)	Non dominant psychosocial factors (see table 4)	Less than 12 weeks
Profile C	Abnormal course of recovery	Risk factors often present (see table 2)	Dominant psychosocial factors often present (see table 4)	More than 12 weeks
Profile D	Specific low back pain			

Table 2 Examples of prognostic risk factors in NSLBP	
Back pain-related factors	1. High level of restrictions during daily activities 2. Spread pain down the leg
Individual factors	1. Elderly age 2. Poor health status 3. Episodes of NSLBP in the past
Work-related factors	1. No advice in work-related posture 2. The longer someone is absent on work, the longer the re-integration 3. Bad relationship with colleagues 4. Heavy physique work

Table 3 Examples of Prognostic psychosocial factors
1. Extraordinary anxiety for moving (kinesiophobia) 2. Avoiding activities 3. Catastrophizing ideas about pain 4. Passive coping strategies 5. Depression 6. Somatisation

Samenvatting

Efficiëntie en effectiviteit zijn kern waarden in kwaliteit van zorg. Het classificeren van patiënten in subgroepen kan inzicht geven in verschillende lagen van efficiëntie en effectiviteit. In Nederland gebruiken we de Diagnose Classificatie Systeem Paramedische Hulp*"* (DCSPH) om patiënten te classificeren. Het is echter de vraag of dit een valide middel is en of er geen betere alternatieven zijn. Patiënten met aspecifieke lage rugklachten zijn gekozen voor verder onderzoek naar de DCSPH. Het doel van deze studie is om te onderzoeken wat de intra beoordelaars betrouwbaarheid is van de DCSPH en of er geen betere alternatieven zijn

Methode Deze studie maakt gebruik van een retrospectieve mixed method design. Allereerst is er een literatuursearch naar potentiele classificatie methode gebaseerd op prognostische factoren uitgevoerd. Ten tweede hebben we gebruik gemaakt van een database hoe de DCSPH en een alternatief classificatie systeem in de huidige praktijk gebruikt wordt. Als derde hebben we gekeken wat de intra beoordelaarsbetrouwbaarheid is van de DCSPH en het alternatief classificatie systeem is. Tenslotte, hebben we gevraagd aan experts in het werkveld wat zei vinden van het alternatieve classificatie systeem.

Resultaten We hebben een alternatieve classificatie systeem ontwikkeld op basis van tien richtlijnen en veertien systematic reviews. Daarna hebben we random zestig patiëntendossiers uit een database geselecteerd om de verschillen te bekijken tussen beide systemen, dit is beoordeel door 6 fysiotherapeuten. De kappa voor de DCSPH kwam tussen de .006 en .133 the overall Fleis kappa was .002. De kappa voor het alternatieve classificatie systeem kwam tussen de .184 en .557 en de overall Fleiss kappa was .291. Bovendien benoemde experts dat het alternatieve systeem bruikbaar was voor in de praktijk.

Conclusie De intra beoordelaarsbetrouwbaarheid was slecht voor de DCSPH en matig tot gemiddeld voor het alternatieve classificatie systeem om aspecifieke late rugpijn te classificeren. Toekomstig onderzoek moet zijn focus leggen op het formuleren van accurate subgroepen voor aspecifieke lage rugpijn.