

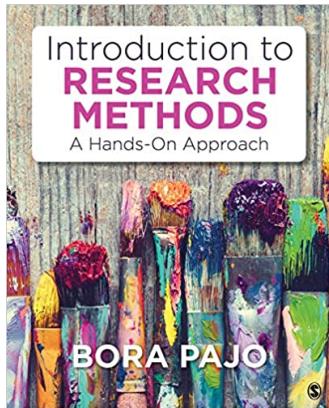


RESEARCH METHODS LEVEL 1

6 Patient-Reported Outcome Measures

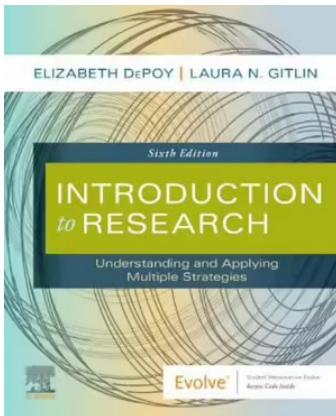
Class Outline

- Patient Reported Outcome Measures (PROMs)
- Examples of Pain PROMs (including psychosocial factors of pain PROMs)
- Self-perceived measures of health PROM
- Visit-specific satisfaction PROM
- Examples of Quality of Life (QoL) PROMs
- Examples of Mental Health PROMs
- The Value of PROMs
 - Patient-focussed
 - Best quality care
 - Safety
 - Value based care
 - Benchmarking
- SPINE IQ and CareResponse



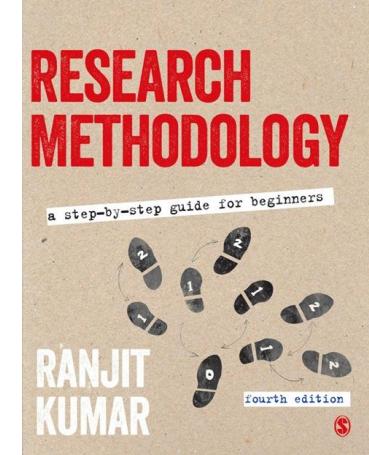
Book References to support Power Points

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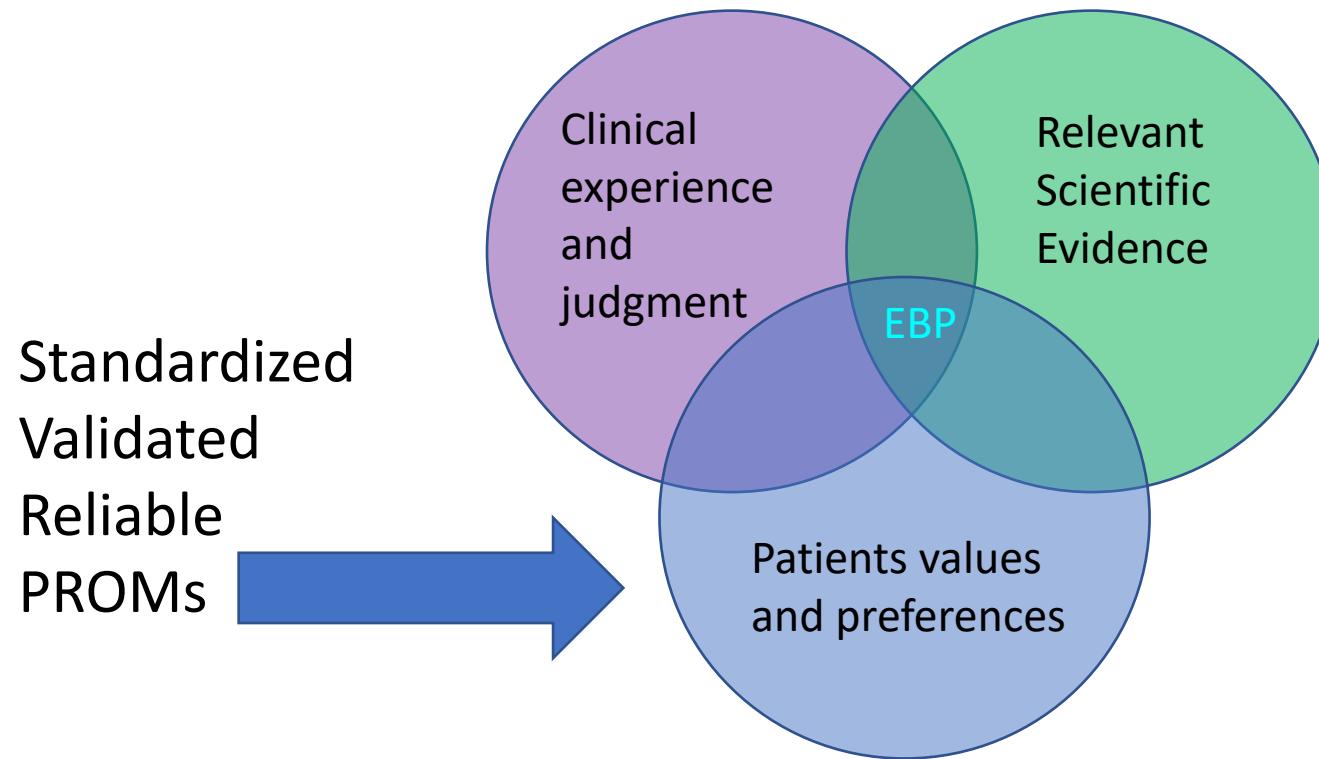
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Patient-reported outcome measures (PROMs)

- Tools used to understand health outcomes from the perspective of the patient.
- They are increasingly seen as an important source of information to guide quality and safety improvement in health care.
- They are standardized, validated questionnaires about things like pain, physical functioning, symptoms, psychological distress, or quality of life.
- PROMs can be
 - generic (applicable across a variety of disease states or conditions)
 - Condition/disease/population-specific
- PROMs can be used to measure the change in scores following a health intervention by comparing patients' self-reported health pre and post a period of care.
- Are increasingly being used as a quality improvement tool.
- Data can be used to monitor outcomes of individual care that can cumulate into clinical registries that can assist in identifying effective healthcare practice and benchmarking the performance of healthcare providers.



Patient-Focused, Evidence-Based Practice





3 levels of use for PROMs

1. The Clinical Encounter level

PROMs can be used to understand, evaluate and enhance interactions between patients and providers, including the decisions made about the care plan for an individual. These uses require individual-level data collected in real time from patients that can be available for the clinicians in a timely way for use during the consultation. PROMs data aggregated across groups of patients (e.g., the multi-practice/professional benchmarking level) may also be used to inform decision-making with individual patients.

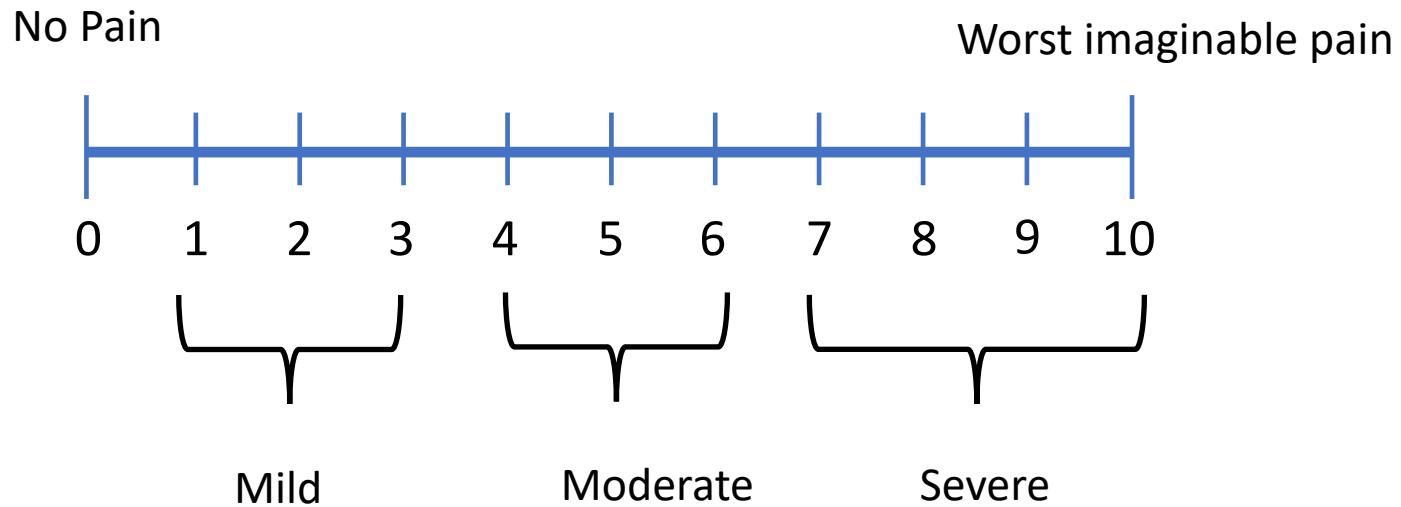
2. Multi-practice/Professional benchmarking level

PROMs can be used to understand the factors that influence outcomes. Used at this level it can be used alongside other clinical research when it comes to clinical decision-making (as noted above). As a clinician you can also use this profession wide PROMs data to see whether your patient results (collected during the clinical encounter level above) stack up against the profession in general. If you get worse results, maybe you need to take additional seminars. If you are getting above average results, maybe you should consider giving seminars to others.

3. Policy and decision-making level

PROMs can also be used to help decision-makers establish and evaluate policies designed to benefit whole populations. This includes population surveillance of trends in outcomes, identifying factors associated with 'value' in health care to inform payment models and informing quality improvement activities at a system level, such as standard setting, adherence to clinical guidelines and performance measurement across healthcare organizations.

Pain Rating Scale



Visual Analogue Scale or (VAS)
Numeric Rating Scale (NRS)

Roland Morris Disability Questionnaire

When your back hurts, you may find it difficult to do some of the things you normally do. This list contains sentences that people have used to describe themselves when they have back pain. When you read them, you may find that some stand out because they describe you today. As you read the list, think of yourself today. When you read a sentence that describes you today, put a tick against it. If the sentence does not describe you, then leave the space blank and go on to the next one. Remember, only tick the sentence if you are sure, it describes you today.

1. I stay at home most of the time because of my back.
2. I change position frequently to try and get my back comfortable.
3. I walk more slowly than usual because of my back.
4. Because of my back I am not doing any of the jobs that I usually do around the house.
5. Because of my back, I use a handrail to get upstairs.
6. Because of my back, I lie down to rest more often.
7. Because of my back, I must hold on to something to get out of an easy chair.
8. Because of my back, I try to get other people to do things for me.
9. I get dressed more slowly than usual because of my back.
10. I only stand for short periods of time because of my back.
11. Because of my back, I try not to bend or kneel down.
12. I find it difficult to get out of a chair because of my back.
13. My back is painful almost all the time.
14. I find it difficult to turn over in bed because of my back.
15. My appetite is not very good because of my back pain.
16. I have trouble putting on my socks (or stockings) because of the pain in my back.
17. I only walk short distances because of my back.
18. I sleep less well because of my back.
19. Because of my back pain, I get dressed with the help from someone else.
20. I sit down for most of the day because of my back.
21. I avoid heavy jobs around the house because of my back.
22. Because of my back pain, I am more irritable and bad tempered with people than usual.
23. Because of my back, I go upstairs more slowly than usual.
24. I stay in bed most of the time because of my back.

Oswestry Disability Index

This questionnaire has been designed to give us information as to how your back or leg pain is affecting your ability to manage in everyday life. Please answer by checking ONE box in each section for the statement which best applies to you. We realize you may consider that two or more statements in any one section apply but please just shade out the spot that indicates the statement which most clearly describes your problem.

Section 1 – Pain intensity

- I have no pain at the moment
- The pain is very mild at the moment
- The pain is moderate at the moment
- The pain is fairly severe at the moment
- The pain is very severe at the moment
- The pain is the worst imaginable at the moment

Section 2 – Personal care (washing, dressing etc)

- I can look after myself normally without causing extra pain
- I can look after myself normally but it causes extra pain
- It is painful to look after myself and I am slow and careful
- I need some help but manage most of my personal care
- I need help every day in most aspects of self-care
- I do not get dressed, I wash with difficulty and stay in bed

Section 3 – Lifting

- I can lift heavy weights without extra pain
- I can lift heavy weights but it gives extra pain
- Pain prevents me from lifting heavy weights off the floor, but I can manage if they are conveniently placed eg. on a table
- Pain prevents me from lifting heavy weights, but I can manage light to medium weights if they are conveniently positioned
- I can lift very light weights
- I cannot lift or carry anything at all

Section 4 – Walking*

- Pain does not prevent me walking any distance
- Pain prevents me from walking more than 1 mile
- Pain prevents me from walking more than 1/2 mile
- Pain prevents me from walking more than 100 yards
- I can only walk using a stick or crutches
- I am in bed most of the time

Section 5 – Sitting

- I can sit in any chair as long as I like
- I can only sit in my favourite chair as long as I like
- Pain prevents me sitting more than one hour
- Pain prevents me from sitting more than 30 minutes
- Pain prevents me from sitting more than 10 minutes
- Pain prevents me from sitting at all

Section 6 – Standing

- I can stand as long as I want without extra pain
- I can stand as long as I want but it gives me extra pain
- Pain prevents me from standing for more than 1 hour
- Pain prevents me from standing for more than 30 minutes
- Pain prevents me from standing for more than 10 minutes
- Pain prevents me from standing at all

Section 7 – Sleeping

- My sleep is never disturbed by pain
- My sleep is occasionally disturbed by pain
- Because of pain I have less than 6 hours sleep
- Because of pain I have less than 4 hours sleep
- Because of pain I have less than 2 hours sleep
- Pain prevents me from sleeping at all

Section 8 – Sex life (if applicable)

- My sex life is normal and causes no extra pain
- My sex life is normal but causes some extra pain
- My sex life is nearly normal but is very painful
- My sex life is severely restricted by pain
- My sex life is nearly absent because of pain
- Pain prevents any sex life at all

Section 9 – Social life

- My social life is normal and gives me no extra pain
- My social life is normal but increases the degree of pain
- Pain has no significant effect on my social life apart from limiting my more energetic interests eg, sport
- Pain has restricted my social life and I do not go out as often
- Pain has restricted my social life to my home
- I have no social life because of pain

Section 10 – Travelling

- I can travel anywhere without pain
- I can travel anywhere but it gives me extra pain
- Pain is bad but I manage journeys over two hours
- Pain restricts me to journeys of less than one hour
- Pain restricts me to short necessary journeys under 30 minutes
- Pain prevents me from travelling except to receive treatment

ODI Interpretation of scores

0% to 20%: minimal disability:

The patient can cope with most living activities. Usually, no treatment is indicated apart from advice on lifting sitting and exercise.

21%-40%: moderate disability:

The patient experiences more pain and difficulty with sitting, lifting and standing. Travel and social life are more difficult, and they may be disabled from work. Personal care, sexual activity and sleeping are not grossly affected, and the patient can usually be managed by conservative means.

41%-60%: severe disability:

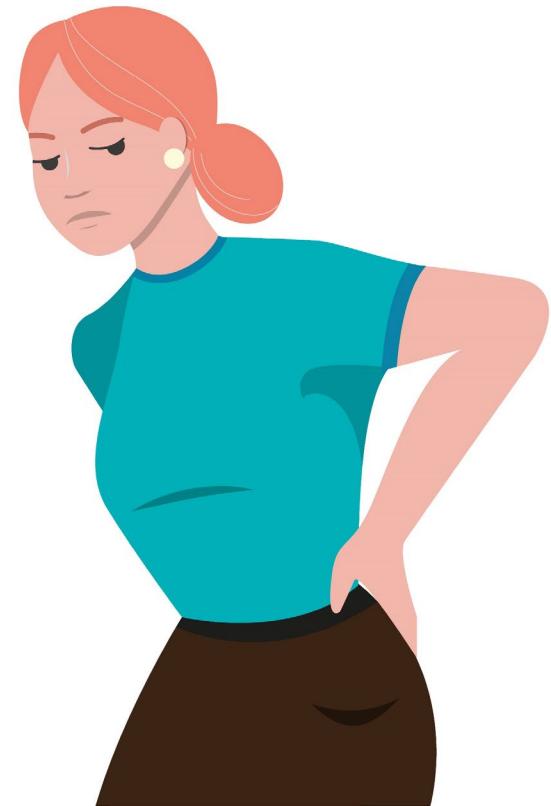
Pain remains the main problem in this group, but activities of daily living are affected. These patients require a detailed investigation.

61%-80%: crippled:

Back pain impinges on all aspects of the patient's life. Positive intervention is required.

81%-100%:

These patients are either bed-bound or exaggerating their symptoms.



Neck Disability Index (NDI)

- Developed by Howard Vernon and Sil Mior both chiropractors and PhDs.
- The Neck Disability Index (NDI) is a modification of the Oswestry Low Back Pain Disability Index.
- The NDI is a PROM that is condition-specific (about neck disability), testing people's functional status with 10 questions about neck pain, personal care, lifting, reading, headaches, concentration, work, driving, sleeping and recreation.
- The NDI is the most commonly used self-report measure for neck pain
- The NDI is translated in many languages (Greek, German, Dutch, Korean, Spanish, French) each with its own validity and reliability outcomes.
- The NDI can be used to evaluate the patient's status at their first visit and to evaluate the evolution during their care.



Neck Disability Index (NDI)

Section 1: Pain Intensity

- I have no pain at the moment
- The pain is very mild at the moment
- The pain is moderate at the moment
- The pain is fairly severe at the moment
- The pain is very severe at the moment
- The pain is the worst imaginable at the moment

Section 2: Personal Care (Washing, Dressing, etc.)

- I can look after myself normally without causing extra pain
- I can look after myself normally but it causes extra pain
- It is painful to look after myself and I am slow and careful
- I need some help but can manage most of my personal care
- I need help every day in most aspects of self care
- I do not get dressed, I wash with difficulty and stay in bed

Section 3: Lifting

- I can lift heavy weights without extra pain
- I can lift heavy weights but it gives extra pain
- Pain prevents me lifting heavy weights off the floor, but I can manage if they are conveniently placed, for example on a table
- Pain prevents me from lifting heavy weights but I can manage light to medium weights if they are conveniently positioned
- I can only lift very light weights
- I cannot lift or carry anything

Section 4: Reading

- I can read as much as I want to with no pain in my neck
- I can read as much as I want to with slight pain in my neck
- I can read as much as I want with moderate pain in my neck
- I can't read as much as I want because of moderate pain in my neck
- I can hardly read at all because of severe pain in my neck
- I cannot read at all

Section 5: Headaches

- I have no headaches at all
- I have slight headaches, which come infrequently
- I have moderate headaches, which come infrequently
- I have moderate headaches, which come frequently
- I have severe headaches, which come frequently
- I have headaches almost all the time

Section 6: Concentration

- I can concentrate fully when I want to with no difficulty
- I can concentrate fully when I want to with slight difficulty
- I have a fair degree of difficulty in concentrating when I want to
- I have a lot of difficulty in concentrating when I want to
- I have a great deal of difficulty in concentrating when I want to
- I cannot concentrate at all

Section 7: Work

- I can do as much work as I want to
- I can only do my usual work, but no more
- I can do most of my usual work, but no more
- I cannot do my usual work
- I can hardly do any work at all
- I can't do any work at all

Section 8: Driving

- I can drive my car without any neck pain
- I can drive my car as long as I want with slight pain in my neck
- I can drive my car as long as I want with moderate pain in my neck
- I can't drive my car as long as I want because of moderate pain in my neck
- I can hardly drive at all because of severe pain in my neck
- I can't drive my car at all

Section 9: Sleeping

- I have no trouble sleeping
- My sleep is slightly disturbed (less than 1 hr sleepless)
- My sleep is mildly disturbed (1-2 hrs sleepless)
- My sleep is moderately disturbed (2-3 hrs sleepless)
- My sleep is greatly disturbed (3-5 hrs sleepless)
- My sleep is completely disturbed (5-7 hrs sleepless)

Section 10: Recreation

- I am able to engage in all my recreation activities with no neck pain at all
- I am able to engage in all my recreation activities, with some pain in my neck
- I am able to engage in most, but not all of my usual recreation activities because of pain in my neck
- I am able to engage in a few of my usual recreation activities because of pain in my neck
- I can hardly do any recreation activities because of pain in my neck
- I can't do any recreation activities at all

The Bournemouth questionnaire

Is a comprehensive multi-dimensional core outcome tool assessing patients' outcome of care in a routine clinical setting.

Developed by Jennifer Bolton PhD and Alan Breen

Two versions; Low back pain and non-specific neck pain

Are both considered reliable and valid

Bolton et al (2004) indicated that an improvement of 13 points on the total score or a percentage change score of 36% was associated with clinically significant improvement.

1. Over the past week, on average, how would you rate your neck pain?
 2. Over the past week, how much has your neck pain interfered with your daily activities (housework, washing, dressing, lifting, reading, driving)?
 3. Over the past week, how much has your neck pain interfered with your ability to take part in recreational, social, and family activities?
 4. Over the past week, how anxious (tense, uptight, irritable, difficulty in concentrating/relaxing) have you been feeling?
 5. Over the past week, how depressed (down-in-the-dumps, sad, in low spirits, pessimistic, unhappy) have you been feeling?
 6. Over the past week, how have you felt your work (both inside and outside the home) has affected (or would affect) your neck pain?
 7. Over the past week, how much have you been able to control (reduce/help) your neck pain on your own?

NECK BOURNEMOUTH QUESTIONNAIRE

Patient Name _____ Date _____

Instructions: The following scales have been designed to find out about your neck pain and how it is affecting you. Please answer ALL the scales, and mark the ONE number on EACH scale that best describes how you feel.

- Over the past week, on average, how would you rate your neck pain?

No pain	Worst pain possible									
0	1	2	3	4	5	6	7	8	9	10
- Over the past week, how much has your neck pain interfered with your daily activities (housework, washing, dressing, lifting, reading, driving)?

No interference	Unable to carry out activity									
0	1	2	3	4	5	6	7	8	9	10
- Over the past week, how much has your neck pain interfered with your ability to take part in recreational, social, and family activities?

No interference	Unable to carry out activity									
0	1	2	3	4	5	6	7	8	9	10
- Over the past week, how anxious (tense, uptight, irritable, difficulty in concentrating/relaxing) have you been feeling?

Not at all anxious	Extremely anxious									
0	1	2	3	4	5	6	7	8	9	10
- Over the past week, how depressed (down-in-the-dumps, sad, in low spirits, pessimistic, unhappy) have you been feeling?

Not at all depressed	Extremely depressed									
0	1	2	3	4	5	6	7	8	9	10
- Over the past week, how have you felt your work (both inside and outside the home) has affected (or would affect) your neck pain?

Have made it no worse	Have made it much worse									
0	1	2	3	4	5	6	7	8	9	10
- Over the past week, how much have you been able to control (reduce/help) your neck pain on your own?

Completely control it	No control whatsoever									
0	1	2	3	4	5	6	7	8	9	10

OTHER COMMENTS: _____ Examiner _____

Psychosocial aspect of Pain

- Patients with certain psychosocial characteristics are at higher risk of developing chronic disabling pain.
- They respond best if they get manual care PLUS a cognitive behavioral approach to overcoming psychosocial barriers to recovery.
- Tools have been developed to identify such psychosocial characteristics so these people can get the help they need.

Keele STarT Back Tool (KSBT)

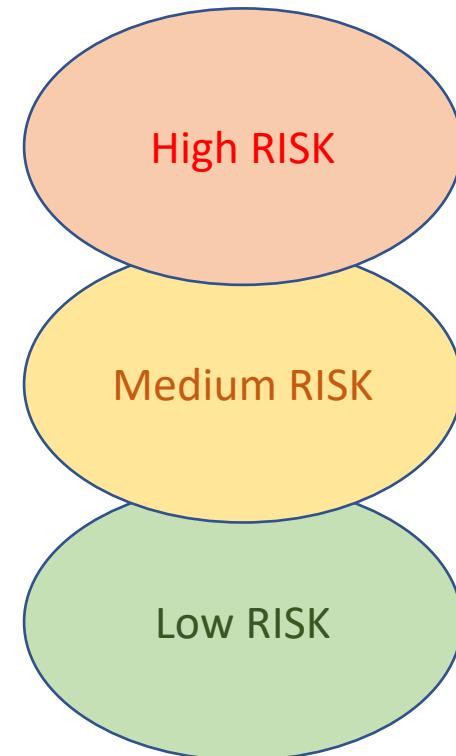
- STarT Back matches patients to treatments based on prognosis or risk of poor clinical outcome.
- This has been shown to:
 - Significantly decrease disability from back pain (i.e., improved clinical outcomes)
 - Reduce time off work
 - Save money by making better use of health resources

Fear-Avoidance Beliefs Questionnaire (FABQ)

- 16- item Likert scale fear-avoidance beliefs questions about work and physical activity

Keele STarT Back Tool (KSBT)

- Initially created to inform clinical care pathways and referral routes for patients with low back pain (LBP) seeking care from primary medical physicians.
- Developed and validated within groups of patients with acute, subacute or chronic pain, with or without referred pain to the lower extremity.
- Quick and easy to use.
- 9 questions that detect musculoskeletal pain symptoms, function, fear avoidance behavior, catastrophizing, anxiety, and depression.
- All identifiable risk questions related to chronic persistent disability due to pain.
- The KSBT score categorizes patients into 3 risk levels for persistent symptoms: low, medium, and high.
- The goal of this tool—and its accompanying tailored treatment strategies—is to identify patients at risk for persistent symptoms and to define management protocols tailored to each risk subgroup.
- This approach of different treatment/management options for different subgroups is known as “stratified care”.



Fear-Avoidance Beliefs Questionnaire (FABQ)

- It consists of 16 items and patients rate their agreement with each statement on a 7-point Likert scale (0 = completely disagree, 6 = completely agree).
- It takes approximately 10 minutes to complete
- Reliable and valid for chronic LBP (not so much to predict chronicity in acute LBP patients)
- The FABQ is a useful questionnaire to assess fear avoidance beliefs.
- The change in FABQ scores that reflects a clinically important change in beliefs has not been established.
- However, changes in FABQ have been shown to correlate with changes in disability following treatment, indicating a relationship between the two

Fear-Avoidance Beliefs Questionnaire (FABQ)

Here are some of the things which other patients have told us about their pain. For each statement, please circle any number from 0 to 6 to say how much physical activities such as bending, lifting, walking or driving affect or would affect *your* back pain.

	Completely disagree		Unsure			Completely agree	
1. My pain was caused by physical activity	0	1	2	3	4	5	6
2. Physical activity makes my pain worse	0	1	2	3	4	5	6
3. Physical activity might harm my back	0	1	2	3	4	5	6
4. I should not do physical activities which (might) make my pain worse	0	1	2	3	4	5	6
5. I cannot do physical activities which (might) make my pain worse	0	1	2	3	4	5	6

Fear-Avoidance Beliefs Questionnaire (FABQ)

- The following statements are about how your normal work affects or would affect your back pain

	Completely disagree		Unsure		Completely agree		
6. My pain was caused by my work or by an accident at work	0	1	2	3	4	5	6
7. My work aggravated my pain	0	1	2	3	4	5	6
8. I have a claim for compensation for my pain	0	1	2	3	4	5	6
9. My work is too heavy for me	0	1	2	3	4	5	6
10. My work makes or would make my pain worse	0	1	2	3	4	5	6
11. My work might harm my back	0	1	2	3	4	5	6
12. I should not do my normal work with my present pain	0	1	2	3	4	5	6
13. I cannot do my normal work with my present pain	0	1	2	3	4	5	6
14. I cannot do my normal work till my pain is treated	0	1	2	3	4	5	6
15. I do not think that I will be back to my normal work within 3 months	0	1	2	3	4	5	6
16. I do not think that I will ever be able to go back to that work	0	1	2	3	4	5	6

How do you find the right PROM?

- Goggle Search
- Read Articles on your topic of interest
- A Rehabilitation measures database
 - <https://www.sralab.org/rehabilitation-measures>
 - With more than 500 measures resource for benchmarks and outcomes.

EQ-5D A self perceived measure of health

By placing a tick in one box in each group below, please indicate which statements best describe your own health state today.

Mobility

- I have no problems in walking about
- I have some problems in walking about
- I am confined to bed

Self-Care

- I have no problems with self-care
- I have some problems washing or dressing myself
- I am unable to wash or dress myself

Usual activities (e.g. work, study, housework, family or leisure activities)

- I have no problems with performing my usual activities
- I have some problems with performing my usual activities
- I am unable to perform my usual activities

Pain/discomfort

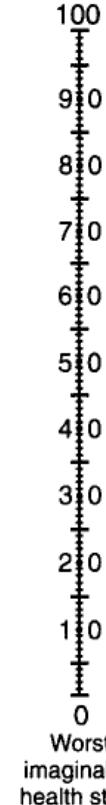
- I have no pain or discomfort
- I have moderate pain or discomfort
- I have extreme pain or discomfort

Anxiety/depression

- I am not anxious or depressed
- I am moderately anxious or depressed
- I am extremely anxious or depressed

EQ A VAS of health related QOL

Best imaginable health state



To help people say how good or bad a health state is, we have drawn a scale (rather like a thermometer) on which the best state you can imagine is marked 100 and the worst state you can imagine is marked 0.

We would like you to indicate on this scale how good or bad your own health is today, in your opinion. Please do this by drawing a line from the box below to whichever point on the scale indicates how good or bad your health state is today.

Versions:

- EQ-5D-3L
- EQ-5D-5L
- EQ-5D-Y

VSQ-9

Patient Satisfaction Survey

Thinking about your visit with the physician/health care Professional you saw, how would you rate the following:

The VSQ-9 is a visit-specific satisfaction instrument adapted by the American Medical Group Association from the Visit Rating Questionnaire used in the Medical Outcomes Study, a two-year study of patients with chronic conditions.

	Poor	Fair	Good	Very Good	Excellent
1. How long you waited to get an appointment	0	0	0	0	0
2. Convenience of the location of the office	0	0	0	0	0
3. Getting through to the office by phone	0	0	0	0	0
4. Length of time waiting at the office	0	0	0	0	0
5. Time spent with the physician/health care professional you saw	0	0	0	0	0
6. Explanation of what was done for you	0	0	0	0	0
7. Technical skills (thoroughness, carefulness, competence) of the physician/health care professional you saw	0	0	0	0	0
8. The personal manner (courtesy, respect, sensitivity, friendliness) of the person you saw	0	0	0	0	0
9. The visit overall	0	0	0	0	0

Measure Yourself Medical Outcome Profile (MYMOP)

- MYMOP was created in 1996 to provide an objective outcome measure for the therapist to monitor their client progress based on the tracking of their symptoms and wellbeing
- In 1999 MYMOP was revised to contain questions on medication and termed MYMOP2
- The MYMOP tool can be completed at the initial consultation and on follow-up visits
- Info one or two symptoms (e.g., "right leg weakness") which can be rated by the patient on a scale 0-6 taking into consideration their symptoms over the last week.
 - 0 being: "as good as it can be"
 - 6 being: "as bad as it could be"
- This rating scale should be done by the patient and not influenced by the practitioner
- A minimum clinically important change in score after intervention should be between **0.5-1.0**
- Any change greater than **1.0** can be considered clinically significant
- The MYMOP2 has been shown to be validated and highly sensitive/responsive outcome measure

MYMOP2 Pre

* MYMOP2 *

Full name Date of birth

Address and postcode.....

Today's date Practitioner seen

Choose one or two symptoms (physical or mental) which bother you the most. Write them on the lines. Now consider how bad each symptom is, over the last week, and score it by circling your chosen number.

SYMPTOM 1: 0 1 2 3 4 5 6

..... As good as it could be As bad as it could be

SYMPTOM 2: 0 1 2 3 4 5 6

..... As good as it could be As bad as it could be

Now choose one activity (physical, social or mental) that is important to you, and that your problem makes difficult or prevents you doing. Score how bad it has been in the last week.

ACTIVITY: 0 1 2 3 4 5 6

..... As good as it could be As bad as it could be

Lastly how would you rate your general feeling of wellbeing during the last week?

0 1 2 3 4 5 6

..... As good as it could be As bad as it could be

How long have you had Symptom 1, either all the time or on and off? Please circle:

0 - 4 weeks 4 - 12 weeks 3 months - 1 year 1 - 5 years over 5 years

Are you taking any medication FOR THIS PROBLEM ? Please circle: YES/NO

IF YES:

1. Please write in name of medication, and how much a day/week

2. Is cutting down this medication: Please circle:

Not important a bit important very important not applicable

IF NO:

Is avoiding medication for this problem:

Not important a bit important very important not applicable

MYMOP2 Post

* MYMOP2 Follow up *

Full name Today's date

Please circle the number to show how severe your problem has been IN THE LAST WEEK.
This should be YOUR opinion, no-one else's!

SYMPTOM 1: 0 1 2 3 4 5 6
..... As good as it could be As bad as it could be

SYMPTOM 2: 0 1 2 3 4 5 6
..... As good as it could be As bad as it could be

ACTIVITY: 0 1 2 3 4 5 6
..... As good as it could be As bad as it could be

WELLBEING: 0 1 2 3 4 5 6
How would you rate your general feeling of wellbeing?
..... As good as it could be As bad as it could be

If an important new symptom has appeared please describe it and mark how bad it is below.
Otherwise do not use this line.

SYMPTOM 3: 0 1 2 3 4 5 6
..... As good as it could be As bad as it could be

The treatment you are receiving may not be the only thing affecting your problem. If there is anything else that you think is important, such as changes you have made yourself, or other things happening in your life, please write it here (write overleaf if you need more space):

Are you taking medication FOR THIS PROBLEM ? Please circle: YES/NO

IF YES:

Please write in name of medication, and how much a day / week

.....
.....

Quality of Life PROMs



- The short form 36 (SF-36)
- Patient Reported Outcomes Measurement Information System (PROMIS)

SF-36

- The short form 36, SF-36 is the most widely used generic outcome measure that quantifies health status and health-related Quality of Life (QoL)
- Asks about last 4 weeks, roughly 10 minutes to fill in
- It contains 36 questions divided into 8 subsections
 - Physical function
 - Limitations due to physical problems
 - General health perspective
 - Vitality
 - Social functioning
 - Limitations due emotional problems
 - General mental health
 - Health transitions



PROMIS-29

- Patient Reported Outcomes Measurement Information System (PROMIS)
- The PROMIS-29 is a collection of short forms measuring quality of life (QoL) from 7 domains:
 1. physical functioning
 2. anxiety
 3. depression
 4. fatigue
 5. satisfaction with participation in social roles
 6. sleep disturbance
 7. pain interference



Pregnancy Study

- 343 pregnant patients
- PROMIS-29 to measure QoL
- VSQ9 to measure visit-specific satisfaction
- Pregnant patients highly satisfied with their chiropractic care (Webster technique, adjustments and adjunctive therapies)
- Pregnant patients QoL scores improving significantly with care

The Use of the Patient Reported Outcomes Measurement Information System and the RAND VSQ9 to Measure the Quality of Life and Visit-Specific Satisfaction of Pregnant Patients Under Chiropractic Care Utilizing the Webster Technique

Joel Alcantara, DC^{1,2} Andrea Lamont Nazarenko, PhD,^{3,4}
Jeanne Ohm, DC¹ and Junjoe Alcantara, DC⁵

Abstract

Objective: To quantify the quality of life (QoL) and visit-specific satisfaction of pregnant women.

Design: A prospective cohort within a practice-based research network (PBRN).

Setting/Locations: Individual chiropractic offices.

Subjects: Pregnant women (age ≥18 years) attending chiropractic care.

Intervention(s): Chiropractic care (i.e., The Webster Technique, spinal adjustments, and adjunctive therapies).

Main outcome measures: The RAND VSQ9 to measure visit-specific satisfaction and the Patient Reported Outcomes Measurement Information System (PROMIS®)-29 to measure QoL.

Results: A convenience sample of 343 pregnant patients (average age=30.96 years) comprised their study population. They were highly educated with 75% attaining a 2-year associate's degree or higher. The pregnant patients presented for chiropractic care with a mean week of gestation of 25.67 weeks (median=28 weeks; range=0–42 weeks) and parity (i.e., the number of live births) of 0.92 live births (median=1; range=0–6). From baseline (i.e., at study entrance with minimum first visit) and comparative (i.e., following a course of chiropractic care), the VSQ9 measurements revealed increasingly high satisfaction on the part of the subjects (i.e., the mean difference of baseline minus comparative measures = -0.7322; $p < 0.005$). The median number of visits (i.e., visits attended) at baseline and comparative measures was 1.00 (standard deviation [SD]=22.69) and 3.30 (SD=22.71), respectively. Across outcomes, QoL improved from baseline to comparative measurement after holding constant for visit number and time lapse, trimester of pregnancy, and care provider type. There was a reduction in mean T scores associated with fatigue ($p < 0.05$), pain interference ($p < 0.05$), sleep disturbance ($p < 0.05$), and an improvement in satisfaction with social roles ($p < 0.05$). A significant decrease was also found with pain interference ($p < 0.05$). No evidence was found that anxiety ($p = 0.1404$) or depression ($p = 0.8785$) changed.

Conclusion: A PBRN study was successfully implemented among chiropractors to find pregnant patients highly satisfied and their QoL scores improving with care beyond chance.

Keywords: chiropractic, pregnancy, quality of life, Webster Technique, PROMIS

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Mental Health PROMs

- Depression Anxiety and Stress Scale (DASS)
- Generalised Anxiety Disorder questionnaire (GAD-7)
- Hospital Anxiety and Depression Scale (HADS)
- Beck Anxiety Inventory (BAI)
- All reliable and valid PROMs for mental health problems such as anxiety, depression and stress



Depression Anxiety and Stress Scale (DASS 21)

- The DASS is a 42-item self report instrument designed to measure the three related negative emotional states of depression, anxiety and tension/stress.
 - The DASS questionnaire is in the public domain
 - DASS 21 is a short version with only 21 questions.

DASS21

Name:

Date:

 HAAV
RESEARCH

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

FOR OFFICE USE

D A S

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

Generalised Anxiety Disorder questionnaire (GAD-7)

- The General Anxiety Disorder 7-item scale (GAD-7) is one tool that can be used to screen for anxiety or to measure its severity and its change over time/care
- Quick and easy to fill in
- 7 questions

GAD-7 Screening Questions

	During the last 2 weeks, how often have you been bothered by the following problems?	not at all	several days	more than half the days	nearly every day
1	Feeling nervous, anxious, or on edge	0	1	2	3
2	Not being able to stop or control worrying	0	1	2	3
3	Worrying too much about different things	0	1	2	3
4	Trouble relaxing	0	1	2	3
5	Being so restless that it is hard to sit still	0	1	2	3
6	Becoming easily annoyed or irritable	0	1	2	3
7	Feeling afraid as if something awful might happen	0	1	2	3

Total Score: _____ = Add columns: _____ + _____ + _____

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Hospital Anxiety and Depression Scale (HADS)

- The Hospital Anxiety and Depression Scale (HADS) is a valid and reliable self-rating scale that measures anxiety and depression in both hospital and community settings.
- HADS gives clinically meaningful results as a psychological screening tool and can assess the symptom severity of anxiety disorders and depression in patients with illness and the general population.
- One questionnaire, comprising fourteen questions
- The questionnaire features seven questions for anxiety and seven for depression of which can be answered within 2 – 5 minutes.
- It is ideal for use as a screening measure, and index of clinical change, an outcome measure and for research purposes

Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over your replies; your immediate best.

D	A		D	A	
		I feel tense or 'wound up':			I feel as if I am slowed down:
3		Most of the time	3		Nearly all the time
2		A lot of the time	2		Very often
1		From time to time, occasionally	1		Sometimes
0		Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			I get a sort of frightened feeling like 'butterflies' in the stomach:
0		Definitely as much	0		Not at all
1		Not quite so much	1		Occasionally
2		Only a little	2		Quite Often
3		Hardly at all	3		Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			I have lost interest in my appearance:
3		Very definitely and quite badly	3		Definitely
2		Yes, but not too badly	2		I don't take as much care as I should
1		A little, but it doesn't worry me	1		I may not take quite as much care
0		Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			I feel restless as I have to be on the move:
0		As much as I always could	3		Very much indeed
1		Not quite so much now	2		Quite a lot
2		Definitely not so much now	1		Not very much
3		Not at all	0		Not at all
		Worrying thoughts go through my mind:			I look forward with enjoyment to things:
3		A great deal of the time	0		As much as I ever did
2		A lot of the time	1		Rather less than I used to
1		From time to time, but not too often	2		Definitely less than I used to
0		Only occasionally	3		Hardly at all
		I feel cheerful:			I get sudden feelings of panic:
3		Not at all	3		Very often indeed
2		Not often	2		Quite often
1		Sometimes	1		Not very often
0		Most of the time	0		Not at all
		I can sit at ease and feel relaxed:			I can enjoy a good book or radio or TV program:
0		Definitely	0		Often
1		Usually	1		Sometimes
2		Not Often	2		Not often
3		Not at all	3		Very seldom

Please check you have answered all the questions

Scoring:

Total score: Depression (D) _____ Anxiety (A) _____

0-7 = Normal

8-10 = Borderline abnormal (borderline case)

11-21 = Abnormal (case)

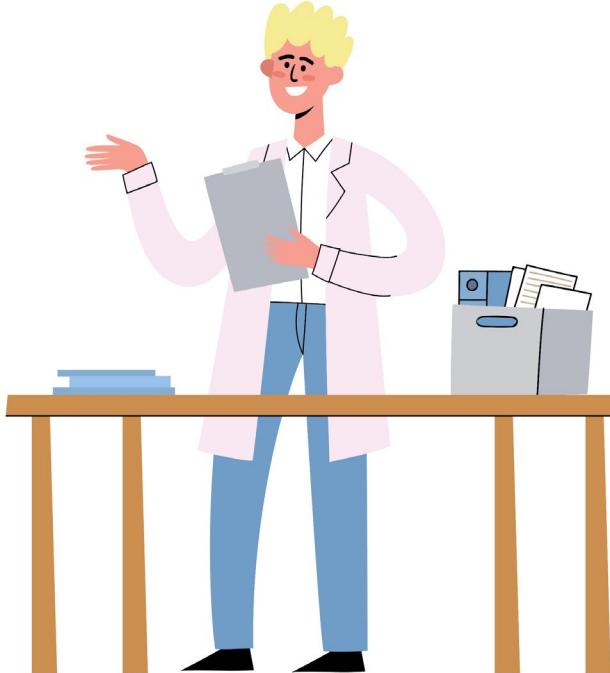
Beck Anxiety Inventory (BAI)

- The BAI enables clinicians to measure the severity of anxiety in adolescents and adults.
- Screen for anxiety with BAI as Patients respond to 21 items rated on a scale from 0 to 3.
- Each item is descriptive of subjective, somatic, or panic-related symptoms of anxiety.
- The BAI has been found to discriminate well between anxious and non-anxious diagnostic groups in a variety of clinical populations.

	Not at all	Mildly, but it didn't bother me much	Moderately – it wasn't pleasant at times	Severely – it bothered me a lot
Numbness or tingling	0	1	2	3
Feeling hot	0	1	2	3
Wobbliness in legs	0	1	2	3
Unable to relax	0	1	2	3
Fear of worst happening	0	1	2	3
Dizzy or lightheaded	0	1	2	3
Heart pounding / racing	0	1	2	3
Unsteady	0	1	2	3
Terrified or afraid	0	1	2	3
Nervous	0	1	2	3
Feeling of choking	0	1	2	3
Hands trembling	0	1	2	3
Shaky / unsteady	0	1	2	3
Fear of losing control	0	1	2	3
Difficulty in breathing	0	1	2	3
Fear of dying	0	1	2	3
Scared	0	1	2	3
Indigestion	0	1	2	3
Faint / lightheaded	0	1	2	3
Face flushed	0	1	2	3
Hot / cold sweats	0	1	2	3

The Value of PROMs

-
- Patient-focussed
 - Best quality care
 - Safety
 - Value based care
 - Benchmarking



Patient-focussed, evidence-informed chiropractic care

- “Patient-centered care is ‘an approach to the planning, delivery, and evaluation of health care that is grounded in mutually beneficial partnerships between healthcare providers, patients, and families.’” (*Australian PROMs report, 2018*)
- PROMs may contribute to patient-centered care in various ways:
 - A systematic assessment of outcomes may provide valuable information to the clinician and the patient to guide their shared decision making about the care plan
 - There are some things that only patients can know and therefore data collection cannot be accurate or complete without incorporating their perspectives.
 - Using a standardized validated measure ensures consistent information is collected for all patients.



PROMs and Best Quality Care

- At all levels PROMs can provide valuable input into quality improvement efforts for your practice or for the profession, or at the policy and decision-making level
- For example, standardized and validated PROMs can be used to assess the comparative effectiveness of a range of interventions.
- The patient's perspective from PROMs complement the process of comparative effectiveness assessment that in the past relied mainly on outcome measures and clinical outcomes recorded by clinicians.



PROMs and Safety

- PROMs can potentially offer valuable input into safety improvement efforts at any organizational and system level.

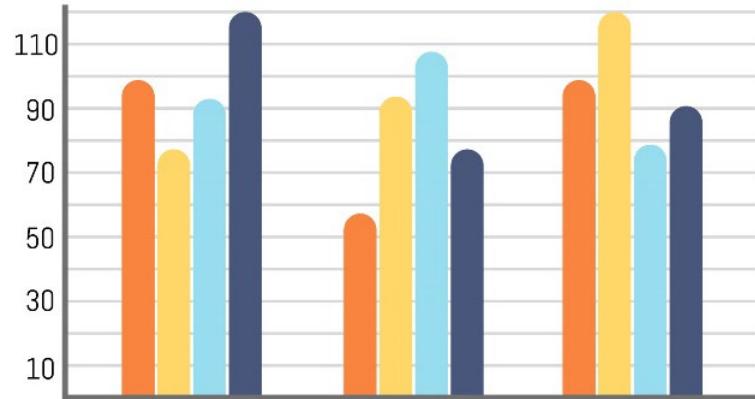


Value Based Care

- One important reason to adopt PROMs in practice with all patients is value-based health care.
- Value-based healthcare is a healthcare delivery model in which providers, including hospitals and physicians, are paid based on patient health outcomes.
- Under value-based care agreements, providers are rewarded for helping patients improve their health, reduce the effects and incidence of chronic disease, and live healthier lives in an evidence-based way.
- It proposes that payment for healthcare services should be based on the outcomes they deliver rather than on measures of output such as volume of medical procedures.
- Value-based payments would drive PROMs collection and use.
- This would enable more efficient use of health resources.
- Promotes effective options.

PROMs and Benchmarking

- The most common barrier for chiropractors to utilize PROM is the lack of knowledge about where to find them, how to use them and the perception that they are time consuming.
- We need simple administration systems, need to use electronic forms as much as possible and consistent implementation.
- And we need to educate the Chiropractic profession!



US\$ 25/month



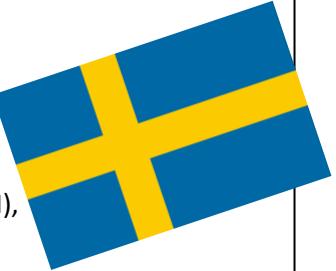
SPINE IQ – great for benchmarking

- SPINE IQ is attempting to help you do this, so you can compare yourself across professions when it comes to what your patients with spine related conditions think.
- The Spine Institute for Quality® (Spine IQ®) is a private, not-for-profit organization with the mission to define quality, demonstrate value and build trust in conservative spine care delivery.
- They promote non-pharmacological, conservative management of spine-related disorders.
- **And importantly - they collect patient satisfaction data!**
- Registered chiropractors get access to evidence-based training materials to help you engage in evidence-based, guideline congruent, patient-centered care of those suffering from spine-related disorders.

Study in Sweden 2018

Measured:

- Numerical Rating Scale for back pain intensity (NRS),
- Oswestry Disability Index for back pain disability (ODI),
- Health-related quality of life (EQ-5D index)
- A visual analogue scale for self-rated health (EQ VAS)



Conclusions

- “Patients with acute back pain reported statistically significant and MCID* improvements in back pain intensity, back disability and HRQoL, and statistically significant improvements in self-rated health, over four weeks following chiropractic care.”
- “Patients with chronic back pain reported statistically significant albeit smaller and non-MCID* changes for all PRO except self-rated health.”
- “The observed improvements in PRO may be of interest for clinicians and decision makers involved in the management of back pain patients.”

*Minimal clinically important difference (MCID)

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Observational Study

Patient-reported improvements of pain, disability, and health-related quality of life following chiropractic care for back pain – A national observational study in Sweden

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ABSTRACT

Background: Chiropractic care is a common but not often investigated treatment option for back pain in Sweden. The aim of this study was to explore patient-reported outcomes (PRO) for patients with back pain seeking chiropractic care in Sweden.

Methods: Prospective observational study. Patients 18 years and older, with non-specific back pain of any duration, seeking care at 23 chiropractic clinics throughout Sweden were invited to answer PRO questionnaires at baseline with the main follow-up after four weeks targeting the following outcomes: Numerical Rating Scale for back pain intensity (NRS), Oswestry Disability Index for back pain disability (ODI), health-related quality of life (EQ-5D index) and a visual analogue scale for self-rated health (EQ VAS).

Results: 246 back pain patients answered baseline questionnaires and 138 (56%) completed follow-up after four weeks. Statistically significant improvements over the four weeks were reported for all PRO by acute back pain patients ($n=81$), mean change scores: NRS -2.98 ($p<0.001$), ODI -13.58 ($p<0.001$), EQ VAS 9.63 ($p<0.001$), EQ-5D index 0.22 ($p<0.001$); and for three out of four PRO for patients with chronic back pain ($n=57$), mean change scores: NRS -0.90 ($p=0.002$), ODI -2.88 ($p=0.010$), EQ VAS 3.77 ($p=0.164$), EQ-5D index 0.04 ($p=0.022$).

Conclusions: Patients with acute and chronic back pain reported statistically significant improvements in PRO four weeks after initiated chiropractic care. Albeit the observational study design limits causal inference, the relatively rapid improvements of PRO scores warrant further clinical investigations.

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1. Background

Back pain is a common disorder that affects both physical health and mental wellbeing (Statens beredning för medicinsk utvärdering, 2000). In addition to the individual suffering back

pain also has significant impact on societal costs (Lidwall, 2011; Statens beredning för medicinsk utvärdering, 2000). Back pain is a complex condition that may be caused by a variety of biological, psychological and social factors (Statens beredning för medicinsk utvärdering, 2010; van Tulder et al., 2006). It has been estimated that the vast majority of back pain cases is of non-specific origin (Airaksinen et al., 2006; van Tulder et al., 2006), which can make it especially difficult to manage efficiently. Chiropractic treatment such as spinal manipulation is recommended in clinical guidelines of back pain management (Globe et al., 2016; Lidwall, 2011; van

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CareResponse (UK, EU, USA)

FREE!

- <https://www.care-response.com/>
- CareResponse is a free and pragmatic system to help practices gather and report clinical outcome and patient satisfaction information with minimal work from practice staff.
- CareResponse is a cloud-based service, there is no software to install.
- Patients can choose to complete questionnaires online, on paper forms, or using tablet computers such as an iPad.
- Assessments may be given out or sent by email at any time.
- For those with email addresses outcomes are requested automatically.

UK Study using CareResponse

- A prospective cohort design monitoring patient outcomes comparing self-referring and NHS-referred patients undergoing chiropractic care.
- Bournemouth Questionnaire scores.
- STarT back tool (9 questions that detect musculoskeletal pain symptoms, function, fear avoidance behavior, catastrophizing, anxiety, and depression) to identify high, medium and low risk of chronic disability
- 8222 patients filled in baseline questionnaires. 41% NIS patients (partially government funded), 59% self-referring (pay themselves per visit).
- Generally, NHS patients were more chronic, in more distress, and displayed more comorbidity than private patients.
- patients with low back and neck pain presenting privately are more likely to report improvement within 2 weeks and to have slightly better outcomes at 90 days.
- In terms of clinical change, around 80% of private patients and 60% to 70% of NHS patients achieved a minimally important change of 30% by 90-day follow-up.

WFC AWARD WINNING PAPER

CLINICAL OUTCOMES IN A LARGE COHORT OF MUSCULOSKELETAL PATIENTS UNDERGOING CHIROPRACTIC CARE IN THE UNITED KINGDOM: A COMPARISON OF SELF- AND NATIONAL HEALTH SERVICE-REFERRED ROUTES



Jonathan R Field, MSc, DC,^a and Dave Newell, PhD^b

ABSTRACT

Objective: An innovative commissioning pathway has recently been introduced in the United Kingdom allowing chiropractic organizations to provide state-funded chiropractic care to patients through referral from National Health Service (NHS) primary care physicians. The purpose of this study was to examine the outcomes of NHS and private patient groups presenting with musculoskeletal conditions to chiropractors under the Any Qualified Provider scheme and compare the clinical outcomes of these patients with those presenting privately.

Methods: A prospective cohort design monitoring patient outcomes comparing self-referring and NHS-referred patients undergoing chiropractic care was used. The primary outcome was the change in Bournemouth Questionnaire scores. Within- and between-group analyses were performed to explore differences between outcomes with additional analysis of subgroups as categorized by the STarT back tool.

Results: A total of 8222 patients filled in baseline questionnaires. Of these, NHS patients (41%) had more adverse health measures at baseline and went on to receive more treatment. Using percent change in Bournemouth Questionnaire scores categorized at minimal clinical change cutoffs and adjusting for baseline differences, patients with low back and neck pain presenting privately are more likely to report improvement within 2 weeks and to have slightly better outcomes at 90 days. However, these patients were more likely to be attending consultations beyond 30 days.

Conclusions: This study supports the contention that chiropractic services as provided in United Kingdom are appropriate for both private and NHS-referred patient groups and should be considered when general medical physicians make decisions concerning referral routes and pain pathways for patients with musculoskeletal conditions. (*J Manipulative Physiol Ther* 2016;39:54-62)

Key Indexing Terms: Patient Outcome Assessment; Musculoskeletal Pain; Chiropractic; Health Services Evaluation

Musculoskeletal conditions are common in all countries and cultures and are a major burden on health system.¹ In the next 50 years, this burden is predicted to increase as the population ages and public health issues such as obesity and lack of activity take their toll.²

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In the United Kingdom (UK), back pain accounts for 4.8% of all social benefit claims³ with the overall cost of musculoskeletal (MSK) conditions estimated at £5 to 7 billion per year and the number of general medical physician (GP) visits estimated at more than 30% of all consultations.⁴ As national health systems strive to accommodate increasing demands and resources are stretched, the direct and indirect costs of shouldering the MSK burden are increasingly considered a national priority in the UK and in other developed economies.

Historically, in the UK, MSK conditions have been managed predominantly within the state health care system, although successive governments have attempted to bolster the contribution of the private (ie, independent) sector by providing funded access for patients to care normally considered to be outside the state system. Traditionally, outpatient MSK services have been provided by single large

The Prevalence, Patterns, and Predictors of Chiropractic Use Among US Adults

Results From the 2012 National Health Interview Survey

Jon Adams, PhD,* Wenbo Peng, PhD,* Holger Cramer, PhD,*[†] Tobias Sundberg, PhD,*[‡]
Craig Moore, Masters of Clinical Trials Research,* Lyndon Amorin-Woods, MPH,[§]
David Sibbritt, PhD,* and Romy Lauche, PhD*

Results from the 2012 National Health Interview Survey (n=34,525)

Benefits reported under chiropractic care:

- 67% helped them to improve overall health and made them feel better
- 42% reported sleeping better
- 40% reported reduced stress or helped them to relax
- 39% reported easier for them to cope with their health problems
- 33% reported a sense of control over their health
- 27% reported felt better emotionally
- 13% reported improved their relationships with others

Summary & Take Home Messages

Patient Reported Outcome Measures (PROMs)

- **Examples of Pain PROMs**
 - Visual Analogue Scale (VAS)
 - Numeric Rating Scale (NRS)
- **Examples of Disability PROMs**
 - Roland Morris Disability Questionnaire (mild to moderate disability Low back pain)
 - Oswestry Disability Index (persistent severe disability Low back pain)
 - Neck Disability Index (NDI)
- **Comprehensive LBP or NP Questionnaire**
 - The Bournemouth questionnaire (low back pain or non-specific neck pain)
- **Psychosocial aspects of Pain**
 - Keele STarT Back Tool (KSBT)
 - Fear-Avoidance Beliefs Questionnaire (FABQ)
- How to find the right PROM for your patient
- Self-perceived measures of health PROM (EQ-5D)
- Visit-specific satisfaction PROM (VSQ-9)
- MYMOP2 (2 symptoms of any kind)
- **Examples of Quality of Life (QoL) PROMs**
 - The short form 36 (SF-36)
 - Patient Reported Outcomes Measurement Information System (PROMIS)
- **Examples of Mental Health PROMs**
 - Depression Anxiety and Stress Scale (DASS)
 - Generalised Anxiety Disorder questionnaire (GAD-7)
 - Hospital Anxiety and Depression Scale (HADS)
 - Beck Anxiety Inventory (BAI)
- **The Value of PROMs**
 - Patient-focussed
 - Best quality care
 - Safety
 - Value based care
 - Benchmarking
- **SPINE IQ and CareResponse**



Thank You

DR. HEIDI HAAVIK

ENLIGHTENING THE
WORLD ABOUT THE
SCIENCE OF CHIROPRACTIC



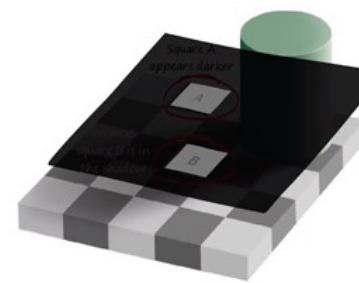
Introduction to Chiropractic Care

The introduction to chiropractic video series is the perfect way to gain an understanding of why chiropractic care may help you and your family.



The Beginners Guide to Chiropractic

In this first introductory video we explore what chiropractic is all about, and how it works, then we briefly explore the evidence informed effects of chiropractic care.

[View video ›](#)

How the Brain Perceives the World

Did you know that your brain and central nervous system are constantly changing? It's quite amazing – from one day to the next your brain is not the same.

[View video ›](#)

The Beginners Guide to Chiropractic

The Beginners Guide to Chiropractic

The word chiropractic derives from the Greek words "cheir", meaning hand, and "praktikos" meaning skilled in or concerned with. The origin of the word chiropractic can be traced back to [D.D. Palmer](#) who coined it in 1895 when he founded chiropractic.

Chiropractic care is really about total health and wellbeing

What does a Chiropractor do?

A chiropractor is a healthcare professional who specializes in the health and [function of the spine](#) and nervous system. Because of this focus on the spine, many people think chiropractors can only help with problems such as back pain, [neck pain](#) and [headaches](#). They can often help with these issues but there is much more to chiropractic than just pain.

This is the first video in our animated series "Introduction to Chiropractic". In this video, we outline what a chiropractor does, then we briefly explore the effects of care. It is a perfect one to watch for anyone that is curious about chiropractic care, and how it can help their family.

Video References

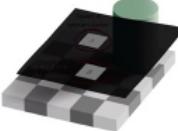
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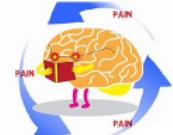
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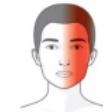
How the Brain Perceives the World

Did you know that your brain and central nervous system are constantly changing? It's quite amazing - from one day to the next your brain is not the same.

[View video >](#)

Break the Pain Cycle

Did you know that pain is created in your brain to let you know that something is not ok within your body? Feeling pain is good because it is actually helpful and informative.

[View video >](#)

Chiropractic Care and Migraines

Did you know that 1 in 6 people in the world experience migraines regularly? The World Health Organisation consider them to be the most debilitating of all neurological disorders.

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Chiropractic Affects your Brain

Your brain receives information about your body from the environment and your organs. Did you know that the muscles in your body are also sensory organs?

[View video >](#)

What is that Pop?

If you have been adjusted before by a chiropractor you may have noticed a strange popping sound. Don't worry - it is just the formation of gas within a joint.

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Lower Back Pain

Scientists have worked out that at any one time, over 500,000,000 people around the world are suffering from low back pain and it is now the leading cause of disability worldwide.

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Growing Pains

We've all heard of growing pains right? But did you know that what we call growing pains aren't associated with growing? So they're not actually growing pains at all.

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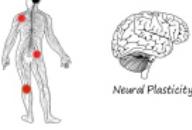
Pain and the Immune System

Research studies have shown that the way you feel pain all depends on what's going on for you – and most importantly – what you think and feel about the situation.

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Chiropractic and Headaches

Headaches are a sign that something is not right. Your brain will create for you the sensation of pain if it thinks there is something wrong or if there is a potential problem.

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Pain is Created in Your Brain

Did you know that the scientists now know that the feeling of pain is something your brain decides that you should experience - if it believes that there is a problem?

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Chronic Pain

Chronic pain is the second-most common reason people see a doctor and miss work. More than one-third of people with chronic pain become disabled by their pain to some degree.

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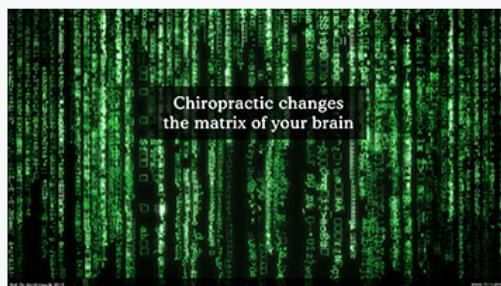
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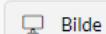
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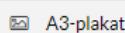
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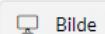
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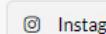
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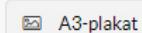
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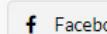
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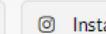
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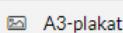
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Chiropractic Research

Research summary articles to read, download and print (members only) all backed by the latest scientific research studies.



Chronic Pain

Chronic pain that has persisted for more than 3 months is no longer protective, nor informative. So, what is chronic pain and what can you do about it?

[Read more »](#)

Pain is in the Brain

Sometimes pain persists long after tissue damage has actually healed. When pain persists for more than three months we call this chronic pain.

[Read more »](#)

Neck Pain

Up to half the world's population suffers from neck pain at some stage. For some, one big problem is that it just keeps coming back, or becomes chronic.

[Read more »](#)



UNDERSTANDING PAIN

Dr. Kelly Holt
BSc, BSc(Chiro), PGDipHSc, PhD

Dr. Heidi Haavik
BSc(Physiol), BSc(Chiro) PhD



Experiencing pain is normal. Everyone experiences pain now and then.¹ Pain is supposed to be protective to make you stop doing things that may be dangerous.² But chronic pain that has persisted for more than 3 months is no longer protective, nor is it helpful.³ So, what is chronic pain and how can you manage it if you suffer from it?

PAIN IS CREATED IN THE BRAIN

Dr. Kelly Holt
BSc, BSc(Chiro), PGDipHSc, PhD

Dr. Heidi Haavik
BSc(Physiol), BSc(Chiro) PhD

Did you know that scientists now know the feeling of pain is something your brain decides you should experience if it believes there is some tissue damage in your body?⁴ In fact, your brain can decide that you should feel pain even if it only thinks there is a potential threat of tissue damage!!!⁵⁻⁵

It may seem strange, but it's totally up to your brain to decide whether you should feel pain or not. Your brain may decide you should experience pain even if you have no actual tissue damage yet,⁶ or your brain may not create the feeling of pain for you when tissue damage has actually occurred!⁷⁻⁸

"pain paradox". It means

heals the problem.¹
This pain is helpful and informative.¹
If we listen to our body these pain experiences can be a good thing.

But for some people, pain can persist even after the initial injury that caused it has healed.⁹⁻¹² And for some people, the pain becomes worse in other areas that are not injured at all.⁵ It can



types of pain is that 100% of the time, it does not mean it's not real. Pain itself is created in your brain. You can get rid of pain by changing what you think about it.

Your pain experience is decided by your brain. Creating the pain experience. It can



NECK PAIN AND FALLS RISK

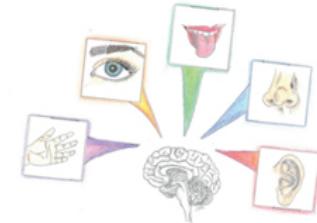
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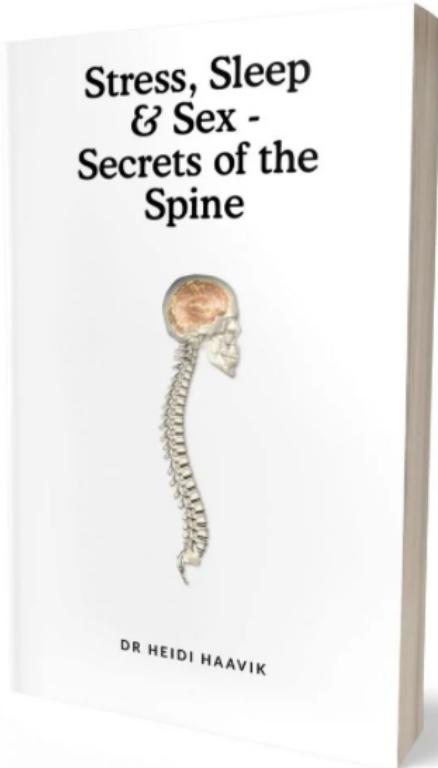
Dr. Heidi Haavik
BSc(Physiol), BSc(Chiro) PhD



Neck pain is very common throughout the world.¹ Up to half of all people around the world suffer from neck pain at some stage each year.^{2,5} For some people, one big problem with neck pain is that it just keeps coming back, or becomes chronic, and may even increase their risk of suffering from a fall.^{2,4,6,7}

Scientists know that your brain uses sensory information from your muscles and joints around your spine to help control your balance and posture and to make sure you're moving properly.^{1,2} When your brain takes sensory information and uses it to help guide movements and control muscles we call this sensorimotor function.⁸ One particular study looked at whether neck pain has an impact on proper sensorimotor function in older people.⁷ In this study, the researchers ran a whole lot of tests of sensorimotor function, like how well the study participants controlled the movement of their eyes and how good their balance was, and they took into account their age and other conditions that they suffered from.⁷





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