

# Concurrent and Discriminant Validity of Biopsychosocial Patient Reported Outcomes with the Keele MSK Tool

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Background for the journey

Discussion

Methods

Bottom line

What we found



What drives your care?

What is meaningful to measure?

What is meaningful to measure?

Patient and Clinician perception of psychosocial outcome measures

meaningful

What are we working with?



State of PRO

Outcome Measures

Sample Characteristics

"28% reported that the outcome of the instrument often or always influenced their clinical decision making "

*Knoop et al. 2020*

"Findings suggest that physiotherapists are not convinced of the benefits of the currently available measurement instruments for daily physiotherapy practice, because their outcomes did not affect clinical decision-making about most patients"

*Knoop et al. 2020*

"Physiotherapists only use measurement instruments because of perceived obligations from external parties"

*Knoop et al. 2020*

## Barriers

- Not directly helpful to POC
- No actionable information
- Too subjective
- Individual resistance to change behavior

## Facilitators

- Colleague and administrator support
- Availability
- Recognized value
- individual resistance to change behavior

Briggs et al. 2020



State of PRO

Outcome Measures

Sample Characteristics

## Keele MSK Tool

Stratify patients based on risk of poor outcomes



## PROMIS

CAT normalized to 2010 census data allowing for multiple testing domains.



1 - The Keele Start MSK Tool<sup>®</sup> Clinician-completed version

For questions 1-6, think about just the last two weeks:

**Pain intensity!**  
1) On average, how intense was your pain? (where 0 is "no pain", 10 is "pain as bad as it could be")  
0 1 2 3 4 5 6 7 8 9 10  
[0] [1] [2] [3] [4] [5] [6] [7] [8] [9] [10]

**Pain self-management!**  
2) Have you been struggling to manage or control this pain by yourself? (e.g. using medication or exercises etc...)  
[1] [0]

**Pain impact!**  
3) Over the last 2 weeks, have you been bothered a lot by your pain?  
[1] [0]

**Walking short distance only!**  
4) Have you only been able to walk short distances because of your pain?  
[1] [0]

**Pain elsewhere!**  
5) Are you having troublesome pain in more than one part of your body?  
[1] [0]

**Long-term expectations!**  
6) Are you concerned you're developing a long-term problem?  
[1] [0]

**Other important health problems!**  
7) Are you also having to deal with other important health problems at present?  
[1] [0]

**Emotional well-being!**  
8) Have you felt anxious or low in your mood because of your pain?  
[1] [0]

**Fear of harm!**  
9) Do you worry that physical activity could make your condition worse?  
[1] [0]

**Pain duration!**  
10) Have you had your current pain problem for 6 months or more?  
[1] [0]

Red text represents coding applied if low ticked!  
Total maximum score = 10  
0 = Low Risk, 1-6 = Medium Risk, 7-10 = High Risk

## Keele MSK Tool

### Stratify patients based on risk of poor outcomes

**Interpretation of Low/Medium/High Risk**

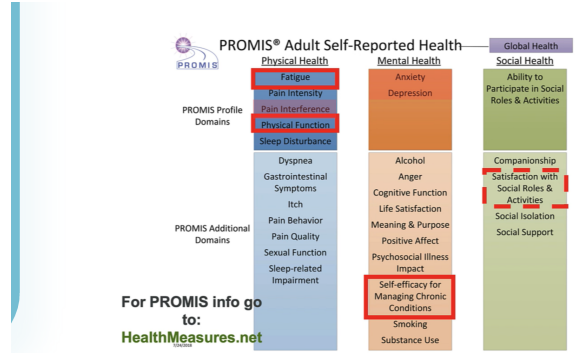
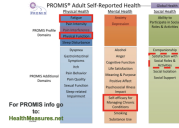
**Low risk** Self-management education address simple pain medications limited to those available over the counter.

**Medium risk** In addition to options of low risk, may consider options such as covered referral to physiotherapy, self-management clinic or providing self-management strategies.

**High risk** In addition to options of low and medium risk, may consider options such as referral to physiotherapy, intervention of pain management services, refer to expert advice, patient engagement, refer for surgical opinion, address comorbidities, distress and safety.

## PROMIS

CAT normalized to 2010 census data allowing for multiple testing domains.



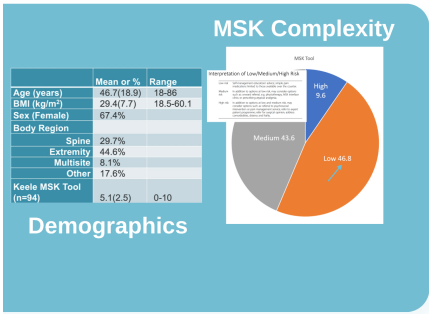
## What are we working with?

- State of PRO
- Outcome Measures
- Sample Characteristics

## MSK Complexity

	Mean or %	Range
Age (years)	46.7(18.9)	18-86
BMI (kg/m <sup>2</sup> )	29.4(7.7)	18.5-60.1
Sex (Female)	67.4%	
Body Region		
Spine	29.7%	
Extremity	44.6%	
Multisite	8.1%	
Other	17.6%	
Keele MSK Tool (n=94)	5.1(2.5)	0-10

### Demographics



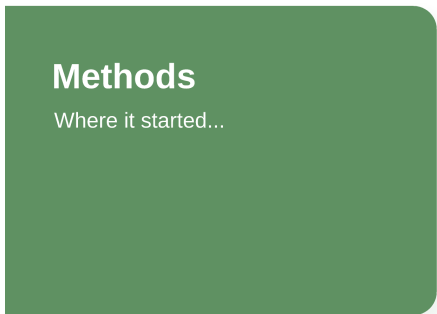
State of PRO

Outcome Measures

Sample Characteristics



1. Patients in an outpatient orthopedic setting find PROMIS scales subjectively helpful.
2. Clinicians in an outpatient orthopedic setting find PROMIS scales helpful across musculoskeletal conditions of all Keele MSK complexities.



# Methods

Follow up surveys from patients and clinicians after completing Keele MSK and PROMIS outcome measures



# Methods

Follow up surveys from patients and clinicians after completing Keele MSK and PROMIS outcome measures

Semi structured clinician interviews with qualitative analysis



**THANK YOU FOR PARTICIPATING!!!**

1. Please rank how difficult it was to complete the surveys

Not at All difficult 0 1 2 3 4 5 6 7 8 9 10 Extremely Difficult

2. Imagine that these surveys are part of the regular paperwork used when you come for an appointment.

Respond to the following

a. These surveys cover important information about my health

Strongly Disagree -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 Neutral Strongly Agree

b. Although these surveys don't mention my problem, I can see how this information might assist with my care

Strongly Disagree -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 Neutral Strongly Agree

c. I am happy to complete most surveys if my therapists will use them to help me

Strongly Disagree -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 Neutral Strongly Agree



### Clinician Themes

- I. For high and moderate complexity, PROMIS scores confirmed presence of concomitant psychosocial factors that could influence current conditions.
- II. In low complexity patients PROMIS scores confirmed clinician impression of complexity and lack of psychosocial domain influences.
- III. Influenced clinical decision making by determining level of psychosocial domain involvement.

### Clinician Perceived Helpfulness

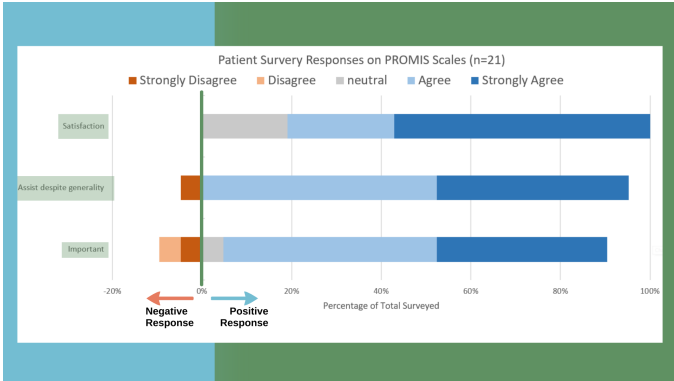
n=58  
5 providers  
70.7% >= 7 helpfulness

Helpfulness Score	High Complexity	Med Complexity	Low Complexity
4	0	1	3
5	0	1	2
6	0	2	2
7	1	5	9
8	1	4	6
9	0	0	2
10	4	2	7

### Patient Experience

### Difficulty of Completing PROs (n=21)

Difficulty	% of Patients
0	48
1	14
2	24
3	0
4	0
5	5
6	5
7	5
8	0
9	0
10	0



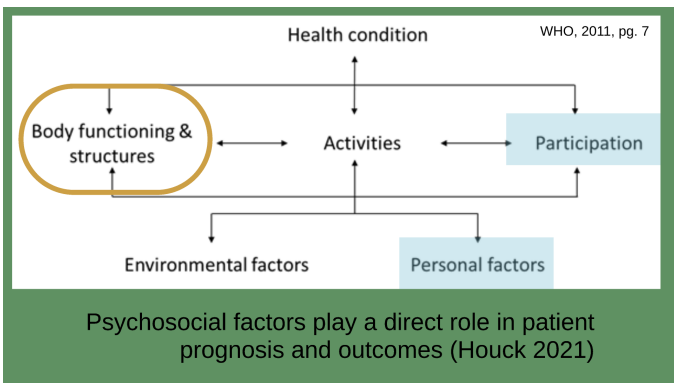
68.

Where is the patient focus?

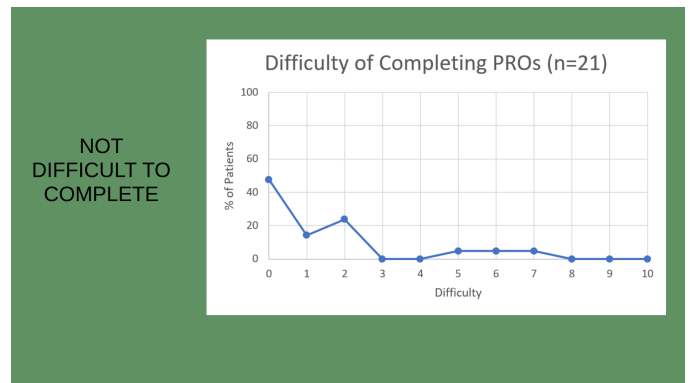
Further Research

Impact on Clinical Decision Making

71.

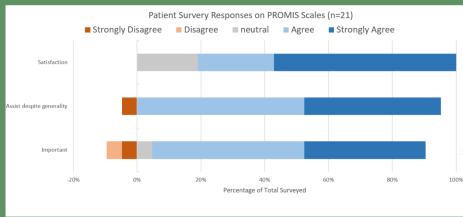


78.



81.





83.

**Musculoskeletal and psychosocial patient reported outcomes are not seen as a waste of time by patients**

**Physical therapist need to integrate treatments that act on their PRO data**

85.

## Impact on Clinical Decision Making

**HELPFUL**

**CONFIRMED**

88.

## Impact on Clinical Decision Making

Mental Health Domains



Social Domains

- Anxiety
- Depression
- Self Efficacy

- Satisfaction with social roles

Physical therapists require further education on psychosocial intervention strategies

92.

## Further Research

Patient's perception of PROs

Implementation of PROMIS scores in POC

Influence of comorbidities

Measurement of PROMIS's impact on clinical decision making